
UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 20-F

(Mark one)

- REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934
OR
 ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2022
OR

- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
OR
 SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number 001-32575

Shell plc

(Exact name of registrant as specified in its charter)

England and Wales

(Jurisdiction of incorporation or organization)

Shell Centre
London, SE1 7NA
United Kingdom

(Address of principal executive offices)

Caroline J.M. Omlou, Company Secretary
Shell Centre
London, SE1 7NA
United Kingdom
Telephone Number: 0044-20-7934-1234
E-mail Address: c.omlou@shell.com

(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)
Securities registered pursuant to Section 12(b) of the Act

<u>Title of Each Class</u>	<u>Trading Symbols</u>	<u>Name of Each Exchange on Which Registered</u>
American Depositary Shares representing two ordinary shares of the issuer with a nominal value of €0.07 each	SHEL	New York Stock Exchange
0.375% Guaranteed Notes due 2023	SHEL/23B	New York Stock Exchange
3.5% Guaranteed Notes due 2023	SHEL/23	New York Stock Exchange
Floating Rate Guaranteed Notes due 2023	SHEL/23A	New York Stock Exchange
2% Guaranteed Notes due 2024	SHEL/24	New York Stock Exchange
3.25% Guaranteed Notes due 2025	SHEL/25	New York Stock Exchange
2.5% Guaranteed Notes due 2026	SHEL/26	New York Stock Exchange
2.875% Guaranteed Notes due 2026	SHEL/26A	New York Stock Exchange
3.875% Guaranteed Notes due 2028	SHEL/28	New York Stock Exchange
2.375% Guaranteed Notes due 2029	SHEL/29	New York Stock Exchange
2.75% Guaranteed Notes due 2030	SHEL/30	New York Stock Exchange
4.125% Guaranteed Notes due 2035	SHEL/35	New York Stock Exchange
6.375% Guaranteed Notes due 2038	SHEL/38	New York Stock Exchange
5.5% Guaranteed Notes due 2040	SHEL/40	New York Stock Exchange
2.875% Guaranteed Notes due 2041	SHEL/41	New York Stock Exchange
3.625% Guaranteed Notes due 2042	SHEL/42	New York Stock Exchange
4.55% Guaranteed Notes due 2043	SHEL/43	New York Stock Exchange
4.375% Guaranteed Notes due 2045	SHEL/45	New York Stock Exchange
3.75% Guaranteed Notes due 2046	SHEL/46	New York Stock Exchange
4.00% Guaranteed Notes due 2046	SHEL/46A	New York Stock Exchange
3.125% Guaranteed Notes due 2049	SHEL/49	New York Stock Exchange
3.25% Guaranteed Notes due 2050	SHEL/50	New York Stock Exchange
3.00% Guaranteed Notes due 2051	SHEL/51	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: none

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: none

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

Outstanding as of December 31, 2022:

6,970,731,057 ordinary shares with a nominal value of €0.07 each.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company.

See definition of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer

Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 13(a) of the Exchange Act.

† The term "new or revised financial accounting standards" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment on the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issues its audit report.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing: International Financial Reporting Standards as issued by the International Accounting Standards Board.

U.S. GAAP

Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.

Item 17

Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes

No

Copies of notices and communications from the Securities and Exchange Commission should be sent to:

Shell plc
Shell Centre
London, SE1 7NA
United Kingdom
Attn: Caroline J.M. Omloo

TABLE OF CONTENTS

Cover	1
Cross reference to Form 20-F	7
Terms and abbreviations	9
About this Report	10
Powering Progress Strategy	12
Our Strategy	13
How we create value	16
Powering Progress in action	18
Outlook	19
Our organisation	20
Risk factors	21
Progress on strategy - Year in review	31
Performance indicators	31
Generating shareholder value	33
- Group Results	33
- Financial Framework	35
- Market overview	39
- Integrated Gas	42
- Upstream	48
- Oil and gas information	56
- Marketing	64
- Chemicals and Products	69
- Renewables and Energy Solutions	77
- Corporate	81
Our journey to net zero	82
Respecting Nature	110
Powering Lives	116
Safety	125
The Board of Shell plc	129
Senior Management	137
Board Activities	139
Governance framework	141
Nomination and Succession Committee	147
Safety, Environment and Sustainability Committee	151
Audit Committee Report	153
Directors' Remuneration Report	166
Annual Report on Remuneration	171
Directors' Remuneration Policy	191
Other regulatory and statutory information	199
Report of Independent Registered Public Accounting Firm (ID: 1438)	211
Consolidated Statement of Income	216
Consolidated Statement of Comprehensive Income	216
Consolidated Balance Sheet	217

Consolidated Statement of Changes in Equity	<u>218</u>
Consolidated Statement of Cash Flows	<u>219</u>
Notes to the Consolidated Financial Statements	<u>220</u>
1. Basis of preparation	<u>220</u>
2. Significant accounting policies, judgements and estimates	<u>220</u>
3. Changes to IFRS not yet adopted	<u>230</u>
4. Climate change and energy transition	<u>230</u>
5. Emission schemes and related environmental plans	<u>241</u>
6. Withdrawal from Russian oil and gas activities	<u>242</u>
7. Capital management	<u>244</u>
8. Segment information	<u>245</u>
9. Interest and other income	<u>249</u>
10. Interest expense	<u>250</u>
11. Goodwill and other Intangible assets	<u>250</u>
12. Property, plant and equipment	<u>251</u>
13. Joint ventures and associates	<u>255</u>
14. Investments in securities	<u>256</u>
15. Trade and other receivables	<u>257</u>
16. Inventories	<u>257</u>
17. Cash and cash equivalents	<u>258</u>
18. Assets held for sale	<u>258</u>
19. Trade and other payables	<u>258</u>
20. Debt	<u>259</u>
21. Leases	<u>261</u>
22. Taxation	<u>263</u>
23. Retirement benefits	<u>265</u>
24. Decommissioning and other provisions	<u>272</u>
25. Financial instruments	<u>273</u>
26. Share capital	<u>279</u>
27. Share-based compensation plans and shares held in trust	<u>280</u>
28. Other reserves	<u>281</u>
29. Dividends	<u>283</u>
30. Earnings per share	<u>283</u>
31. Legal proceedings and other contingencies	<u>283</u>
32. Employees	<u>286</u>
33. Directors and Senior Management	<u>286</u>
34. Auditor's remuneration	<u>287</u>
35. Post-balance sheet events	<u>287</u>
Supplementary information - oil and gas (unaudited)	<u>288</u>
Supplementary information - EU Taxonomy disclosure	<u>307</u>
Report of Independent Registered Public Accounting Firm (ID: 1438)	<u>320</u>
Statement of Income	<u>322</u>
Statement of Comprehensive Income	<u>322</u>

Balance Sheet	<u>322</u>
Statement of Changes in Equity	<u>323</u>
Statement of Cash Flows	<u>323</u>
Notes to the RDS Dividend Access Trust Financial Statements	<u>324</u>
1. The Trust	<u>324</u>
2. Basis of preparation	<u>324</u>
3. Significant accounting policies	<u>324</u>
4. Unclaimed dividends	<u>324</u>
5. Capital account	<u>325</u>
6. Distributions made	<u>325</u>
7. Related parties	<u>325</u>
8. Auditor's remuneration	<u>325</u>
Shareholder information	<u>326</u>
Section 13(r) of the US Securities Exchange Act of 1934 disclosure	<u>330</u>
Non-GAAP measures reconciliations	<u>331</u>
Index to the exhibits	<u>335</u>
Signatures	<u>336</u>
Financial calendar	<u>337</u>

CROSS REFERENCE TO FORM 20-F

Part I		Pages
Item 1.	Identity of Directors, Senior Management and Advisers	N/A
Item 2.	Offer Statistics and Expected Timetable	N/A
Item 3.	Key Information	
	A. [Reserved]	
	B. Capitalization and indebtedness	N/A
	C. Reasons for the offer and use of proceeds	N/A
	D. Risk factors	21-30
Item 4.	Information on the Company	
	A. History and development of the company	11,12-15, 18, 20, 33-38, 42-55, 64-81, 326, 330-334
	B. Business overview	12-32, 42-81, 110-128, 242-244, 288-306, 324
	C. Organizational structure	20, Exhibit 8.1
	D. Property, plants and equipment	20-30, 34-35, 42-81, 110-128, 242-244, 288-306
Item 4A.	Unresolved Staff Comments	N/A
Item 5.	Operating and Financial Review and Prospects	
	A. Operating results	21-38, 42-81, 273-279
	B. Liquidity and capital resources	33-38, 43-44, 49, 65-66, 70-71, 78-79, 81, 220-230, 242-244, 250-262
	C. Research and development, patents and licences, etc.	16, 216, 221
	D. Trend information	21-55, 64-80, 82-128
	E. Critical Accounting Estimates	N/A
Item 6.	Directors, Senior Management and Employees	
	A. Directors and senior management	129-138, 201-205
	B. Compensation	171-185, 190, 197-198, 286
	C. Board practices	129-190, 199-210
	D. Employees	119-124, 286
	E. Share ownership	123-124, 139, 183, 202, 279-280, 326
	F. Disclosure of a registrant's action to recover erroneously awarded compensation	N/A
Item 7.	Major Shareholders and Related Party Transactions	
	A. Major shareholders	327
	B. Related party transactions	200-201, 225, 255, 286, 324
	C. Interests of experts and counsel	N/A
Item 8.	Financial Information	
	A. Consolidated Statements and Other Financial Information	35-38, 211-287, 320-325
	B. Significant Changes	287
Item 9.	The Offer and Listing	
	A. Offer and listing details	326
	B. Plan of distribution	N/A
	C. Markets	326
	D. Selling shareholders	N/A
	E. Dilution	N/A
	F. Expenses of the issue	N/A
Item 10.	Additional Information	
	A. Share capital	N/A
	B. Memorandum and articles of association	202-209
	C. Material contracts	N/A
	D. Exchange controls	328
	E. Taxation	328-329
	F. Dividends and paying agents	N/A
	G. Statement by experts	N/A
	H. Documents on display	11
	I. Subsidiary Information	N/A

	J. Annual Report to Security Holders	See Form 6-K, filed March 9, 2023
Item 11.	Quantitative and Qualitative Disclosures About Market Risk	35, 256, 273-279
Item 12.	Description of Securities Other than Equity Securities	
	A. Debt Securities	Exhibit 2.5
	B. Warrants and Rights	N/A
	C. Other Securities	N/A
	D. American Depositary Shares	326-328, Exhibit 2.5
Part II		
Item 13.	Defaults, Dividend Arrearages and Delinquencies	N/A
Item 14.	Material Modifications to the Rights of Security Holders and Use of Proceeds	N/A
Item 15.	Controls and Procedures	199, 215, 320-321
Item 16.	[Reserved]	
Item 16A.	Audit committee financial expert	135, 155, 202
Item 16B.	Code of Ethics	201
Item 16C.	Principal Accountant Fees and Services	165, 287, 325
Item 16D.	Exemptions from the Listing Standards for Audit Committees	202
Item 16E.	Purchases of Equity Securities by the Issuer and Affiliated Purchasers	38, 199-200
Item 16F.	Change in Registrant's Certifying Accountant	N/A
Item 16G.	Corporate Governance	202-210
Item 16H.	Mine Safety Disclosure	N/A
Item 16I.	Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	N/A
Part III		
Item 17.	Financial Statements	N/A
Item 18.	Financial Statements	211-287, 320-325
Item 19.	Exhibits	335

Terms and abbreviations**Currencies**

\$	US dollar
€	euro
£	sterling

Units of measurement

acre	approximately 0.004 square kilometres
b(d)	barrels (per day)
boe(d)	barrels of oil equivalent (per day); natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel
GW	gigawatt
kboe(d)	thousand barrels of oil equivalent (per day); natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel
kWh	kilowatt-hours
megajoule	a unit of energy equal to one million joules
MMBtu	million British thermal units
mb/d	million barrels per day
mtpa	million tonnes per annum
MW	megawatt
MWh	megawatt hours
per day	volumes are converted into a daily basis using a calendar year
scf(d)	standard cubic feet (per day)
TWh	terawatt hours

Products

GTL	gas-to-liquids
LNG	liquefied natural gas
LPG	liquefied petroleum gas
NGL	natural gas liquids

Miscellaneous

ADS	American Depositary Share
AGM	Annual General Meeting
API	American Petroleum Institute
CCS	carbon capture and storage
CCS earnings	earnings on a current cost of supplies basis
CMF	carbon management framework
CO ₂	carbon dioxide
EMTN	Euro medium-term note
EPS	earnings per share
FCF	free cash flow
FID	final investment decision
GAAP	generally accepted accounting principles
GHG	greenhouse gas
HSSE	health, safety, security and environment
IAS	International Accounting Standards
IEA	International Energy Agency
IFRS	International Financial Reporting Standard(s)
IPIECA	International Petroleum Industry Environmental Conservation Association
IOGP	International Association of Oil & Gas Producers
LTIP	Long-term Incentive Plan
NCF	Net Carbon Footprint
NCI	net carbon intensity
OECD	Organisation for Economic Co-operation and Development
OML	oil mining lease
OPEC	Organization of the Petroleum Exporting Countries
OPL	oil prospecting licence
PSC	production-sharing contract
PSP	Performance Share Plan
REMCO	Remuneration Committee
RT	real terms
SEC	US Securities and Exchange Commission
TCFD	Task Force on Climate-related Financial Disclosures
TRCF	total recordable case frequency
TSR	total shareholder return
WTI	West Texas Intermediate

About this Report

This Form 20-F as filed with the US Securities and Exchange Commission for the year ended December 31, 2022 (this "Report") presents the Consolidated Financial Statements of Shell plc (the "Company") and its subsidiaries (collectively referred to as "Shell") (pages 216-287) and the Financial Statements of the Royal Dutch Shell Dividend Access Trust (pages 322-325). Except for these Financial Statements, the numbers presented throughout this Report may not sum precisely to the totals provided and percentages may not precisely reflect the absolute figures due to rounding. Cross-references to Form 20-F are set out on pages 7-8 of this Report.

The Consolidated Financial Statements of Shell plc and its subsidiaries contained in this Report have been prepared in accordance with international accounting standards in conformity with the requirements of the UK Companies Act 2006 (the "Act"), and therefore in accordance with UK-adopted international accounting standards. As applied to Shell, there are no material differences from International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB); therefore, the Consolidated Financial Statements have been prepared in accordance with IFRS as issued by the IASB. IFRS as defined above includes interpretations issued by the IFRS Interpretations Committee. Financial reporting terms used in this Report are in accordance with IFRS.

This Report contains certain forward-looking non-GAAP measures such as cash capital expenditure. We are unable to provide a reconciliation of these forward-looking non-GAAP measures to the most comparable GAAP financial measures because certain information needed to reconcile those non-GAAP measures to the most comparable GAAP financial measures is dependent on future events some of which are outside the control of Shell, such as oil and gas prices, interest rates and exchange rates. Moreover, estimating such GAAP measures with the required precision necessary to provide a meaningful reconciliation is extremely difficult and could not be accomplished without unreasonable effort. Non-GAAP measures in respect of future periods which cannot be reconciled to the most comparable GAAP financial measure are calculated in a manner which is consistent with the accounting policies applied in Shell plc's consolidated financial statements.

The entities in which Shell plc directly or indirectly owns investments are separate legal entities. In addition to the term "Shell", in this Report "Shell Group", "Group", "we", "us" and "our" are also used to refer to the Company and its subsidiaries in general or to those who work for them. These terms are also used where no useful purpose is served by identifying the particular entity or entities. "Subsidiaries", "Shell subsidiaries" and "Shell companies" refer to those entities over which the Company has control, either directly or indirectly. Entities and unincorporated arrangements over which Shell has joint control are generally referred to as "joint ventures" and "joint operations", respectively. "Joint ventures" and "joint operations" are collectively referred to as "joint arrangements". Entities over which Shell has significant influence but neither control nor joint control are referred to as "associates". The term "Shell interest" is used for convenience to indicate the direct and/or indirect ownership interest held by Shell in an entity or unincorporated joint arrangement, after exclusion of all third-party interest. Shell subsidiaries' data include their interests in joint operations.

As used in this Report, "Accountable" is intended to mean: required or expected to justify actions or decisions. The Accountable person does not necessarily implement the action or decision (implementation is usually carried out by the person who is Responsible) but must organise the implementation and verify that the action has been carried out as required. This includes obtaining requisite assurance from Shell companies that the framework is operating effectively. "Responsible" is intended to mean: required or expected to implement actions or decisions. Each Shell company and Shell-operated venture is responsible for its operational performance and compliance with the Shell General Business Principles, Code of Conduct, Statement on Risk Management and Risk Manual, and Standards and Manuals. This includes responsibility for the operationalisation and implementation of Shell Group strategies and policies.

Shell's operating plan, outlook and budgets are forecasted for a 10-year period and are updated every year. They reflect the current economic environment and what we can reasonably expect to see over the next ten years. Accordingly, they reflect our Scope 1, Scope 2 and NCI targets over the next 10 years. However, Shell's operating plans cannot reflect our 2050 net-zero emissions target and 2035 NCI target, as these targets are currently outside our planning period. In the future, as society moves towards net-zero emissions, we expect Shell's operating plans to reflect this movement. However, if society is not net zero in 2050 as of today, there would significant risk that Shell may not meet this target.

Shell's "Net Carbon Intensity" referred to in this Report include Shell's carbon emissions from the production of our energy products, our suppliers' carbon emissions in supplying energy for that production, and our customers' carbon emissions associated with their use of the energy products we sell. Shell only controls its own emissions. The use of the term "Net Carbon Intensity" is for convenience only and not intended to suggest these emissions are those of Shell plc or its subsidiaries.

Except where indicated, the figures shown in the tables in this Report are in respect of subsidiaries only, without deduction of any non-controlling interest. However, the term "Shell share" is used for convenience to refer to the volumes of hydrocarbons that are produced, processed or sold through subsidiaries, joint ventures and associates. All of a subsidiary's production, processing or sales volumes (including the share of joint operations) are included in the Shell share, even if Shell owns less than 100% of the subsidiary. In the case of joint ventures and associates, however, Shell-share figures are limited only to Shell's entitlement. In all cases, royalty payments in kind are deducted from the Shell share.

Except where indicated, the figures shown in this Report are stated in US dollars. As used herein all references to "dollars" or "\$" are to the US currency.

This Report contains forward-looking statements (within the meaning of the US Private Securities Litigation Reform Act of 1995) concerning the financial condition, results of operations and businesses of Shell. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements. Forward-looking statements are statements of future expectations that are based on management's current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements. Forward-looking statements include, among other things, statements concerning the potential exposure of Shell to market risks and statements expressing management's expectations, beliefs, estimates, forecasts, projections and assumptions. These forward-looking statements are identified by their use of terms and phrases such as "aim", "ambition", "anticipate", "believe", "could", "estimate", "expect", "goals", "intend", "may", "milestones", "objectives", "outlook", "plan", "probably", "project", "risks", "schedule", "seek", "should", "target", "will" and similar terms and phrases. There are a number of factors that could affect the future operations of Shell and could cause those results to differ materially from those expressed in the forward-looking statements included in this Report, including (without limitation): (a) price fluctuations in crude oil and natural gas; (b) changes in demand for Shell's products; (c) currency fluctuations; (d) drilling and production results; (e) reserves estimates; (f) loss of market share and industry competition; (g) environmental and physical risks; (h) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, judicial, fiscal and regulatory developments including regulatory measures addressing climate change; (k) economic and financial market conditions in various countries and regions; (l) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; (m) risks associated with the impact of pandemics, such as the COVID-19 (coronavirus) outbreak; and (n) changes in trading conditions. Also see "Risk factors" on pages 21-30 for additional risks and further discussion. No assurance is provided that future dividend payments will match or exceed previous dividend payments. All forward-

About this Report continued

looking statements contained in this Report are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Each forward-looking statement speaks only as of the date of this Report. Neither the Company nor any of its subsidiaries undertake any obligation to publicly update or revise any forward-looking statement as a result of new information, future events or other information. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this Report.

Past performance cannot be relied on as a guide to future performance.

This Report contains references to Shell's website, the Shell Sustainability Report, Energy Transition Progress Report, Tax Contribution Report, Industry Associations Climate Review and our report on Payments to Governments. These references are for the readers' convenience only. Shell is not incorporating by reference into this Report any information posted on www.shell.com or in the Shell Sustainability Report, Tax Contribution Report, Industry Associations Climate Review or our report on Payments to Governments. The content of any other websites referred to in this Report does not form part of this Report.

With effect from January 29, 2022, Shell's A shares and B shares were assimilated into a single line of ordinary shares. Shell's A and B American Depositary Shares (ADSs) were assimilated into a single line of ADSs on the same date. This Report continues to refer to A shares, B shares, A ADSs and B ADSs when describing the position prior to January 29, 2022.

Shell V-Power and Shell LiveWire are Shell trademarks.

Documents on display

The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. All of the SEC filings made electronically by Shell are available to the public on the SEC website at www.sec.gov (commission file number 001-32575).

This Report is also available, free of charge, at www.shell.com/investors/financial-reporting/sec-filings or at the offices of Shell in London, United Kingdom and The Hague, the Netherlands. Copies of this Report also may be obtained, free of charge, by mail.

Powering Progress strategy

Who we are

Shell is a global group of energy and petrochemical companies, employing 93,000 [A] people and with operations in more than 70 countries.

We use advanced technologies and take an innovative approach as we seek to help the world build a sustainable energy future. Shell is a customer-focused organisation, serving more than 1 million commercial and industrial customers, and around 32 million customers daily at more than 46,000 Shell-branded retail service stations.

[A] At December 31, 2022.

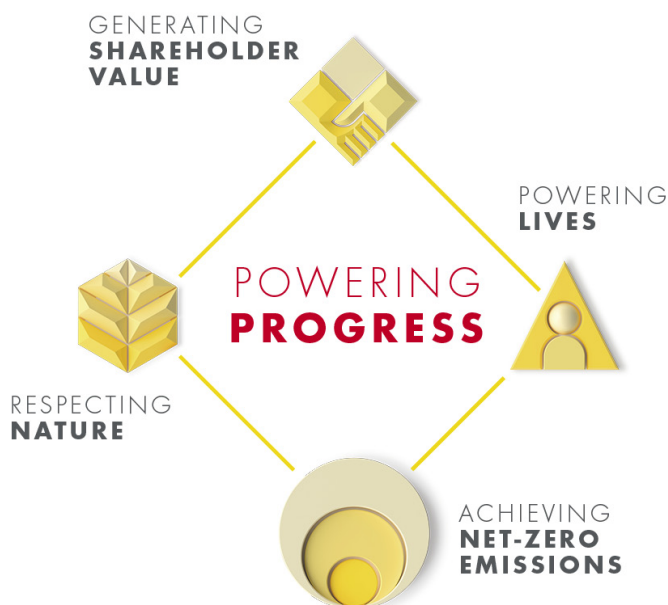
Our stakeholders

- Our investors
- Our customers
- Our employees/workforce/pensioners
- Our strategic partners/suppliers
- Communities
- NGOs/civil society stakeholders/academia/think-tanks
- Governments/regulators

See "Respecting nature", "Powering lives" and "Governance".

Our purpose

To power progress together by providing more and cleaner energy solutions.



Underpinned by our **core values** and our focus on **safety**

Our core values

Honesty | Integrity | Respect for people

See "Powering lives - Our people".

Our strategy

Our strategy

Powering Progress is our strategy to generate value for shareholders and become a net-zero emissions business by 2050. It is designed to help customers decarbonise and bring benefits for wider society, while respecting nature. Our strategy is underpinned by our focus on safety, and our core values of honesty, integrity and respect for people.

Context

Climate change is one of the biggest challenges the world faces today. In 2022, geopolitical events showed that a secure supply of energy is crucial, and a growing global population is likely to continue to drive demand for energy, including oil and gas, for years to come. This necessitates society's rapid transition to a low-carbon, multi-source energy system.

Shell supports the most ambitious goal of the Paris Agreement, which is to limit the rise in global average temperature this century to 1.5 degrees Celsius above pre-industrial levels. To achieve this, urgent action is needed to reduce emissions across power, transport, buildings, and hard-to-abate industries, such as steel and concrete. Around 140 countries and more than 2,000 companies and organisations have made commitments to get to net-zero emissions by 2050.

Shell seeks to play its part, purposefully and profitably, in the energy transition, while helping to maintain energy security. We are building a resilient business by putting customers at the centre of our strategy, and innovating the products and solutions they need. Our integrated assets and supply chains are designed to deliver value for our shareholders and customers. We aim to manage risk for Shell and our customers as we produce, buy, trade, transport and sell energy products and solutions worldwide.

The energy transition brings risks, involves confronting complex obstacles, and poses great challenges. The energy transition also offers significant opportunities.

We seek to work with our customers to identify available, affordable and low- and zero-carbon energy solutions that meet their changing needs and to help decarbonise the energy system.

There will be no single solution that fits all customers. Instead, there will be variations with differing approaches and rates of progress across countries, sectors and markets.

Customers' use of the energy we sell generates most emissions. Helping our customers get to net zero will also reduce our net carbon intensity, and the average amount of greenhouse gas emissions we produce for every unit of energy that we sell and that is used by our customers.

We work with sectors that would benefit from the expertise and experience that energy companies can provide to help them find a path to net-zero emissions. Aviation is one of these sectors. Together with our customers, we are working on changing energy demand and developing ways to help increase the use of low-carbon fuels and decrease carbon emissions from this sector. Meanwhile, on the supply side, in Rotterdam in the Netherlands, Shell is building an 820,000-tonnes-a-year biofuels facility. This is expected to be among the largest in Europe, producing sustainable aviation fuel and renewable diesel made from waste and certified sustainable vegetable oils.

Powering Progress

Our Powering Progress strategy comprises: generating shareholder value, achieving net-zero emissions, powering lives and respecting nature. It is a strategy that integrates sustainability with our pursuit of value through high performance. Our purpose is to power progress together by providing more and cleaner energy solutions. We also expect our employees and contractors to maintain Shell's focus on safety and abide by our core values of honesty, integrity and respect for people.

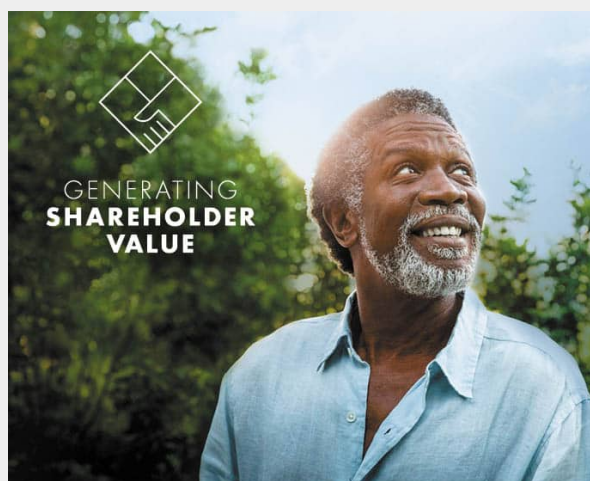
Powering Progress is a strategy that combines our financial strength and discipline with a dynamic approach to our portfolio of assets and products, so we can seize the opportunities of the energy transition. Shell transforms its portfolio continuously to better meet the clean energy needs of its customers today and in the future.

Achieving our strategy depends on how we respond to competitive forces. We assess the external environment – the markets and margins, and the underlying economic, political, social and environmental drivers that shape them – to evaluate commercial opportunities and potential new business models. We regularly review the markets where we operate, and assess our competitive position by analysing trends, uncertainties, and the strengths and weaknesses of our traditional and non-traditional competitors.

We maintain business plans that focus on actions and capabilities to create and sustain competitive advantage. We maintain a risk management framework that regularly assesses our response to, and appetite for, identified risks.

Our Executive Directors' remuneration is linked to the successful delivery of our strategy, based on performance indicators that we consider to be aligned with shareholder interests. Long-term incentives form the majority of the Executive Directors' remuneration for above-target performance. In 2022, the Long-term Incentive Plan (LTIP) included conditions relating to cash generation, capital discipline, value created for shareholders, and energy transition.

Our strategy continued



Generating shareholder value

Powering Progress is designed to pursue shareholder value, make disciplined and focused investments to grow our businesses, and help Shell become even more competitive and resilient.

We aim to create the conditions for share price appreciation by optimising the performance of our businesses. We are also preparing for the future by seizing the opportunities presented by the energy transition. Shell takes a dynamic approach to its portfolio by continuing to provide the energy the world needs and increasing our investments in low- and zero-carbon energy products and services.

We aim to generate value for shareholders by providing sustainable distributions through our progressive dividend policy and share buyback programmes. In 2022, we generated \$68.4 billion cash flow from operating activities. Our cash capital expenditure was \$24.8 billion and total shareholder distributions amounted to \$25.8 billion, whilst we reduced our net debt to \$44.8 billion as at December 31, 2022.

We completed our share buyback programmes in 2022 with a combined value of \$18.4 billion. We increased our dividend to \$0.25 per share in the first quarter of 2022 and announced a 15% increase for the fourth quarter of 2022. Total shareholder distributions were in excess of 35% of cash flow from operating activities.

We seek to maintain a strong balance sheet and apply a disciplined approach to capital investment. In this way, we believe we will achieve our aim of building a compelling investment case for our shareholders.



Achieving net-zero emissions

We have a long-term target to become a net-zero emissions energy business by 2050. The target covers emissions from our operations (Scope 1), emissions from the energy we buy to run our operations (Scope 2), and emissions from our customers' use of the energy products we sell (Scope 3).

We also have targets to reduce the net carbon intensity of the energy products we sell, with 2016 as our baseline year. These include targets of a 6-8% reduction by the end of 2023, a 9-12% reduction by the end of 2024, and a 9-13% reduction by the end of 2025. Our medium- and longer-term targets are to reduce by 20% by 2030, by 45% by 2035 and 100% by 2050. We achieved our target of a 3-4% reduction by the end of 2022. We also have an absolute emissions reduction target of 50% on all Scope 1 and 2 emissions under Shell's operational control by 2030 on a net basis. By the end of 2022, Shell had reduced its absolute Scope 1 and 2 emissions by 30%.

We place a high priority on combating methane emissions linked to oil and gas, and we have set a target to keep our methane emissions intensity for operated oil and gas assets (including liquefied natural gas) below 0.2% by 2025. In 2022, methane emissions intensity for operated facilities with marketing gas was 0.05%.

We are transforming our business and selling more low-carbon products and services, such as electricity generated by solar and wind power, hydrogen, biofuels, and charging for electric vehicles. We are helping sectors to decarbonise by working collaboratively with customers, businesses and governments.

Shell engages with governments and other stakeholders, such as international organisations and industry associations, to support robust policies, legislation and regulations designed to accelerate the transition to net-zero emissions.

Our strategy continued



Powering lives

Shell is dedicated to making a positive impact on the lives of people around the world. We work to improve people's lives through our products and activities, and by contributing to local communities and championing inclusion.

We help to power lives and livelihoods by providing vital energy for homes, businesses and transport. Millions of people live without access to affordable, reliable and sustainable energy, and this has been exacerbated by the geopolitical events of 2022. Energy supply is crucial for addressing global challenges, including those related to poverty and inequality. In line with our Powering Progress strategy, Shell has been striving to bring reliable electricity to those in emerging markets who do not yet have it.

We support livelihoods by providing employment and training in the communities where we operate. In addition, we buy and sell goods and services and generate revenues for governments through the taxes and royalties we pay and the sales taxes we collect on their behalf. This helps governments fund health care, education, transport and other essential services.

Shell is working to become one of the most diverse and inclusive organisations in the world, a place where everyone feels valued and respected. We are focusing on four areas: gender; race and ethnicity; lesbian, gay, bisexual and transgender (LGBT+); and disability.

We seek to respect human rights in all parts of our business. In 2021, Shell published a commitment to worker welfare as part of our approach to human rights and implemented the new Worker Welfare Control Framework requirements based on principles developed by the global, business-led coalition Building Responsibly. These requirements became mandatory in 2022 for Shell and our contractors.



Respecting nature

Our environmental ambitions include protecting and enhancing biodiversity. We are also focused on using water and other resources more efficiently and reusing as much of them as we can. We are reducing waste from our operations and increasing the recycling of plastics.

We are committed to recycling plastic waste in our chemical facilities. Shell's proprietary technology to improve the quality of pyrolysis oil is a key process in delivering on this ambition. Pyrolysis is a technique whereby hard-to-recycle plastics are broken down into raw materials. We have invested in our first pyrolysis oil upgrader unit at the Shell Energy and Chemicals Park Singapore. In Canada, Shell has been working with the people of Dawson Creek city to manage water use at our nearby natural gas operations at Groundbirch. We worked with the city council to open a plant that treats municipal waste water that would otherwise be discharged to a local river. Our Groundbirch site recycles around 98% of water used for its operations.

Across Shell, we are helping to improve air quality by reducing emissions from our operations and providing clean ways to power transport and industry.

Our purchasing policies include requirements that reflect our environmental framework and take the energy efficiency, material efficiency and sustainability of products into consideration in our purchases.

How we create value

We aim to meet the world’s growing need for more and sustainable energy solutions in ways that are economically, environmentally and socially responsible. Our Powering Progress strategy is designed to create value for our shareholders, customers and wider society.

Our inputs [A]

Financial capital

Equity attributable to Shell plc shareholders (\$ billion) [B]:

190 2021: 172

Non-current debt (\$ billion) [B]:

75 2021: 81

Net debt (\$ billion) [B][C]:

45 2021: 53

Average capital employed (\$ billion) [B]:

270 2021: 265

Cash capital expenditure (\$ billion) [C]:

25 2021: 20

Operations

Refining and chemicals availability:

96% 2021: 96%

Oil & gas production available for sale (kboe/d):

2,864 2021: 3,237

LNG liquefaction volumes (million tonnes):

30 2021: 31

Human capital

Number of employees (thousands) [B][D]:

93 2021: 83

Number of training days (thousands):

266 2021: 271

Relationships

Customers, joint arrangements, government relations, suppliers.

Operating countries [B]:

>70 2021: >70

Intellectual capital

Research and development expenses (\$ million):

1,075 2021: 815

Number of patents [B][E]:

10,788 2021: 8,532

Natural resources

Proved oil and gas reserves (million boe) [B]:

9,578 2021: 9,365

Energy consumed (million MWh):

199 2021: 223

[A] In 2022 unless stated otherwise.

[B] At December 31.

[C] See "Non-GAAP measures reconciliations" on pages 331-334.

[D] Employee numbers, including comparatives, have been updated from Full Time Equivalents (FTE) to Headcount.

[E] Includes granted patents and pending patent applications.

Business activities



Customer sectors



Mobility



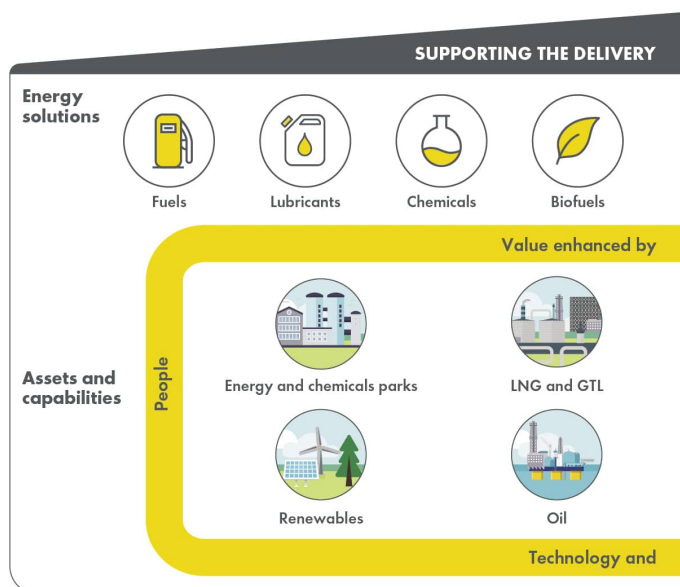
Residential



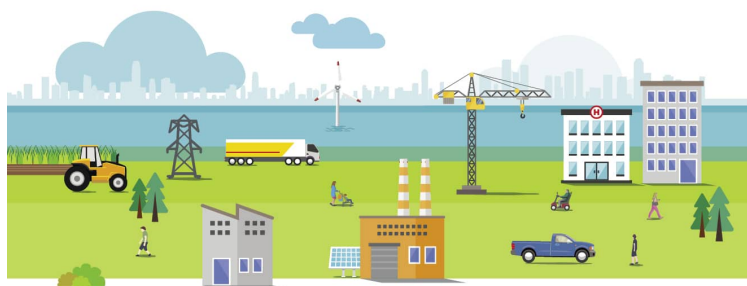
Marine



Aviation



How we create value continued



Agriculture and forestry



Commercial road transport



Industrial



Commercial

OF INTEGRATED ENERGY SOLUTIONS



Electricity



Hydrogen



Natural gas



Liquefied natural gas



Gas-to-liquids

trading and optimisation



Transport



Power



Gas



Biomass

Carbon offsets

operational excellence

Our outcomes and impacts [A]



GENERATING SHAREHOLDER VALUE

Cash flow from operating activities (\$ billion):

68 2021: 45

Adjusted earnings (\$ billion) [C]:

40 2021: 19

Shareholder distributions (\$ billion) [C]:

26 2021: 9



ACHIEVING NET-ZERO EMISSIONS

Absolute emissions (Scope 1 and 2 – million tonnes of CO₂ equivalent):

58 2021: 68 | 2016: 83

Net carbon intensity (Grams of CO₂ equivalent per megajoule):

76 2021: 77 | 2016: 79

Methane emissions intensity for operated facilities with marketing gas:

0.05% 2021: 0.06%



POWERING LIVES

Women in senior leadership positions [B]:

30% 2021: 30%

Taxes paid and collected (\$ billion):

68 2021: 59

Total spend on goods and services (\$ billion):

42 2021: 38



RESPECTING NATURE

Fresh water consumed by four major facilities in high water-stressed areas (million m³):

18 2021: 22 | 2018: 25

Total waste disposed (million tonnes):

2 2021: 2

Operational spills of more than 100 kilograms (thousand tonnes):

0.06 2021: 0.05

[A] In 2022 unless stated otherwise.

[B] At December 31.

[C] See "Non-GAAP measures reconciliations" on pages 331-334.

Powering Progress in action



**ACHIEVING
NET-ZERO
EMISSIONS**

Working with our customers and across sectors to accelerate the transition to net-zero emissions

January 2022 Shell started up a hydrogen electrolyser in China with 20 MW production capacity which is critical to decarbonisation in China.

January 2022 Shell completed sale of interest in Deer Park refinery. Shell plans to consolidate its refinery footprint to five or six core energy and chemicals parks. These locations will maximise the integration benefits of conventional fuels and chemicals production while also offering new low-carbon fuels and performance chemicals.

January 2022 Shell and ScottishPower won bids to develop 5 GW of floating wind power to become the world's first large-scale floating offshore wind farm in UK waters. Once built, it will power the equivalent of 6 million homes in Scotland.

February 2022 Shell's joint venture Atlantic Shores won acreage in New York Bight, which expands Shell's offshore wind renewable power generation capacity in the USA. This area, subject to a future investment decision, could support around 1.5 GW of commercial wind generation, enough to power nearly 700,000 New York and New Jersey homes.

February 2022 Shell completed the acquisition of Powershop in Australia an online energy retailer serving more than 185,000 customers. This complements Shell's existing Australian investments in low- and zero-carbon assets and technologies.

June 2022 Shell completed the acquisition of the Landmark fuel and convenience network which provides opportunities to offer customers expanded fuelling options (including electric vehicle charging, hydrogen, biofuels and lower-carbon premium fuels) and allows for the growth of non-fuel sales through an enhanced convenience offering.

July 2022 QatarEnergy selected Shell as a partner in the North Field East (NFE) expansion project in Qatar. In December 2022, QatarEnergy and Shell closed the transaction with Shell purchasing 25% of the joint venture (JV) which owns 25% of the overall project. Shell's ownership of NFE via its JV shareholding is 6.25%. The project will use CCS, helping to reduce emissions.

July 2022 Shell took the final investment decision to build Holland Hydrogen I, which will be Europe's largest renewable hydrogen plant once operational from 2025. Holland Hydrogen I demonstrates how new energy solutions can help meet society's need for cleaner energy. It is also an example of Shell's own efforts and commitment to become a net-zero emissions business by 2050.

August 2022 Shell completed the acquisition of Solenergi Power Private Limited and with it the Sprng Energy group, one of India's leading renewable power platforms that develops and manages renewable energy facilities and infrastructure assets.

October 2022 QatarEnergy selected Shell to participate in the North Field South project in Qatar. Shell will obtain a 9.375% participating interest in the 16 mtpa project out of a total 25% interest available for international partners. QatarEnergy will hold the remaining 75%.

February 2023 Shell completed the acquisition of Nature Energy which is a producer of renewable natural gas (RNG) from agricultural, industrial, and household waste. This acquisition, announced in November 2022, will increase Shell's ability to help customers decarbonise and accelerate its transition to net-zero emissions.



**RESPECTING
NATURE**

Protecting the environment, reducing waste and making a positive contribution to biodiversity

Shell's Upstream business has a project under way to restore two hectares of coral reef in Mexico. The project aims to replant damaged coral reefs that support the marine ecosystem.

Shell Moerdijk's 39-hectare solar park, in the Netherlands, is designed with optimal habitats for pollinators that resulted in more species of bees than on neighbouring agricultural land, research showed. Future solar parks in the Netherlands, such as Heerenveen, will follow the same design.

Shell and Space Intelligence are maturing an artificial intelligence (AI) techniques to monitor the health of natural ecosystems. At scale, this use of AI can improve how Shell's nature-based solutions (NBS) business evaluates, tracks and assesses the performance of ecosystems and may augment the value of NBS projects worldwide.



**POWERING
LIVES**

Improving people's lives through our products and activities, contributing to local communities and championing inclusion

Access to Energy In September 2022, Shell acquired Daystar Power, a provider of integrated solar power solutions to businesses in West Africa, helping customers reduce power costs and pollution. This deal marks our first power acquisition in Africa and is a fundamental step for Shell in growing our presence in emerging power markets.

Diversity, equity and inclusion (DE&I) In 2022, as part of Shell's ambition to become one of the most diverse and inclusive organisations in the world, we published data to demonstrate the progress we have made against all our individual commitments for gender, race and ethnicity, LGBT+ and disability inclusion. We published our DE&I roadmap and guiding principles to increase transparency around our approach and to drive leadership accountability and the behaviours we expect.

Communities In 2022, Shell's social investment amounted to almost \$260 million. This included programmes supporting education, community development, disaster relief, energy access, community skills and enterprise development, health, biodiversity and road safety.

Human Rights Human rights are fundamental to Shell's core values of honesty, integrity and respect for people. In 2022, we completed a review of our salient human rights with an external advisor, Business for Social Responsibility (BSR). We published a list grouping these rights according to four focus areas: workplace, supply chains, community and security.

Outlook

Outlook for 2023 and beyond

Our integrated business model is key to driving our strategy. Shell has a competitive portfolio and we intend to maintain that position as we develop our assets and the mix of energy that we sell to meet the needs of our customers for more affordable, reliable and cleaner energy. By doing so, we aim to generate additional value for our shareholders.

Delivering our strategy will require clear and deliberate capital allocation choices. We approach capital allocation at three levels: enterprise, portfolio and project. The enterprise level is about how we make choices between increasing distributions to our shareholders, investing in our business and strengthening our balance sheet. The portfolio level is about how we allocate capital between our business segments. The project level is about how we evaluate and prioritise investment opportunities.

For cash capital expenditure (capex), the 2023 outlook is in the \$23-27 billion range.

Our capital framework target is a distribution of at least 20-30% of cash flow from operations to shareholders and we may choose to return cash to shareholders through a combination of dividends and share buybacks. Subject to Board approval, we aim to grow the dividend per share by around 4% every year. When setting the level of shareholder distributions, the Board looks at a range of factors, including the macro-environment, the underlying business earnings

and cash flow of the Shell Group, the current balance sheet, future investment, acquisition and divestment plans and existing commitments.

We have announced an increase of our dividend per share of 15% for the fourth quarter of 2022 as part of our progressive dividend policy. Portfolio allocation affects our ability to deliver on targets we have made, and socio-economic, political and market factors sometimes change our outlooks. Existing global targets are currently under review. While no decisions have been made, to ensure our transition to a net-zero energy business is profitable, it is likely that some business targets may be retired, as part of normal strategy evolution and mindful of existing capital allocation in the latest operating plan. We expect to provide further insights during our Capital Markets Day in June 2023. All targets presented at Capital Markets Day in June will be filed with the SEC.

The statements in this section, including those related to our growth strategies and our expected or potential future cash flow from operations, organic free cash flow, share buybacks, capital investment, divestments, production, absolute emissions and net carbon intensity, are based on management's current expectations and certain material assumptions. Accordingly, these statements involve risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied herein.

Financial framework

Capital discipline

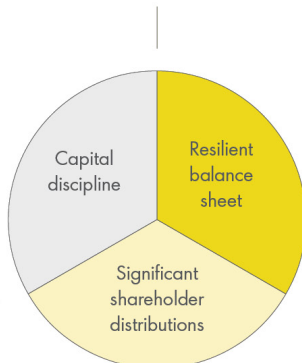
2023 cash capex within \$23-27 billion

- Includes inorganic capex

Resilient balance sheet

Targeting AA credit metrics through the cycle

- Continued focus on Net debt reduction in upcycle
- Divest for value
- Invest for value



Significant shareholder distributions

Around 4% annual growth in dividend per share, subject to Board approval

Sustainable progressive dividend

Total shareholder distributions ≥ 20-30% [A] of cash flow from operating activities

Total shareholder distributions (dividends + share buybacks) based on cash generation, macro-outlook and balance sheet trajectory

[A] Potentially more than 30% (subject to Board approval and prevailing market conditions).

Our organisation

Our Powering Progress businesses in 2022

Integrated Gas, Renewables and Energy Solutions

Integrated Gas manages liquefied natural gas (LNG) activities and the conversion of natural gas into gas-to-liquids (GTL) fuels and other products. It includes natural gas and liquids exploration and extraction, as well as the operation of the upstream and midstream infrastructure necessary to deliver gas and liquids to market. The marketing, trading and optimisation of LNG are included within Integrated Gas.

Renewables and Energy Solutions (R&ES) manages Shell's integrated power activities. These comprise electricity generation, marketing and trading of power and pipeline gas, as well as digitally enabled customer solutions. The R&ES business also includes the production and marketing of hydrogen, development of commercial carbon capture and storage hubs, trading of carbon credits, and investment in nature-based projects that avoid or reduce carbon.

Upstream

Upstream explores for and extracts crude oil, natural gas and natural gas liquids. It also markets and transports oil and gas, and operates the infrastructure necessary to deliver them to the market. Upstream business delivers reliable energy from conventional oil and gas operations, as well as deep-water exploration and production activities.

We are focusing our Upstream portfolio to become more resilient, prioritising value over volume to provide the energy the world needs today whilst funding the energy system of tomorrow. Upstream will play a fundamental role in supporting Shell's transformation to a net-zero business by 2050. Upstream's oil and gas supplies help maintain the world's energy security. The business is working to provide these supplies with lower emissions.

Downstream

Marketing manages the Mobility, Lubricants, and Sectors & Decarbonisation activities. Mobility operates Shell's retail network, including electric vehicle charging services. Lubricants produces, markets and sells lubricants for road transport and machinery. Sectors & Decarbonisation sells fuels, speciality products and services including low-carbon energy solutions to a broad range of commercial customers.

Chemicals and Products manages chemical manufacturing plants with their own marketing network and refineries, which turn crude oil and other feedstocks into a range of oil products. These products are moved and marketed around the world for domestic, industrial and transport use. Downstream also includes the pipeline activities, and trading of crude oil, oil products and petrochemicals.

Projects & Technology

Projects & Technology manages the delivery of our major projects and drives research and innovation. It provides technical services for our businesses. It is also responsible for providing functional leadership across Shell in safety and environment, contracting and procurement, wells activities and greenhouse gas management.

Technology and innovation are essential to our efforts to meet the world's energy needs in a competitive way. Our main technology centres are in India, the Netherlands and the USA, with other centres in Brazil, China, Germany, Oman and Qatar.

On January 30, 2023, Shell announced that the Integrated Gas and Upstream businesses will be combined into a single Integrated Gas and Upstream Directorate. The Downstream business will be combined with Renewables and Energy Solutions to form a new Downstream and Renewables Directorate. The changes are expected to take effect on July 1, 2023. The intention of this change is to simplify the organisation further and improve performance as we deliver our Powering Progress strategy.

The risks discussed below could have a material adverse effect separately, or in combination, on our earnings, cash flows and financial condition. Accordingly, investors should carefully consider these risks.

Further background on each risk is set out in the relevant sections of this Report, indicated by way of cross references under each risk factor.

The Board's responsibility for identifying, evaluating and managing our significant and emerging risks is discussed in "Governance framework" on pages 141-146.

Strategic risks

We are exposed to macroeconomic risks including fluctuating prices of crude oil, natural gas, oil products and chemicals.

Risk description

The prices of crude oil, natural gas, oil products and chemicals can be volatile and are affected by supply and demand, both globally and regionally. Macroeconomic, geopolitical and technological uncertainties can also affect production costs and demand for our products. Government actions may also affect the prices of crude oil, natural gas, oil products and chemicals. These include price caps on gas, the promotion of electric vehicle sales or the phasing-out of future sales of new diesel or gasoline vehicles (as announced in the UK and due to come into force in 2030). Oil and gas prices can also move independently of each other (as seen with European gas prices in 2022). Factors that influence supply and demand include operational issues, natural disasters, weather, pandemics such as COVID-19, political instability, conflicts, such as the Russian invasion of Ukraine, economic conditions, including inflation, and actions by major oil- and gas-producing countries. In a low oil and gas price environment, we would generate less revenue from our Upstream and Integrated Gas businesses, and parts of those businesses could become less profitable or incur losses. Low oil and gas prices have also resulted and could continue to result in the debooking of proved oil or gas reserves, if they become uneconomic in this type of price environment. Prolonged periods of low oil and gas prices, or rising costs, have resulted and could continue to result in projects being delayed or cancelled. Assets have been impaired in the past, and there could be impairments in the future. Low oil and gas prices have affected and could continue to affect our ability to maintain our long-term capital investment and shareholder distribution programmes. Prolonged periods of low oil and gas prices could adversely affect the financial, fiscal, legal, political and social stability of countries that rely significantly on oil and gas revenue. In the past, a high oil and gas price environment has generally led to sharp increases in costs and this could continue. Under high oil and gas prices, our entitlement to proved reserves under some production-sharing contracts could also be reduced. Higher prices could also reduce demand for our products, which could result in lower profitability, particularly in our Chemicals and Products and Marketing businesses. Some of the reduction in demand could be permanent. Higher prices can also lead to more capacity being built, potentially resulting in an oversupplied market which would negatively affect our Upstream, Integrated Gas, Renewables and Energy Solutions, Chemicals and Products and Marketing businesses.

Accordingly, price fluctuations could have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Market overview" on page 39.

Our ability to deliver competitive returns and pursue commercial opportunities depends in part on the accuracy of our price assumptions.

Risk description

We use a range of commodity price and margin assumptions, which we review on a periodic basis. These ranges help us to evaluate the robustness of our capital allocation for our evaluation of projects and commercial opportunities. If our assumptions prove to be incorrect, this could have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Market overview" on page 41.

Our ability to achieve our strategic objectives depends on how we react to competitive forces.

Risk description

We face competition in all our businesses. We seek to differentiate our services and products, though many of our products are competing in commodity-type markets. Accordingly, failure to manage our costs and our operational performance could result in a material adverse effect on our earnings, cash flows and financial condition. We also compete with state-owned hydrocarbon entities and state-backed utility entities with access to financial resources and local markets. Such entities could be motivated by political or other factors in making their business decisions. Accordingly, when bidding on new leases or projects, we could find ourselves at a competitive disadvantage because these state-owned entities may not require a competitive return. If we are unable to obtain competitive returns when bidding on new leases or projects, this could have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Market overview" on page 41.

Strategic risks continued

Rising concerns about climate change and effects of the energy transition could continue to lead to a fall in demand and potentially lower prices for fossil fuels. Climate change could also have a physical impact on our assets and supply chains. This risk may also lead to additional legal and/or regulatory measures, resulting in project delays or cancellations, potential additional litigation, operational restrictions and additional compliance obligations.

Risk description

Societal demand for urgent action on climate change has increased, especially since the Intergovernmental Panel on Climate Change (IPCC) Special Report of 2018 on 1.5°C effectively made the more ambitious goal of the Paris Agreement to limit the rise in global average temperature this century to 1.5 degrees Celsius the default target. This increasing focus on climate change and drive for an energy transition have created a risk environment that is changing rapidly, resulting in a wide range of stakeholder actions at global, local and company levels. The potential impact and likelihood of the associated exposure for Shell could vary across different time horizons, depending on the specific components of the risk.

We expect that a growing share of our greenhouse gas (GHG) emissions will be subject to regulation, resulting in increased compliance costs and operational restrictions. Regulators may seek to limit certain oil and gas projects or make it more difficult to obtain required permits. Additionally, climate activists are challenging the grant of new and existing regulatory permits, and protesting at some of our facilities and projects. We expect that these challenges and protests are likely to continue and could delay or prohibit operations in certain cases. Our journey to achieving our target of becoming net zero on all emissions from our operations has resulted in and could continue to require additional costs. We also expect that actions by customers to reduce their emissions will continue to lower demand and potentially affect prices for fossil fuels, as will GHG emissions regulation through taxes, fees and/or other incentives. This could be a factor contributing to additional provisions for our assets and result in lower earnings, cancelled projects and potential impairment of certain assets.

The pace and extent of the energy transition could pose a risk to Shell if we decarbonise our operations and the energy we sell at a different speed relative to society. If we are slower than society, customers may prefer a different supplier, which would reduce demand for our products and adversely affect our reputation besides materially affecting our earnings and financial results. If we move much faster than society, we risk investing in technologies, markets or low-carbon products that are unsuccessful because there is limited demand for them.

The physical effects of climate change such as, but not limited to, increases in temperature and sea levels and fluctuations in water levels could also adversely affect our operations and supply chains.

Certain investors have decided to divest their investments in fossil fuel companies. If this were to continue, it could have a material adverse effect on the price of our securities and our ability to access capital markets. Stakeholder groups are also putting pressure on commercial and investment banks to stop financing fossil fuel companies. Some financial institutions have started to limit their exposure to fossil fuel projects. Accordingly, our ability to use financing for these types of future projects may be adversely affected. This could also adversely affect our potential partners' ability to finance their portion of costs, either through equity or debt.

In some countries, governments, regulators, organisations and individuals have filed lawsuits seeking to hold fossil fuel companies liable for costs associated with climate change. While we believe these lawsuits to be without merit, losing could have a material adverse effect on our earnings, cash flows and financial condition. For example, in May 2021, the District Court in The Hague, Netherlands, ruled that, by 2030, Shell must reduce, from its consolidated subsidiaries, its Scope 1 net emissions by 45% from its 2019 levels and use its best efforts to reduce its Scope 2 and Scope 3 net emissions by 45% from its 2019 levels. In 2019, our Scope 1 emissions from our consolidated subsidiaries were 86 million tonnes carbon dioxide equivalent, rounded. We expect to see additional regulatory requirements to provide disclosures related to climate risks.

In summary, rising climate change concerns, the pace at which we decarbonise our operations relative to society and effects of the energy transition have led and could lead to a decrease in demand and potentially affect prices for fossil fuels. If we are unable to find economically viable, publicly acceptable solutions that reduce our GHG emissions and/or GHG intensity for new and existing projects and for the products we sell, we could experience financial penalties or extra costs, delayed or cancelled projects, potential impairments of our assets, additional provisions and/or reduced production and product sales. This could have a material adverse effect on our earnings, cash flows and financial condition.

For further explanations of our climate change governance, risk management approach, climate ambition and strategy, and our portfolio and performance, please refer to the section "Our journey to net zero" on pages 82-109.

Investments in our low-carbon products and services may not achieve expected returns.

We are building our portfolio of low-carbon products and services such as electricity generated from solar and wind power, hydrogen and biofuels, and charging for electric vehicles through organic and inorganic growth.

In expanding our offerings of these low-carbon products and services, we expect to undertake acquisitions and form partnerships. The success of these transactions will depend on our ability to realise the synergies from combining our respective resources and capabilities, including the development of new processes, systems and distribution channels. For example, it may take time to develop these areas through retraining our workforce and recruitment for the necessary new skills. It may take longer to realise the expected returns from these transactions.

The operating margins for our low-carbon products and services may not be as high as the margins we have experienced historically in our oil and gas operations. Some of our acquired companies are not yet in full compliance with the Shell Control Framework.

Therefore, developing our low-carbon products and services is subject to challenges which could have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Marketing" on pages 64-68 and "Renewables & Energy Solutions" on pages 77-80.

Strategic risks continued

We operate in more than 70 countries that have differing degrees of political, legal and fiscal stability. This exposes us to a wide range of political developments that could result in changes to contractual terms, laws and regulations. We and our joint arrangements and associates also face the risk of litigation and disputes worldwide.

Risk description

Developments in politics, laws and regulations can and do affect our operations. Potential impacts, which we have experienced in the past, include: forced divestment of assets; expropriation of property; cancellation or forced renegotiation of contract rights; additional taxes including windfall taxes, restrictions on deductions and retroactive tax claims; antitrust claims; changes to trade compliance regulations; price controls; local content requirements; foreign exchange controls; changes to environmental regulations; changes to regulatory interpretations and enforcement; and changes to disclosure requirements. Many parts of the world are facing economic and fiscal challenges and growing pressure on cost-of-living standards. The situation is further exacerbated by Russia's invasion of Ukraine, which is having an unprecedented impact on gas and power markets in terms of both supply and price. These issues impact our business as governments, in response to political and social pressures, pursue policies that could have a material adverse effect on our earnings, cash flows and financial condition.

From time to time, social and political factors play a role in unprecedented and unanticipated judicial outcomes that could adversely affect Shell. Non-compliance with policies and regulations could result in regulatory investigations, litigation and, ultimately, sanctions. Certain governments and regulatory bodies have, in Shell's opinion, exceeded their constitutional authority by: attempting unilaterally to amend or cancel existing agreements or arrangements; failing to honour existing contractual commitments; and seeking to adjudicate disputes between private litigants. Certain governments have also adopted laws and regulations that could potentially conflict with other countries' laws and regulations, potentially subjecting us to criminal and civil sanctions. Such developments and outcomes could have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Marketing" on pages 64-68 and "Renewables & Energy Solutions" on pages 77-80.

Operational risks

Russia's invasion of Ukraine has affected the safety and security of our people and operations in these and neighbouring countries. The resulting sanctions and export controls and the evolving geopolitical situation have caused wide-ranging challenges to our operations which could continue in the medium to longer term.

Risk description

Russia's invasion of Ukraine continues to pose wide-ranging challenges to our operations and commercial decisions. The immediate impacts included those relating to the safety and security of our people and operations in these and neighbouring countries. The subsequent sanctions and export controls imposed by countries around the world are having a material impact on a number of our activities, including supply, trading and treasury activities. More sanctions, export controls and taxes are expected.

Given the evolving situation, there may be many other unknown factors and events that could materially impact our operations, which may be temporary or more permanent in nature. These risks and future events could impact our supply chain, commodity prices, credit, commodity trading, treasury and legal risks. In addition, there is potential reputational risk associated with how Shell's decisions in response to evolving challenges are perceived. The tensions also create heightened cyber-security threats to our information technology infrastructure. The geopolitical situation may influence our future investment and financial decisions.

Any of these factors, individually or in aggregate, could have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Post-balance sheet events" on page 287.

Risk Factors continued

Operational risks continued

The estimation of proved oil and gas reserves involves subjective judgements based on available information and the application of complex rules. This means subsequent downward adjustments are possible.

Risk description

The estimation of proved oil and gas reserves involves subjective judgements and determinations based on available geological, technical, contractual, and economic information. Estimates can change over time because of new information from production or drilling activities, changes in economic factors, such as oil and gas prices, alterations in the regulatory policies of host governments, or other events. Estimates also change to reflect acquisitions, divestments, new discoveries, extensions of existing fields and mines, and improved recovery techniques. Published proved oil and gas reserves estimates could also be subject to correction because of errors in the application of rules and changes in guidance. Downward adjustments could indicate lower future production volumes and could also lead to impairment of assets. This could have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Supplementary information - oil and gas (unaudited)" on pages 288-306.

Our future hydrocarbon production depends on the delivery of large and integrated projects and our ability to replace proved oil and gas reserves.

Risk description

We face numerous challenges in developing capital projects, especially those which are large and integrated. Challenges include: uncertain geology; frontier conditions; the existence and availability of necessary technology and engineering resources; the availability of skilled labour; the existence of transport infrastructure; project delays; the expiration of licences; delays in obtaining required permits; potential cost overruns; and technical, fiscal, regulatory, political and other conditions. These challenges are particularly relevant in certain developing and emerging-market countries, in frontier areas and in deep-water fields, such as off the coast of Mexico. We may fail to assess or manage these and other risks properly. Such potential obstacles could impair our delivery of these projects, our ability to fulfil the full potential value of the project as assessed when the investment was approved, and our ability to fulfil related contractual commitments. This could lead to impairments and could have a material adverse effect on our earnings, cash flows and financial condition.

Future oil and gas production will depend on our access to new proved reserves through exploration, negotiations with governments and other owners of proved reserves and acquisitions, and through developing and applying new technologies and recovery processes to existing fields. Failure to replace proved reserves could result in an accelerated decrease of future production, potentially having a material adverse effect on our earnings, cash flows and financial condition.

Oil and gas production available for sale

	2022	2021	Million boe [A] 2020
Shell subsidiaries	938	1,047	1,104
Shell share of joint ventures and associates	108	134	135
Total	1,046	1,181	1,239

[A] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

Proved developed and undeveloped oil and gas reserves [A][B]

	Dec 31, 2022	Dec 31, 2021	Million boe [C] Dec 31, 2020
Shell subsidiaries	8,317	8,456	8,222
Shell share of joint ventures and associates	1,261	909	902
Total	9,578	9,365	9,124
Attributable to non-controlling interest of Shell subsidiaries	365	267	322

[A] We manage our total proved reserves base without distinguishing between proved reserves from subsidiaries and those from joint ventures and associates.

[B] Includes proved reserves associated with future production that will be consumed in operations.

[C] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

Further information: See "Powering Progress strategy" on page 12-20.

Operational risks continued

The nature of our operations exposes us, and the communities in which we work, to a wide range of health, safety, security and environment risks.

Risk description

The health, safety, security and environment (HSSE) risks to which we and the communities in which we work are potentially exposed cover a wide spectrum, given the geographical range, operational diversity and technical complexity of our operations. These risks include the effects of natural disasters (including weather events), earthquakes, social unrest, pandemic diseases, criminal actions by external parties, and safety lapses. If a major risk materialises, such as an explosion or hydrocarbon leak or spill, which we have experienced in the past, this could result in injuries, loss of life, environmental harm, disruption of business activities, loss or suspension of permits, loss of our licence to operate and loss of our ability to bid on mineral rights. Accordingly, this could have a material adverse effect on our earnings, cash flows and financial condition.

Our operations are subject to extensive HSSE regulatory requirements that often change and are likely to become more stringent over time. Governments could require operators to adjust their future production plans, as has occurred in the Netherlands, affecting production and costs. We could incur significant extra costs in the future because of the need to comply with such requirements. We could also incur significant extra costs due to violations of or liabilities under laws and regulations that involve elements such as fines, penalties, clean-up costs and third-party claims. If HSSE risks materialise, they could have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Respecting nature" on page 113, "Powering lives" on page 117 and "Safety" on pages 125-128.

A further erosion of the business and operating environment in Nigeria could have a material adverse effect on us.

Risk description

In our Nigerian operations, we face various risks and adverse conditions. These include: security incidents affecting the safety of our people, host communities and operations; sabotage and crude theft; ongoing litigation; limited infrastructure; challenges presented by delayed government and partner funding and budget delays; and regional instability created by militant activities. Some of these risks and adverse conditions, such as security issues affecting the safety of our people and sabotage and theft have occurred in the past and are likely to continue in the future, with a potential material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Upstream" on page 53.

An erosion of our business reputation could have a material adverse effect on our brand, our ability to secure new resources or access capital markets, and on our licence to operate.

Risk description

Our reputation is an important asset. The Shell General Business Principles (Principles) govern how Shell and its individual companies conduct their affairs, and the Shell Code of Conduct tells employees and contract staff how to behave in line with the Principles. Our challenge is to ensure that all employees and contract staff comply with the Principles and the Code of Conduct. Real or perceived failures of governance or regulatory compliance or a perceived lack of understanding of how our operations affect surrounding communities could harm our reputation.

Societal expectations of companies are increasing, with a focus on business ethics, quality of products, contribution to society, safety and minimising damage to the environment. There is increasing focus on the role of oil and gas in the context of climate change and energy transition. This could negatively affect our brand, reputation and licence to operate, which could limit our ability to deliver our strategy, reduce consumer demand for our branded and non-branded products, harm our ability to secure new resources and contracts, and restrict our ability to access capital markets or attract staff. Many other factors, including the materialisation of other risks discussed in this section, could negatively affect our reputation and could have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Other regulatory and statutory information" on page 201 and "Powering lives" on page 123.

Operational risks continued

We rely heavily on information technology systems in our operations.

Risk description

Our continued focus on digitalising our business processes, and our increasing dependence on information technology (IT) systems for our core operations mean that we are heavily reliant on secure, affordable and resilient IT services.

Externally, we observe several dynamics impacting our IT and cyber risk profile: deterioration of the cyber security threat landscape represented by increasing volumes of attacks and sophisticated cyber actors, geopolitical conflicts and increases in regulations across the markets in which Shell operates. We have observed an increase in social engineering (manipulation of individuals) as a method of financially driven cybercrime. Threat actors are targeting bank account changes, invoice settlement and identity fraud to extract money from corporations. Ransomware attacks on corporations continue to be widespread. These contribute to potential breaches and disruptions of critical IT services, such as the security incident involving the transfer of files which Shell experienced in 2021. If the breaches are not detected early and responded to effectively, they could impact our operations and the safety of our staff and/or harm our reputation and/or result in material regulatory fines. This could have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Corporate" on page 81.

Our business exposes us to risks of social instability, criminality, civil unrest, terrorism, piracy, cyber disruption and acts of war that could have a material adverse effect on our operations.

Risk description

As seen in recent years, these risks can manifest themselves in the countries where we operate and elsewhere. These risks affect people, our operations and assets. Potential risks, which we have experienced in the past, include: acts of terrorism; acts of criminality including maritime piracy; cyber espionage or disruptive cyber attacks; conflicts including war - such as Russia's invasion of Ukraine; malicious acts carried out by individuals within Shell - such as increased data exfiltration during divestments; civil unrest which for example caused disruptions to our Trading & Supply distribution operations in South Africa, and environmental and climate activism (including disruptions by non-governmental and political organisations) especially in the USA and north-west Europe.

The above risks can threaten the safe operation of our assets and the transport of our products. They can harm the well-being of our people, inflict loss of life and injuries, damage the environment and disrupt our operational activities. These risks could have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Respecting nature" on page 113, "Powering lives" on page 117 and "Safety" on pages 125-128.

Production from the Groningen field in the Netherlands causes earthquakes that affect local communities.

Risk description

Shell and ExxonMobil are 50:50 shareholders in Nederlandse Aardolie Maatschappij B.V. (NAM). An important part of NAM's gas production comes from the onshore Groningen gas field, in which EBN, a Dutch government entity, has a 40% interest and NAM a 60% interest. The gas field is in the process of being closed down owing to earthquakes induced by gas production. Some of these earthquakes have damaged houses and other structures in the region, resulting in complaints and lawsuits from the local community. The Dutch government has announced it intends to accelerate the close-down, bringing the end of production forward from 2030 to possibly 2023 or 2024. The exact close-down date is still to be decided and depends on the Dutch government's considerations of security of gas supply. While we expect the earlier close-down of the Groningen gas field to further reduce the number and strength of earthquakes in the region, any additional earthquakes could have further adverse effects on our earnings, cash flows and financial condition.

Further information: See "Upstream" on pages 50-51.

Risk Factors continued

Operational risks continued

We are exposed to treasury and trading risks, including liquidity risk, interest rate risk, foreign exchange risk and credit risk. We are affected by the global macroeconomic environment and the conditions of financial and commodity markets.

Risk description

Our subsidiaries, joint arrangements and associates are subject to differing economic and financial market conditions around the world. Political or economic instability affects such markets.

We use debt instruments, such as bonds and commercial paper, to raise significant amounts of capital. Should access to debt markets become more challenging, the impact on our liquidity could have a material adverse effect on our operations. Group financing costs could also be affected by interest rate fluctuations or any credit rating deterioration.

We are exposed to changes in currency values and to exchange controls as a result of our substantial international operations. Our reporting currency is the US dollar, although, to a material extent, we also hold assets and are exposed to liabilities in other currencies. While we undertake some foreign exchange hedging, we do not do so for all our activities. Even where hedging is in place, it may not function as expected.

Commodity trading is an important component of our businesses. Processing, managing and monitoring many trading transactions across the world, some of them complex, exposes us to operational and market risks, including commodity price risks. The Russian invasion of Ukraine has led to supply constraints and increased commodity price volatility in 2022, together with additional sanctions and export controls imposed by countries around the world, both of which have an impact on our trading activities. We use derivative instruments such as futures, options and contracts for difference to hedge market risks. Due to differences between derivative instruments available in the market to hedge market risks and the actual market risks we are exposed to, perfect hedging is not always achievable. Therefore, our hedging has from time to time not functioned as expected and may not function as expected in the future.

We are exposed to credit risk; our counterparties could fail or be unable to meet their payment and/or performance obligations under contractual arrangements.

Our pension plans invest in government bonds, so they could be affected by a sovereign debt downgrade or other default.

If any of the above risks materialise, they could have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Financial framework" on page 35 and Note 25 to the "Consolidated Financial Statements" on page 273-279.

Our future performance depends on the successful development and deployment of new technologies that provide new products and solutions.

Risk description

Technology and innovation are essential to our efforts to help meet the world's energy demands competitively. If we fail to effectively develop or deploy new technology, products and solutions, or fail to make full, effective use of our data in a timely and cost-effective manner, there could be a material adverse effect on the delivery of our strategy and our licence to operate. We operate in environments where advanced technologies are used. In developing new technologies, products and solutions, unknown or unforeseeable technological failures or environmental and health effects could harm our reputation and licence to operate or expose us to litigation or sanctions. The associated costs of new technology are sometimes underestimated. Sometimes the development of new technology is subject to delays. If we are unable to develop the right technology and products in a timely and cost-effective manner, or if we develop technologies, products and solutions that harm the environment or people's health, there could be a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Powering Progress strategy" on pages 12-20.

We have substantial pension commitments, the funding of which is subject to capital market risks and other factors.

Risk description

Liabilities associated with defined benefit pension plans are significant, and the cash funding requirement of such plans can also involve significant liabilities. They both depend on various assumptions. Volatility in capital markets or government policies could affect investment performance and interest rates, causing significant changes to the funding level of future liabilities and/or short-term liquidity requirements. Changes in assumptions for mortality, retirement age or pensionable remuneration at retirement could also cause significant changes to the funding level of future liabilities. We operate a number of defined benefit pension plans and, in case of a shortfall, we could be required to make substantial cash contributions (depending on the applicable local regulations). This could result in a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Financial framework" on page 35.

We mainly self-insure our hazard risk exposures. Consequently, we could incur significant financial losses from different types of risks that are not insured with third-party insurers.

Risk description

Our Group insurance companies (wholly owned subsidiaries) provide insurance coverage to Shell subsidiaries and entities in which Shell has an interest. These subsidiaries and entities may also insure a portion of their risk exposures with third parties, but such external insurance would not provide any material coverage in the event of a large-scale safety or environmental incident. Accordingly, in the event of a material incident, we would have to meet our obligations without access to material proceeds from third-party insurers. We have in the past incurred adverse impacts from events, such as Hurricane Ida in 2021. We may, in the future, incur significant losses from different types of hazard risks that are not insured with third-party insurers, potentially resulting in a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Corporate" on page 81.

Operational risks continued

Many of our major projects and operations are conducted in joint arrangements or with associates. This could reduce our degree of control and our ability to identify and manage risks.

Risk description

When we are not the operator, we have less influence and control over the behaviour, performance and operating costs of joint arrangements or associates. Despite having less control, we could still be exposed to the risks associated with these operations, including reputational, litigation (where joint and several liability could apply) and government sanction risks. For example, our partners or members of a joint arrangement or an associate, (particularly local partners in developing countries), may be unable to meet their financial or other obligations to projects, threatening the viability of a given project. Where we are the operator of a joint arrangement, the other partner(s) could still be able to veto or block certain decisions, which could be to our overall detriment. Accordingly, where we have limited influence, we are exposed to operational risks that could have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Governance framework" on page 144.

Conduct and culture risks

We are exposed to regulatory and conduct risk in our trading operations.

Risk description

Commodity trading is an important component of our Upstream, Integrated Gas, Renewables and Energy Solutions, and Chemicals and Products businesses. Our commodity trading entities are subject to many regulations including requirements for standards of conduct. The risk of ineffective controls, poor oversight of trading activities, and the risk that traders could deliberately operate outside compliance limits and controls, either individually or as a group, has occurred. This has resulted in losses in the past and may result in further losses in the future. The rapidly changing regulatory environment creates a risk of insufficient, delayed or incorrect implementation of new or changes to existing regulatory requirements. Violations of such regulatory requirements could also expose us and/or our employees to regulatory fines and have an adverse effect on our licence to operate. These risks could have a material adverse effect on our earnings, cash flows, reputation and financial condition.

Further information: See "Other regulatory and statutory information" on page 201 and Note 25 to the "Consolidated Financial Statements" on pages 273-279.

Violations of antitrust and competition laws carry fines and expose us and/or our employees to criminal sanctions and civil suits.

Risk description

Antitrust and competition laws apply to Shell and its joint arrangements and associates in the vast majority of countries where we do business. Shell and its joint arrangements and associates have been fined for violations of antitrust and competition laws in the past. This includes a number of fines by the European Commission Directorate-General for Competition (DG COMP). Because of DG COMP's fining guidelines, any future conviction of Shell or any of its joint arrangements or associates for violation of EU competition law could potentially result in significantly larger fines and have a material adverse effect on us. Violation of antitrust laws is a criminal offence in many countries, and individuals can be imprisoned or fined. In certain circumstances, directors may receive director disqualification orders. It is also now common for persons or corporations allegedly injured by antitrust violations to sue for damages. Any violation of these laws can harm our reputation and could have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Powering lives" on page 123 and "Other regulatory and statutory information" on page 201.

Violations of anti-bribery, tax-evasion and anti-money laundering laws carry fines and expose us and/or our employees to criminal sanctions and civil suits.

Risk description

Anti-bribery, tax-evasion and anti-money laundering laws apply to Shell, its joint arrangements and associates in all countries where we do business. Shell and its joint arrangements and associates have in the past settled with the US Securities and Exchange Commission regarding violations of the US Foreign Corrupt Practices Act. Any violation of anti-bribery, tax-evasion or anti-money laundering laws, including potential violations associated with Shell Nigeria Exploration and Production Company Limited's investment in Nigerian oil block OPL 245 and the 2011 settlement of litigation pertaining to that block, could harm our reputation or have a material adverse effect on our earnings, cash flows and financial condition. Violations of such laws also could expose us and/or our employees to criminal sanctions, civil suits and other consequences, such as debarment and the revocation of licences.

Further information: See "Powering lives" on page 123, "Other regulatory and statutory information" on page 201 and Note 31 to the "Consolidated Financial Statements" on pages 283-285.

Conduct and culture risks continued

Violations of data protection laws carry fines and expose us and/or our employees to criminal sanctions and civil suits.

Risk description

Data privacy and the management of personal data have become an issue of increasing importance and focus for companies and regulators in recent years. Following the implementation of the EU General Data Protection Regulation (GDPR) in May 2018, we have on a global basis seen updates to, or the introduction of, data privacy laws largely based on the GDPR. More than 100 countries globally now have data privacy laws. Shell companies are increasingly processing large volumes of personal data as we continue to acquire small companies with relatively large amounts of customer data. As we accelerate the delivery of our Powering Progress strategy, we expect to acquire an increasing number of companies. In doing so, we must consider how this is done responsibly, including managing cyber risks and managing personal data effectively. In some countries that are key to Shell's business operations, such as China, relevant legislation continues to be amended or introduced. Shell must be able to adapt dynamically to such legislative changes and be capable of updating our internal programmes if necessary. Many countries require mandatory notification of data breaches often within short time frames (72 hours under the GDPR) in certain situations. In these circumstances we might be required to report to affected individuals and regulators in the relevant countries. Non-compliance with data protection laws could harm individuals and expose us to regulatory investigations. This could result in fines, which could be up to 4% of global annual turnover if under the GDPR; orders to stop processing certain data; harm to our reputation; and loss of the trust of existing and potential customers, stakeholders, governments, and employees. With regard to data breaches, we notified a number of data privacy regulators in 2022 of personal data breaches and have had fines issued against us. In addition to imposing fines, regulators may also issue orders to stop processing personal data, which could disrupt operations. We could also be subject to litigation from persons or entities allegedly affected by data protection violations.

Violation of data protection laws is a criminal offence in some countries, and individuals can be imprisoned or fined. Any violation of these laws could harm our reputation and have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Other regulatory and statutory information" on page 201.

Violations of trade compliance laws and regulations, including sanctions, carry fines and expose us and our employees to criminal proceedings and civil suits.

Risk description

We use "trade compliance" as an umbrella term for various national and international laws designed to regulate the movement of items across national boundaries and restrict or prohibit trade, financial flows and other dealings with certain parties, countries and territories. For example, the EU and the USA continue to impose comprehensive sanctions on countries and territories such as Syria, North Korea, and Crimea and other territories in Eastern Ukraine. The USA continues to have comprehensive sanctions against Iran and Cuba. The EU, UK and some other nations such as Canada and Australia continue to maintain targeted sanctions against Iran. The EU and the USA introduced sectoral sanctions against Venezuela in 2017, which the USA expanded in 2018 and 2019. The US sanctions primarily target the government of Venezuela and the oil and gas industry.

In 2014, the EU and the USA imposed additional restrictions and controls directed at defined oil and gas activities in Russia, as well as restricting access to EU and USA financing sources for certain Russian state-owned entities and military and dual use controls. These remain in force. The USA introduced further restrictions regarding Russia in 2017, expanding them in 2018. In February 2022, countries around the world began imposing additional sanctions and export controls against Russia over its invasion of Ukraine including regional trade bans, designations of entities (including Russian banks and state-owned entities) and individuals as Specially Designated Nationals and Blocked Parties, and restrictions on access by Russia to financial systems. Export controls have also been introduced targeting Russian defence, aerospace, oil and gas related technology, IT and maritime sectors. The EU, USA and UK have also adopted a significant number of trade controls on oil, petroleum products and a wide range of products and technologies. These restrictions are subject to different wind-down periods and limited exceptions. Furthermore, it is likely that sanctions against Russia will continue to escalate. A number of countries have also implemented significant new sanctions against Belarus for its role in the Russian invasion. Russia has in turn adopted a significant number of countermeasures including making it an offence to take steps to comply with foreign sanctions.

Many other nations are also adopting trade compliance programmes similar to those administered by the EU and the USA. Since January 2021, the UK has maintained a legal framework for trade compliance that is separate and distinct from those of the EU and the USA.

Abiding by all the laws and regulations on trade compliance and sanctions is often complex and challenging because of factors such as: the expansion of sanctions; the frequent addition of prohibited parties as well as other measures; the number of markets in which we operate; the risk of differences in how jurisdictions apply sanctions; and the large number of transactions we process. Shell has voluntarily self-disclosed potential violations of sanctions in the past.

Any violation of sanctions could lead to loss of import or export privileges and significant penalties on or prosecution of Shell or its employees. This could harm our reputation and have a material adverse effect on our earnings, cash flows and financial condition.

Further information: See "Other regulatory and statutory information" on page 201.

Risk Factors continued

Investors should also consider the following, which could limit shareholder remedies.

Other (generally applicable to an investment in securities)

The Company's Articles of Association determine the jurisdiction for shareholder disputes. This could limit shareholder remedies.

Risk description

Our Articles of Association generally require that all disputes between our shareholders in such capacity and the Company or our subsidiaries (or our Directors or former Directors), or between the Company and our Directors or former Directors, be exclusively resolved by arbitration in The Hague, the Netherlands, under the Rules of Arbitration of the International Chamber of Commerce. At the 2023 AGM, shareholders will be asked to approve updated Articles of Association that change the place of any arbitration to London, the United Kingdom. Our Articles of Association also provide that, if this provision is to be determined invalid or unenforceable for any reason, the dispute could only be brought before the courts of England and Wales. Accordingly, the ability of shareholders to obtain monetary or other relief, including in respect of securities law claims, could be determined in accordance with these provisions.

Progress on strategy – year in review

Performance indicators

These indicators enable management to evaluate Shell's performance against our strategy and operating plans during the year. They are also used as part of the determination of Executive Directors' remuneration. See "Directors' Remuneration Report" on pages 166-170.

Financial delivery

Cash flow from operating activities (\$ billion)

68 2021: 45

Cash flow from operating activities is the total of all the cash receipts and payments associated with our sales of oil, gas, chemicals and other products. The components that provide a reconciliation from income for the period are listed in the "Consolidated Statement of Cash Flows". This indicator reflects our ability to generate cash to service and reduce our debt and for distributions to shareholders and for investments.

See "Financial framework" on page 36.

Progress in the energy transition

Selling lower-carbon products (%)

60 2021: 65

The percentage of Marketing segment Adjusted Earnings from lower-carbon energy products (on a life cycle basis), defined as biofuels and EV charging, as well as non-energy products, defined as lubricants, bitumen, sulphur, and earnings from convenience retail.

See "Our journey to net zero" on pages 105-106.

Reducing operational emissions
(thousand tonnes CO₂)

2,010 2021: 3,988

GHG abatement projects in 2022 that resulted in sustained GHG reductions (e.g. flare reduction projects or energy efficiency projects), site closures and decommissioning or transformations, and use of renewable electricity for Scope 2 reduction.

See "Our journey to net zero" on pages 105-106.

Electric vehicle (EV) charge points (thousand)

139 2021: 86

All charge points in Mobility organisation which includes both public out-of-home and Shell Recharge Solutions.

See "Our journey to net zero" on pages 105-106.

Performance indicators continued

Operational excellence

Asset management excellence

Upstream controllable availability (%)

84.7 2021: 87.8

Upstream controllable availability performance reflects our ability to optimally run our Upstream assets. Reliability issues, turnarounds and maintenance at own-operated or third-party facilities all impact controllable availability, but it excludes the impact of extreme unexpected events that are outside our control such as government restrictions and hurricanes. Upstream controllable availability includes all Shell-operated assets (excluding Groningen) and selected assets not operated by Shell, but for which Shell has strategic influence.

Midstream availability (%)

89.3 2021: 87.3

Midstream availability shows to what extent liquefied natural gas (LNG) assets are ready to process product as a comparison with capacity, considering the impact of planned and unplanned maintenance.

Refinery and chemical plant availability (%)

95.5 2021: 95.6

Refinery and chemical plant availability is the weighted average of the actual uptime of plants as a percentage of their maximum possible uptime. The weighting is based on the capital employed, adjusted for cash and non-current liabilities. This indicator is a measure of the operational excellence of our refinery and chemical plant facilities.

Project delivery excellence

Project delivery on schedule (%)

69 2021: 87

Project delivery reflects our capability to complete major projects on time and within budget on the basis of the targets set in our annual business plan. Project delivery on schedule measures the percentage of projects delivered on schedule.

Project delivery on budget (%)

103 2021: 104

Project delivery on budget reflects the aggregate cost against the aggregate budget for those projects, where a figure greater than 100% means over budget.

Customer excellence

Customer satisfaction (index)

8.3 2021: 8.2

The customer satisfaction index (CSI) score is generated from a transactional survey programme measuring performance (customer interactions). CSI is calculated as the average of customer satisfaction scores from email surveys.

Brand preference (%)

13.8 2021: 14.2

Brand Share Preference is the percentage of customers who answer 'Shell' in response to the question: "Assuming that all the fuel station companies that you would consider are conveniently located, which ONE company do you prefer most?". Responses are taken from survey respondents in more than 60 countries covering both fuel and non-fuel retail B2C customers.

Safety

Personal safety

(SIF-F cases per 100 million working hours)

1.7 2021: 6.9

Serious Injury, Illness and Fatality (SIF) is defined as a serious work-related injury or illness that resulted in fatality or a life-altering event, which is defined as a long-term or permanent injury or illness with significant impact on daily activities. Serious Injury and Fatality Frequency (SIF-F) is calculated by dividing the number of employee and contractor SIF by 100 million working hours.

See "Safety" on page 125.

Process safety (number of events)

66 2021: 103 [A]

A Tier 1 process safety event is an unplanned or uncontrolled release of any material, including non-toxic and non-flammable materials, from a process with the greatest actual consequence resulting in harm to employees, contract staff, or a neighbouring community, damage to equipment, or exceeding a threshold quantity, as defined by the API Recommended Practice 754 and IOGP Standard 456. A Tier 2 process safety event is a release of lesser consequence. See "Safety" on page 125.

[A] 2021 adjustment on Tier 1+2 count from 102 to 103 due to an event identified after publication.

Generating shareholder value

Group results

Key statistics

	2022	\$ million, except where indicated	
		2021	2020
Income/(loss) attributable to Shell plc shareholders	42,309	20,101	(21,680)
Income attributable to non-controlling interest	565	529	146
Income/(loss) for the period	42,874	20,630	(21,534)
Current cost of supplies adjustment	(1,312)	(3,148)	1,833
Total segment earnings [A][B][C], of which:	41,562	17,482	(19,701)
Integrated Gas	22,212	8,060	(7,230)
Upstream	16,222	9,603	(9,300)
Marketing	2,133	3,535	4,081
Chemicals and Products	4,515	404	(3,821)
Renewables and Energy Solutions	(1,059)	(1,514)	(479)
Corporate	(2,461)	(2,606)	(2,952)
Identified Items [C]	1,243	(2,216)	(24,767)
Adjusted Earnings [C]	39,870	19,289	4,846
Adjusted EBITDA [C]	84,289	55,004	36,533
Capital expenditure	22,600	19,000	16,585
Cash capital expenditure [C]	24,833	19,698	17,827
Operating expenses [C]	39,477	35,964	34,789
Underlying operating expenses [C]	39,456	35,309	32,502
Return on average capital employed [C]	16.7%	8.8%	(6.8)%
Net Debt at December 31 [D]	44,837	52,556	75,386
Gearing at December 31 [D]	18.9%	23.1%	32.2%
Oil and gas production (thousand boe/d)	2,864	3,237	3,386
Proved oil and gas reserves at December 31 (million boe)	9,578	9,365	9,124

[A] Segment earnings are presented on a current cost of supplies basis. See Note 8 to the "Consolidated Financial Statements" on pages 245-249.

[B] Revised to conform with reporting segment changes applicable from January 1, 2022.

[C] See "Non-GAAP measures reconciliations" on pages 331-334.

[D] See Note 20 "Debt" on pages 259-260 and "Non-GAAP measures reconciliations" on pages 331-334.

Earnings 2022-2021

Income attributable to Shell plc shareholders in 2022 was \$42,309 million, compared with \$20,101 million in 2021. With non-controlling interest included, income for the period in 2022 was \$42,874 million, compared with \$20,630 million in 2021. After current cost of supplies adjustment, total segment earnings in 2022 were \$41,562 million, compared with \$17,482 million in 2021.

Earnings on a current cost of supplies basis (CCS earnings) exclude the effect of changes in the oil price on inventory carrying amounts, after making allowance for the tax effect. The purchase price of volumes sold in the period is based on the current cost of supplies during the same period, rather than on the historic cost calculated on a first-in, first-out (FIFO) basis. When oil prices are decreasing, CCS earnings are likely to be higher than earnings calculated on a FIFO basis and, when prices are increasing, CCS earnings are likely to be lower than earnings calculated on a FIFO basis.

Integrated Gas earnings in 2022 were \$22,212 million, compared with \$8,060 million in 2021. The increase was mainly driven by the combined effect of higher realised prices and contributions from trading and optimisation, and gains related to the fair value accounting of commodity derivatives. This was partly offset by lower volumes and higher operating expenses.

See "Integrated Gas" on pages 42-47.

Upstream earnings in 2022 were \$16,222 million, compared with \$9,603 million in 2021. The increase was mainly driven by higher realised prices, gains relating to storage and working gas transfer effects and impairment reversals. This was partly offset by lower volumes, mainly as a result of divestments, and charges relating to the EU solidarity contribution and UK Energy Profits Levy.

See "Upstream" on pages 48-55.

Marketing earnings in 2022 were \$2,133 million, compared with \$3,535 million in 2021. The decrease was mainly driven by higher operating expenses (including the effects of higher volumes), net losses on the sale of assets compared with net gains in 2021, and higher impairment charges. These were partly offset by higher margins.

See "Marketing" on pages 64-68.

Chemicals and Products earnings in 2022 were \$4,515 million, compared with \$404 million in 2021. The increase was mainly driven by higher Products margins (reflecting higher Refining margins and higher contributions from trading and optimisation), and lower impairment charges. These were partly offset by lower Chemicals margins and higher operating expenses.

See "Chemicals and Products" on pages 69-76.

Renewables and Energy Solutions earnings in 2022 were a loss of \$1,059 million, compared with a loss of \$1,514 million in 2021. The decrease in the loss was mainly driven by higher contributions from trading and optimisation for gas and power. This was partly offset by higher net losses related to the fair value accounting of commodity derivatives and higher operating expenses.

See "Renewables and Energy Solutions" on pages 77-80.

Corporate segment earnings in 2022 were an expense of \$2,461 million, compared with an expense of \$2,606 million in 2021. The lower expense was mainly driven by favourable movements in net interest expense. This was partly offset by lower tax credits and unfavourable currency exchange effects.

See "Corporate" on page 81.

Prior year earnings summary

Our earnings summary for the financial year ended December 31, 2021, compared with the financial year ended December 31, 2020, can be found in the Annual Report and Accounts (page 34) and Form 20-F (page 33) for the year ended December 31, 2021, as filed with the Registrar of Companies for England and Wales and the US Securities and Exchange Commission, respectively.

Production available for sale

Oil and gas production available for sale in 2022 was 2,864 thousand boe per day (boe/d), compared with 3,237 thousand boe/d in 2021. This net reduction was mainly driven by divestments, higher maintenance activities, and net field declines, partly offset by new fields ramp-ups.

Oil and gas production available for sale [A]

	Thousand boe/d		
	2022	2021	2020
Crude oil and natural gas liquids	1,460	1,685	1,752
Synthetic crude oil	46	54	51
Natural gas [B]	1,357	1,498	1,583
Total	2,864	3,237	3,386
Of which:			
Integrated Gas	921	1,004	1,011
Upstream	1,897	2,178	2,324
Oil sands (part of Chemical and Products)	46	54	51

[A] See "Oil and gas information" on pages 60-61.

[B] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

Proved reserves

The proved oil and gas reserves of Shell subsidiaries and the Shell share of the proved oil and gas reserves of joint ventures and associates are summarised in "Oil and gas information" on pages 56-58 and set out in more detail in "Supplementary information – oil and gas (unaudited)" on pages 288-306.

Before taking production into account, our proved reserves increased by 1,304 million boe in 2022. Total oil and gas production was 1,091 million boe. Accordingly, after taking production into account, our proved reserves increased by 213 million boe in 2022, to 9,578 million boe at December 31, 2022.

Cash capital expenditure and other information

Cash capital expenditure was \$24,833 million in 2022, compared with \$19,698 million in 2021.

Operating expenses were \$39,477 million in 2022, compared with \$35,964 million in 2021. Underlying operating expenses were \$39,456 million, compared with \$35,309 million in 2021.

Our return on average capital employed (ROACE) increased to 16.7%, compared with 8.8% in 2021, mainly driven by higher earnings.

Net debt was \$44,837 million at the end of 2022, compared with \$52,556 million at the end of 2021, mainly reflecting higher free cash flow.

Gearing was 18.9% at the end of 2022, compared with 23.1% at the end of 2021, mainly driven by net debt reduction and higher income which resulted in higher equity.

Significant accounting estimates and judgements

See Note 2 to the "Consolidated Financial Statements" on pages 220-230.

Legal proceedings

See Note 31 to the "Consolidated Financial Statements" on pages 283-285.

Generating shareholder value

Financial framework

We manage our businesses to deliver strong cash flows, sustain our strategy and create profitable growth. Management applies Shell's cash to support disciplined capital expenditure and maintain a resilient balance sheet; target AA credit metrics through the cycle; deliver a progressive dividend to shareholders with growth of around 4% annually (subject to Board approval); and target total distributions to shareholders of a minimum of 20% and (subject to Board approval and prevailing market conditions) potentially more than 30% of our cash flow from operating activities.

The Board may choose to return cash to shareholders through a combination of dividends and share buybacks. When setting the level of shareholder remuneration, the Board looks at a range of factors, including the macro environment, the underlying business earnings and cash flow of the Group, the current balance sheet, future investment, acquisition and divestment plans, and existing commitments.

Liquidity and capital resources

Shell generated cash flow from operations of \$68.4 billion, including a negative impact from working capital of \$5.4 billion, and free cash flow of \$46.0 billion in 2022, aided by the improving global macro environment for oil and gas businesses, and divestments (for more information on free cash flow see "Non-GAAP measures reconciliations" on pages 331-334). Net debt decreased to \$44.8 billion at December 31, 2022 (December 31, 2021: \$52.6 billion). Gearing fell to 18.9% at December 31, 2022, compared with 23.1% at December 31, 2021, as higher income increased equity and cash flow generation reduced net debt. Note 20 to the "Consolidated Financial Statements" on pages 259-260 provides information on our debt arrangements, including net debt and gearing definitions.

Liquidity

We satisfy our funding and working capital requirements from the cash generated from our operations, the issuance of debt and divestments. In 2022, access to the international debt capital markets remained strong, with our debt principally financed from these markets through central debt programmes consisting of:

- a \$10 billion global commercial paper (CP) programme, with maturities between 183 days and 364 days;
- a \$10 billion US CP programme, with maturities not exceeding 397 days;
- an unlimited Euro medium-term note (EMTN) programme (also referred to as the Multi-Currency Debt Securities Programme); and
- an unlimited US universal shelf (US shelf) registration.

The CP, EMTN and US shelf debt is issued by Shell International Finance B.V., the issuance company for Shell, with its debt being guaranteed by Shell plc (the Company).

We also maintain committed credit facilities. The core facilities were extended in December 2022. Of the \$9.92 billion total facility, \$1.92 billion matures in 2023, \$0.32 billion in 2025 and \$7.68 billion in 2026. This remained fully undrawn at December 31, 2022. These core facilities and internally available liquidity provide back-up coverage for our CP programmes. Other than certain borrowing by local subsidiaries, we do not have any other committed credit facilities.

Our total debt decreased by \$5.3 billion to \$83.8 billion at December 31, 2022. The total debt excluding leases matures as follows: 8% in 2023; 8% in 2024; 11% in 2025; 7% in 2026; and 66% in 2027 and beyond. The portion of debt maturing in 2023 is expected to be repaid from some combination of cash balances, cash generated from operations, divestments and the issuance of new debt.

In 2022, we did not issue any bonds under our US shelf registration or EMTN programme. \$175 million of CP was issued in the second quarter, and repaid within the same quarter. CP outstanding was zero at the end of 2022. Management believes it has access to sufficient debt funding sources (capital markets) and to undrawn committed borrowing facilities to meet foreseeable requirements.

While our subsidiaries are subject to restrictions, such as foreign withholding taxes on the transfer of funds in the form of cash dividends, loans or advances, such restrictions are not expected to have a material impact on our ability to meet our cash obligations.

Market risk and credit risk

We are affected by the global macroeconomic environment, as well as financial and commodity market conditions. This exposes us to treasury and trading risks, including liquidity risk, credit risk, and market risk (interest rate risk, foreign exchange risk and commodity price risk). See "Risk factors" on page 27 and Note 25 to the "Consolidated Financial Statements" on pages 273-279. The size and scope of our businesses require a robust financial control framework and effective management of our various risk exposures.

We use various financial instruments for managing exposure to commodity price, foreign exchange and interest rate movements. Our treasury and trading operations are highly centralised and seek to manage credit exposures associated with our substantial cash, commodity, foreign exchange and interest rate positions. Our portfolio of cash investments is diversified to avoid concentrating risk in any one instrument, country or counterparty. The use of external derivative instruments is confined to specialist trading and central treasury organisations that have appropriate skills, experience, supervision, control and reporting systems. Credit risk policies are in place to ensure that sales of products are made to customers with appropriate creditworthiness, and include credit analysis and monitoring of customers against counterparty credit limits. Where appropriate, netting arrangements, credit insurance, prepayments and collateral are used to manage credit risk.

Pension commitments

We have substantial pension commitments, the funding of which is subject to capital market risks (see "Risk factors" on page 27). We address key pension risks in a number of ways. Principal among these is the Pensions Forum, chaired by the Chief Financial Officer, which oversees Shell's input to pension strategy, policy and operation. A risk committee supports the forum in reviewing the results of assurance processes in respect of pensions risks. In general, local trustees manage the funded defined benefit pension plans, with contributions paid based on independent actuarial valuations in accordance with local regulations. Our total employer contributions were \$0.7 billion in 2022 and are estimated to be \$0.8 billion in 2023.

See Note 23 to the "Consolidated Financial Statements" on pages 265-271.

Capitalisation table

	\$ million	
	December 31, 2022	December 31, 2021
Equity attributable to Shell plc shareholders	190,472	171,966
Current debt	9,001	8,218
Non-current debt	74,794	80,868
Total debt [A]	83,795	89,086
Total capitalisation	274,267	261,052

[A] Of total debt of \$83.8 billion (2021: \$89.1 billion), \$55.2 billion (2021: \$61.5 billion) was unsecured and \$28.6 billion (2021: \$27.6 billion) was secured. \$51.0 billion was issued by Shell International Finance B.V., a 100%-owned subsidiary of Shell plc with its debt guaranteed by Shell plc (December 31, 2021: \$54.7 billion). See Note 20 to the "Consolidated Financial Statements" on pages 259-260 for further disclosure on debt.

Guarantees and other off-balance sheet arrangements

There were no guarantees or other off-balance sheet arrangements at December 31, 2022, or December 31, 2021, that were reasonably likely to have a material effect on Shell.

Statement of cash flows

Cash flow from operating activities in 2022 was an inflow of \$68.4 billion, compared with \$45.1 billion in 2021, mainly due to higher earnings, partly offset by unfavourable working capital movements of \$5.4 billion (compared with unfavourable working capital movements of \$10.4 billion in 2021). The increase in cash flow from operating activities in 2021, compared with \$34.1 billion in 2020, was mainly due to higher earnings, partly offset by unfavourable working capital movements.

Cash flow from investing activities in 2022 was an outflow of \$22.4 billion, compared with an outflow of \$4.8 billion in 2021. The increased cash outflow was mainly due to lower proceeds from sale of property, plant and equipment in 2022. The decreased cash outflow in 2021 compared with \$13.3 billion in 2020 was mainly due to higher proceeds from sale of property, plant and equipment in 2021, including the divestment of our Permian assets in the USA.

Cash flow from financing activities in 2022 was an outflow of \$42.0 billion, compared with outflows of \$34.7 billion in 2021 and \$7.2 billion in 2020, mainly due to higher repurchases of shares of \$18.4 billion (2021: \$2.9 billion; 2020: \$1.7 billion) and net repayment of debt of \$7.9 billion (2021: \$19.7 billion net repayment; 2020: \$5.6 billion net issuance).

Cash and cash equivalents were \$40.2 billion at December 31, 2022 (December 31, 2021: \$37.0 billion; December 31, 2020: \$31.8 billion).

See Consolidated Statement of Cash Flows on page 219.

Cash flow from operating activities

The most significant factors affecting our cash flow from operating activities are earnings, which are mainly impacted by: realised prices for crude oil, natural gas and LNG; production levels of crude oil, natural gas and LNG; chemicals, refining and marketing margins; and movements in working capita and derivative financial instruments.

The impact on earnings from changes in market prices depends on: the extent to which contractual arrangements are tied to market prices; the dynamics of production-sharing contracts; the existence of agreements with governments or state-owned oil and gas companies that have limited sensitivity to crude oil and natural gas prices; tax impacts; and the extent to which changes in commodity prices flow through into operating expenses. Changes in benchmark prices of crude oil and natural gas in any particular period provide only a broad indicator of changes in our Integrated Gas and Upstream earnings in that period. Changes in any one of a range of factors, derived from either within the industry or the broader economic environment, can influence refining and marketing margins. The precise impact of any such changes depends on how the oil markets respond to them. The market response is affected by factors such as: whether the change affects all crude oil types or only a specific grade; regional and global crude oil and refined products inventories; and the collective speed of response of refiners and product marketers in adjusting their operations. As a result, margins fluctuate from region to region and from period to period.

Divestment and cash capital expenditure

The levels of divestment proceeds and cash capital expenditure in 2022 and 2021 reflect our discipline and focus on the Powering Progress strategy. Divestment proceeds for 2022 were \$2.1 billion, compared with \$15.1 billion in 2021, which included the divestment of the Permian assets.

Cash capital expenditure is used to monitor investing activities on a cash basis, excluding items such as lease additions which do not necessarily result in cash outflows in the period.

Cash capital expenditure

	\$ million		
	2022	2021	2020
Integrated Gas	4,265	3,502	3,566
Upstream	8,143	6,168	7,099
Marketing	4,831	2,273	1,774
Chemicals and Products	3,838	5,175	4,198
Renewables and Energy Solutions	3,469	2,359	928
Corporate	287	221	262
Total cash capital expenditure	24,833	19,698	17,827

See non-GAAP measures reconciliations on pages 331-334.

Contractual obligations

The table below summarises our principal contractual obligations at December 31, 2022, by expected settlement period. The amounts presented have not been offset by any committed third-party revenue in relation to these obligations.

Contractual obligations

	Less than 1 year	Between 1 and 3 years	Between 3 and 5 years	5 years and later	Total
Debt [A]	4.6	10.6	6.5	35.7	57.4
Leases	5.9	9.1	6.5	17.9	39.4
Purchase obligations [B]	34.1	30.9	18.4	63.8	147.2
Other long-term contractual liabilities [C]	0.2	0.6	0.1	0.6	1.5
Total	44.8	51.2	31.5	118.0	245.5

\$ billion

[A] See Note 20 to the "Consolidated Financial Statements" on pages 259-260. Debt contractual obligations exclude interest, which is estimated to be \$1.7 billion payable in less than one year, \$3.0 billion between one and three years, \$2.5 billion between three and five years, and \$14.8 billion in five years and later. For this purpose, we assume that interest rates with respect to variable interest rate debt remain constant at the rates in effect at December 31, 2022, and that there is no change in the aggregate principal amount of debt other than repayment at scheduled maturity as reflected in the table. Lease contractual obligations include interest.

[B] Purchase obligations disclosed in the above table exclude commodity purchase obligations that are not fixed or determinable and are principally intended to be resold in a short period of time through sale agreements with third parties. Examples include long-term non-cancellable LNG and natural gas purchase commitments and commitments to purchase refined products or crude oil at market prices. Inclusion of such commitments would not be meaningful in measuring liquidity and cash flow, as the cash outflows generated by these purchases will generally be offset in the same periods by cash received from the related sales transactions.

[C] Includes obligations included in "Trade and other payables" and provisions related to onerous contracts included in "Decommissioning and other provisions" in "Non-current liabilities" in the "Consolidated Balance Sheet" that are contractually fixed as to timing and amount. In addition to these amounts, Shell has certain obligations that are not contractually fixed as to timing and amount, including contributions to defined benefit pension plans (see Note 23 to the "Consolidated Financial Statements" on pages 265-271) and obligations associated with decommissioning and restoration (see Note 24 to the "Consolidated Financial Statements" on page 272-273).

Dividends

Subject to Board approval, Shell aims to grow the dividend per share by around 4% every year. In total, Shell targets the distribution of a minimum of 20% and, subject to Board approval and prevailing market conditions, potentially more than 30% of our cash flow from operations to shareholders. Shell may choose to return cash to shareholders through a combination of dividends and share buybacks.

When setting the level of shareholder distributions, the Board looks at a range of factors, including the macro environment, the earnings and cash flows of the Group, the current balance sheet, future investment, acquisition and divestment plans and existing commitments. We returned \$7.4 billion to our shareholders through dividends in 2022.

The fourth quarter 2022 dividend of \$0.2875 per share will be paid on March 27, 2023, to shareholders on the register at February 17, 2023, and represents an increase of 15% compared with the third quarter of 2022.

See Note 29 to the "Consolidated Financial Statements" on page 283.

Purchases of securities

On February 3, 2022, share buybacks of \$8.5 billion for the first half of 2022 were announced, comprising two programmes which were completed in May 2022 and July 2022. These included the remaining \$5.5 billion of the Permian divestment proceeds that had been allocated for share buybacks. On July 28, 2022, and October 27, 2022, the Company announced buybacks of \$6 billion and \$4 billion which were completed in October 2022 and January 2023 respectively, leading to a total of \$18.4 billion across 2022. The buybacks were conducted on both London market exchanges and Amsterdam exchanges.

Between January 1, 2022, and January 28, 2022, 32 million B shares were purchased and cancelled. Over the remainder of 2022, 650 million ordinary shares were purchased and cancelled. Overall, a total nominal share value of €48 million (\$57 million), 9.8% of the Company's total issued share capital at December 31, 2022, was purchased and cancelled during 2022 for a total cost of \$18.4 billion, including expenses, at an average price of \$26.99 per share.

The buybacks completed in the first half of 2022 were in accordance with the authorities granted by shareholders at the 2021 Annual General Meeting (AGM). The buybacks completed in the second half of 2022 were in accordance with the authorities granted by shareholders at the 2022 AGM. At the 2022 AGM, authority was granted for the Company to repurchase up to a maximum of 10% of its issued ordinary shares, excluding treasury shares, (758 million ordinary shares), both on and off market, allowing purchases on Amsterdam as well as London exchanges. As at December 31, 2022, 416 million ordinary shares could still be repurchased under the current AGM authorities. The purpose of the share repurchases in 2022 was to reduce the issued share capital of the Company.

New resolutions will be proposed at the 2023 AGM to renew the authority for the Company to purchase its own share capital, up to specified limits, for a further year. These proposals will be described in more detail in the 2023 Notice of Annual General Meeting.

Shares are also purchased by the employee share ownership trusts and trust-like entities (see Note 27 to the "Consolidated Financial Statements" on page 280) to meet delivery commitments under employee share plans. All share purchases are made in open-market transactions.

The table on the next page provides information on purchases of shares in 2022 and January 2023 by the Company and affiliated purchasers. Purchases in euros and sterling are converted into dollars using the exchange rate on each transaction date.

Purchases of equity securities by issuer and affiliated purchasers in 2022 [A]

Purchase period	Euro Shares			GBP Shares		ADSs [B]		
	Number purchased for employee share plans	Number purchased for cancellation [C]	Weighted average price (\$)[D]	Number purchased for employee share plans	Number purchased for cancellation [C]	Weighted average price (\$)[D]	Number purchased for employee share plans	Weighted average price (\$)[D]
January [E]	—	—	—	—	31,678,192	24.43	1,106,045	46.31
February	—	—	—	—	46,523,793	26.92	—	—
March	—	—	—	—	56,830,503	26.32	—	—
April	—	—	—	—	41,502,892	27.88	—	—
May	—	—	—	—	74,210,419	29.00	—	—
June	—	—	—	—	80,226,377	27.43	—	—
July	—	2,100,000	26.18	—	11,359,217	26.07	—	—
August	—	37,458,590	26.56	—	38,547,931	26.55	—	—
September	—	46,030,334	25.59	—	62,467,606	25.70	—	—
October	—	10,046,901	26.25	—	36,420,460	26.12	—	—
November	—	27,532,944	27.91	—	21,324,945	27.91	—	—
December	13,784,280	36,324,940	28.42	911,200	21,384,292	28.29	2,398,670	55.63
Total 2022	13,784,280	159,493,709	27.03	911,200	522,476,627	26.29	3,504,715	52.69
January	—	3,902,011	28.34	—	24,834,916	28.82	808,490	55.87
Total 2023	—	3,902,011	28.34	—	24,834,916	28.82	808,490	55.87

[A] Reported as at transaction date.

[B] American Depositary Shares.

[C] Under the share buyback programme.

[D] Includes stamp duty and brokers' commission.

[E] On January 29, 2022, one line of shares was established through assimilation of each A share and each B share into one ordinary share of the Company.

Financial information relating to the Royal Dutch Shell Dividend Access Trust

The results of the Royal Dutch Shell Dividend Access Trust (the Trust) are included in the consolidated results of operations and financial position of Shell. See "Royal Dutch Shell Dividend Access Trust Financial Statements" on pages 322-325. Certain condensed financial information in respect of the Trust is given below.

The Shell Transport and Trading Company Limited and BG Group Limited have each issued a dividend access share to Computershare Trustees (Jersey) Limited (the Trustee). For the years 2022, 2021 and 2020, the Trust recorded income before tax of £nil, £2.2 billion, and £2.8 billion respectively. In each period, this reflected the amount of dividends payable on the dividend access shares. Dividends are also classified as unclaimed where amounts have not cleared recipient bank accounts.

At December 31, 2022, the Trust had total equity of £nil (December 31, 2021: £nil; December 31, 2020: £nil), reflecting assets of £6 million (December 31, 2021: £7 million; December 31, 2020: £7 million) and unclaimed dividends of £6 million (December 31, 2021: £7 million; December 31, 2020: £7 million). The Trust only records a liability for an unclaimed dividend to the extent that dividend cheque payments have not been presented within 12 months, have expired or have been returned unpresented.

On January 29, 2022, one line of shares was established through assimilation of each A share and each B share into one ordinary share of the Company. This assimilation had no impact on voting rights or dividend entitlements. Dutch withholding tax, applied previously on dividends on A shares, no longer applies on dividends paid on the ordinary shares following the assimilation.

In relation to the assimilation of the Company's A and B shares, the Trust will continue in existence for the foreseeable future to facilitate the payment of unclaimed dividend liabilities for shareholders of the former B shares until these are either claimed or forfeited in line with the terms outlined.

Generating shareholder value

Market overview

In 2022, the energy price shock and rising food prices led to a cost-of-living crisis and lower economic growth, pushing up inflation to levels not seen for many decades.

Prices were already creeping up as a result of the economic rebound from the pandemic, its lockdowns and related supply chain constraints. But inflation soared globally after Russia's invasion of Ukraine, which triggered the war that continues today.

Shell maintains a large business portfolio across an integrated value chain and is exposed to fluctuating prices of crude oil, natural gas, oil products, chemicals and power (see "Risk factors" on page 21). This diversified portfolio provides resilience when prices are volatile. Our annual planning cycle and periodic portfolio reviews aim to ensure that our levels of capital investment and operating expenses are appropriate in the context of a volatile price environment.

We test the resilience of our projects and other opportunities against a range of prices for crude oil, natural gas, oil products, chemicals and power. We also aim to maintain a strong balance sheet to provide resilience against weak market prices.

Global economic growth

Higher energy and food prices have caused real wages to fall in many countries, slashing purchasing power. This is hurting consumers. In addition, central banks around the world are increasing interest rates to curb inflation and anchor inflation expectations in their economies. Tighter monetary policy and higher interest rates, weak real household income growth and declining confidence have resulted in lower economic growth during 2022.

For 2023, a further growth slowdown for the world economy is projected, as well as high, but declining, inflation in many countries. In the International Monetary Fund's latest global economic prospects report published in January 2023, global growth is forecast to decelerate from 6.2% in 2021 and 3.4% in 2022 to 2.9% in 2023. Asia is expected to be the main engine of growth in 2023 and 2024, whereas Europe, North America and South America are expected to see very low growth.

Risks to the economic outlook remain significant, including new uncertainties about natural gas supplies to Europe, the impact of the real estate and COVID-19 crises in China, and a resurgence of COVID-19 health scares around the world. Central banks must chart a difficult path as they face mixed economic signals, such as slowing economic growth with still-tight labour markets and strong pressure for wage growth. In this environment, an insufficient increase in interest rates may prove a mistake. If rates are not adequately raised, inflation could become entrenched, prompting higher interest rates in the future at a significant cost to the economy. On the other hand, increasing interest rates by too much may risk sending many economies into debt distress and prolonged recession.

Global prices, demand and supply

The following table provides an overview of the main crude oil and natural gas price markers to which we are exposed:

Oil and gas average industry prices [A]

	2022	2021	2020
Brent (\$/b)	101	71	42
West Texas Intermediate (\$/b)	95	68	39
Henry Hub (\$/MMBtu)	6.4	4.0	2.0
EU TTF (\$/MMBtu)	40	16	3
Japan Customs-cleared Crude (\$/b) - 3 months	98	60	51

[A] Yearly average prices are based on monthly average spot prices. The 2022 average price for Japan Customs-cleared Crude is based on available market information up to the end of the period.

Crude oil and oil products

The global benchmark oil price Brent averaged \$101 per barrel (/b) in 2022, the highest annual average price since 2013. This represents an increase of more than 40% increase from the annual average of \$71/b recorded in 2021. High prices were mostly realised in the first half of the year, with demand recovering as economies reopened and supply constrained by the capacity of major oil producers. Russia's invasion of Ukraine triggered concerns about supply availability, sending Brent to a high of \$133/b on March 8, 2022. Prices stayed at an elevated level until the middle of the year, before falling as recession concerns weighed on the market. Brent averaged \$80/b in December, the same price as it was in the fourth quarter of 2021. West Texas Intermediate (WTI) traded at a sharper discount of around \$6/b to Brent in 2022, compared with a discount of about \$3/b in 2021. This is because of rising demand for Brent as a replacement for Urals, the most common grade of Russian crude exports.

In 2022, global oil product demand rose by more than 2 mb/d to nearly 100 mb/d, approaching the pre-COVID-19 level of 100.5 mb/d in 2019. Growth largely came from jet fuel, supported by the rebound in air travel after the pandemic. Growth in other product segments continued in 2022, albeit at a slower pace. Global diesel/gas oil growth eased from 1.5 mb/d in 2021 to 0.66 mb/d in 2022 based on IEA estimates, reflecting weakening economic activities. Naphtha, after a strong year of growth in 2021, declined by 0.13 mb/d due to a weak petrochemical sector. Regionally, growth has largely come from non-OECD markets, particularly the Middle East and India. Chinese demand dropped by about 0.4 mb/d as lockdowns in the country affected demand. Among OECD markets, European growth was particularly weak. While high gas prices resulted in a switch from gas to oil, this was largely offset by a weak petrochemical sector which struggled with high energy costs.

Global oil production increased to 100 million b/d in 2022, up by 4.7 mb/d from 2021. Growth was largely led by the ramp-up of Saudi Arabian and US shale oil. Saudi Arabia delivered an additional 1.4 mb/d compared with 2021, about half of the OPEC supply growth. Outside OPEC, the USA added 1.2 mb/d, providing about 60% of the non-OPEC growth. During the third quarter, there were concerns about whether OPEC would raise production in step with demand recovery because a number of member countries were producing below quota. But the trend started shifting from the fourth quarter, with OPEC in November reintroducing production cuts of 2 mb/d, in view of the potential surplus should economic conditions worsen.

Russia's invasion of Ukraine has strong ramifications for global crude and oil product supply. Before the invasion, Russian production was expected to surge by more than 0.8 mb/d in 2022, according to the IEA. But actual production growth was about 0.2 mb/d due to OECD market sanctioning. Global crude/product trade flow also shifted as Russian crude/products were redirected to non-OECD markets.

The outlook for 2023 demand is highly uncertain. One key uncertainty is the recession risk in OECD economies, particularly Europe. China's lifting of COVID-19 restrictions to focus on economic growth could provide some support to global oil demand. The main uncertainty on the supply side is the supply from Russia after the embargo on Russian crude and oil products took effect. The EU embargo and G7 price caps on Russian crude oil took effect in early December 2022. Russian oil product embargoes and price caps followed in February 2023. These measures could lead to a further reduction in Russia's oil supply.

Natural gas

Global demand for natural gas in 2022 is estimated to have declined by 1.6% compared with 2021. This was a result of high, volatile prices and shorter supply, particularly in Europe and emerging Asian countries, which led to reduced industrial, commercial and residential consumption. The year-on-year downturn came after gas demand rebounded in 2021 from the historically low levels during the pandemic. Europe's gas market experienced an unprecedented supply shock from the sharp reduction in Russian pipeline gas imports. Already-elevated spot gas prices in Europe rose further under the threat of Russian supply curtailments and the uncertainty about the LNG market's ability to make up the difference. This triggered demand curtailment in Europe's industrial sector. It also caused a slowdown in LNG import purchases in China amid economic weakness and COVID-19 lockdowns. Emerging economies, such as Pakistan and Bangladesh, struggled with the affordability of spot LNG.

European gas prices were turbulent in 2022 as almost all pipeline flows from Russia came to a halt. Exports through Gazprom's pipelines fell from a 2022 peak of just over 300 million cubic metres per day (mcm/d) to about 65 mcm/d in November. On an annual basis, Europe's imports of Russian pipeline gas almost halved. The European benchmark price Title Transfer Facility (TTF) was volatile, breaching \$96/MMBtu at its peak. There were also large disconnections in regional European gas hub prices caused by the reconfiguration of supply flows and regasification capacity reaching maximum utilisation rates. This particularly affected the UK's National Balancing Point (NBP) and TTF prices, as well as the price of delivered LNG.

The pricing environment was a catalyst for major demand destruction. The residential and commercial consumer sector shed more than 15% of demand year-on-year, assisted by mild temperatures. The industrial sector is estimated to have lost more demand year-on-year than any period for over a decade. But TTF prices experienced a sharp decline at the end of the third quarter after Russian gas pipeline cuts materialised and gas inventories were built beyond government-mandated levels ahead of time. Europe remained the highest-priced global gas market for 2022 and attracted substantial volumes away from other markets, especially in Asia. Higher LNG exports into Europe, coupled with demand curtailment, made up for the lack of Russian pipeline imports, allowing for a comfortable storage situation by the start of the northern hemisphere winter. European LNG imports increased by about 45 million tonnes with north-west Europe accounting for more than 30 million tonnes of this growth. A migration of floating storage and regasification units (FSRUs) to Europe reduced bottlenecks and increased import capacity, specifically to north-west Europe. The commissioning of the Eemshaven FSRU in the Netherlands in September 2022, and the commissioning of several FSRUs for Germany have set Europe up to be a major LNG importer for years to come.

Asian spot LNG prices, as reflected by the Japan Korea Marker (JKM), traded at a significant discount to European prices for most of 2022, driven largely by lower LNG imports into China. By the end of the year, China had imported about 15 million tonnes less LNG year-on-year, ceding the title of the world's biggest LNG importer back to Japan. South Korea and Japan continued to import LNG despite the high spot prices because of JKM buyers' high concentration of long-term LNG contract volume. Crude-oil-linked contracts were cheaper than JKM prices by an average of 50% in 2022. This was evidenced by the Japan Landed Cost (JLC), which accounts for imported LNG long-term contract and spot prices averaging about \$17/MMBtu versus an average of around \$33/MMBtu for the spot price of JKM.

Henry Hub gas benchmark prices in North America were volatile throughout the year, ranging from below \$4/MMBtu to nearly \$10/MMBtu. Henry Hub cash prices averaged \$6.39/MMBtu in 2022, reaching a peak of \$9.84/MMBtu in August. The rise in the first half of the year was caused by a structurally tighter market and spill-over effects from the higher prices for LNG exports. The decline towards the end of the year was a result of strong production and comfortable storage expectations for the northern hemisphere winter. US LNG export plants consumed an average of 11.81 bcf (billion cubic feet) per day throughout the year, accounting for 12% of US overall production of around 97 bcf per day. This is a 547% increase from five years ago and a 203% increase from the previous five-year average. Strong power demand for gas in the USA and lagging upstream production supported the rise.

Power

Europe: European power prices were turbulent in 2022. In Germany, for example, the average power price in 2022 was \$247/MWh, an unprecedented seven times higher than the average price of \$37/MWh in the period from 2015 to 2019. Prices increased in the first quarter of the year, peaking in August with spot prices of up to \$916/MWh. European power prices are strongly influenced by the power plants dependent on natural gas. Widespread unplanned outages of French nuclear power plants and low hydropower availability also pushed up power prices. The high European power prices have triggered a range of regulatory actions, including revenue caps for inframarginal power generators (generators which do not set marginal prices); national demand reduction goals; and a consultation for market reforms by the European Commission.

United States: US power prices were much higher across all major markets in 2022 compared with 2021. One of the key drivers of higher power prices and volatility in 2022 was gas prices. Henry Hub gas benchmark prices in North America were volatile throughout the year, ranging from below \$4/MMBtu to nearly \$10/MMBtu. Prices in the second half of the year traded back down to below \$4.00/MMBtu as natural gas production steadily increased and the ability to increase storage injections prior to winter picked up. Power prices were also driven higher by weather events throughout the year and across the country. For the eastern part of the USA, cold weather in January led ISO-NE (New England) prices to average around \$150/MWh, and a late December cold front led to significantly higher prices in PJM and MISO (Midcontinent) markets. For the ERCOT (Texas) market, a hot July in Texas led to record level demand and North Hub settled at \$147/MWh. A heatwave in the western part of the USA in September sent Mid-C (Midcontinent) ISO and CAISO (California) prices to highs of \$152/MWh and \$118/MWh respectively, and a cold December resulted in even higher prices in Mid-C (\$263/MWh) and CAISO (\$254/MWh).

Australia: In 2022, the (East) Australia power market was volatile with spot prices averaging \$191/MWh and \$151/MWh in the second and third quarter respectively. This was because of unseasonal weather, unplanned outages of coal-fired power plants, and gas and hydropower supply constraints. High international coal and spot LNG prices pushed up domestic gas and coal prices. The gas market spiked to the \$21–28 per gigajoule (GJ) range in the second and third quarters after having started the year at \$7/GJ (well below international LNG prices). The spike was caused by a significant demand for uncontracted and unforecasted gas with little or no notice. This demand came primarily from the aforementioned power market disruptions, but also arose from the early onset of the Australian winter and a heavy reliance on spot markets by some industrial and power generation end-users. Prices became more moderate as Australia moved out of winter, but remained volatile as the government implemented gas and coal price caps and controls at the wholesale level for 2023 and beyond.

Crude oil and natural gas price assumptions

Our ability to deliver competitive returns and pursue commercial opportunities depends on the accuracy of our price assumptions (see "Risk factors" on page 21). We use a rigorous assessment of short-, medium- and long-term market uncertainties to determine what ranges of future crude oil and natural gas prices to use in project and portfolio evaluations. Market uncertainties include, for example, future economic conditions, geopolitics, actions by major resource holders, production costs, technological progress and the balance of supply and demand.

See also Note 12 to the "Consolidated Financial Statements" on pages 251-254.

Refining margins

Global indicative refining margin [A]

	2022	2021	2020
Indicative refining margin	18.03	4.79	2.12

[A] The indicative margin is an approximation of Shell's global gross refining unit margin, calculated using price markers from third parties' databases. It is based on a simplified crude and product yield profile at a nominal level of refining performance. The actual margins realised by Shell may vary due to factors including specific local market effects, refinery maintenance, crude diet optimisation as the crudes in the IRM are indicative benchmark crudes, operating decisions and product demand. Gross refining unit margin is defined as the hydrocarbon margin net of purchased/sold utilities, additives and relevant freight costs, divided by crude and feedstock intake in barrels. It is only applicable to the impact of market pricing on refining business performance, excluding trading margin. Prior period comparatives are calculated on the same basis as the current year.

In 2022, gross refining margins improved in comparison with 2021, especially during the first half of the year. Economic recovery and disruption caused by the Russian war in Ukraine led to very strong refining margins, especially during the second quarter. With demand falling in sync with the economic slowdown, refining margins fell towards the end of the year. Weak chemical feedstocks and gasoline demand was partially offset by strong middle distillate demand. Middle distillate demand is supported by continued aviation demand recovery and disruptions to Russian product flows to Europe.

Construction of new capacity continued during the year, especially in the Middle East, Africa and Asia. However, several projects were delayed due to supply chain issues and inflationary cost pressures.

For 2023 and beyond, refining margins are expected to decline as refinery capacity increases and demand growth slows. This would result from weaker economic growth, high energy prices and the tightening of monetary policy by central banks.

Petrochemical margins

Global indicative chemical margin [A]

	2022	2021	2020
Indicative chemical margin	48.04	216.44	184.55

[A] The Indicative Chemical Margin (ICM) is an approximation of Shell's global chemical margin performance trend (including equity-accounted associates), calculated using price markers from third parties' databases. It is based on a simplified feedstock and product yield profile at a nominal level of plant performance. The actual margins realised by Shell may vary due to factors including specific local market effects, chemicals plants maintenance, optimisation, operating decisions and product demand. Chemical unit margin is defined as the hydrocarbon margin net of purchased/sold utilities, additives and relevant freight costs, divided by a nominal denominator expressed in metric tons. It is only applicable to the impact of market pricing on Chemical business performance. Prior period comparatives are calculated on the same basis as the current year.

Chemical cracker margins came under pressure in 2022. The Russian war in Ukraine caused volatile energy prices, especially in Europe and Asia, leading to lower cracker margins. This has also impacted derivative trade and demand. Macroeconomic factors, including inflation and lower economic growth, further contributed to weaker global demand and lockdown restrictions in China resulted in further demand destruction in Asia. New capacity growth primarily in Asia and the USA led to global oversupply and lower margins. Producers continue to match demand through lower cracker utilisation.

The outlook for petrochemical margins in 2023 and beyond depends on feedstock costs and the balance of supply and demand. Demand for petrochemicals is expected to be affected by energy costs, macroeconomic factors, and any further COVID-19 impacts. A recovery in demand is needed to absorb the excess capacity. The supply of petrochemicals will depend on the net capacity effect of new facilities and plant closures with utilisation balancing the system. Product prices will reflect the prices of raw materials which are closely linked to crude oil and natural gas prices.

The statements in this "Market overview" section, including those related to our price forecasts, are forward-looking statements based on management's current expectations and certain material assumptions and, accordingly, involve risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied herein.

See "About this Report" on page 10 and "Risk factors" on page 21.

Generating shareholder value

Integrated Gas

Integrated Gas (IG) includes liquefied natural gas (LNG), conversion of natural gas into gas-to-liquids (GTL) fuels and other products. It includes natural gas and liquids exploration and extraction, and the operation of the upstream and midstream infrastructure necessary to deliver these to market. IG also includes the marketing, trading and optimisation of LNG, including LNG as a fuel for heavy-duty vehicles.

Segment earnings (\$ billion)

22.2 2021: 8.1

Adjusted Earnings (\$ billion)

16.1 2021: 9.0

Cash flow from operating activities (\$ billion)

27.7 2021: 13.2

Production (thousand boe/d)

921 2021: 1,004

LNG liquefaction volumes (million tonnes)

30 2021: 31

LNG sales volumes (million tonnes)

66 2021: 64



Key statistics [A]

	\$ million, except where indicated		
	2022	2021	2020
Segment earnings/(loss)	22,212	8,060	(7,230)
Including:			
Revenue (including inter-segment sales)	73,163	37,994	25,222
Share of profit of joint ventures and associates	1,219	1,933	612
Interest and other income	(714)	1,596	212
Operating expenses [B]	5,238	4,526	5,100
Underlying operating expenses [B]	4,884	4,295	4,318
Exploration	240	122	616
Depreciation, depletion and amortisation	2,211	5,908	19,314
Taxation charge/(credit)	5,899	2,648	(2,794)
Identified Items [B]	6,075	(988)	(11,443)
Adjusted Earnings [B]	16,137	9,048	4,213
Adjusted EBITDA [B]	26,569	16,754	11,908
Capital expenditure	3,432	3,306	3,491
Cash capital expenditure [B]	4,265	3,502	3,566
Oil and gas production available for sale (thousand boe/d)	921	1,004	1,011
LNG liquefaction volumes (million tonnes)	29.7	31.0	33.2
LNG sales volumes (million tonnes)	66.0	64.2	71.9

[A] With effect from January 1, 2022, our reporting segments are Integrated Gas, Upstream, Marketing, Chemicals and Products, Renewables and Energy Solutions and Corporate. Comparative information has been revised.

[B] See "Non-GAAP measures reconciliations" on pages 331-334.

Business conditions

For the business conditions relevant to Integrated Gas, see "Market overview" on pages 39-41.

Production available for sale

In 2022, our production was 336 million barrels of oil equivalent (boe) or 921 thousand boe per day (boe/d), compared with 366 million boe, or 1,004 thousand boe/d in 2021. Natural gas production was 86% of total production in 2022 and 83% of total production in 2021. In 2022, natural gas production decreased by 5% compared with 2021. This was mainly because of the derecognition of Sakhalin-related volumes and production-sharing contract effects, partly offset by new field ramp-up in Trinidad and Tobago. Liquids production decreased by 25%, driven mainly by derecognition of Sakhalin-related volumes.

LNG liquefaction volumes

LNG liquefaction volumes were 29.7 million tonnes in 2022, compared with 31.0 million tonnes in 2021. The decrease was mainly a result of the derecognition of Sakhalin-related volumes, and lower feedgas supply, partly offset by lower maintenance.

LNG sales volumes were 66.0 million tonnes in 2022 compared with 64.2 million tonnes in 2021. This increase was mainly a result of higher purchases from third parties and trading and optimisation opportunities.

Through our trading organisation, we market and sell a portion of our share of equity production of LNG together with third-party LNG through our hubs in the UK, UAE and Singapore. Shell has term sales contracts for the majority of our LNG liquefaction and term purchase contracts. We are able to optimise the income we generate from our LNG cargoes through our shipping network, regasification terminals and ability to purchase and deliver LNG spot cargoes from third parties. For example, if one customer does not need a scheduled cargo, we can deliver it to another customer who does need it. Similarly, if a customer needs an additional cargo not available from our production facilities, we contract with third parties to deliver the additional cargo. We conduct paper trades, primarily to manage commodity price risk related to sales and purchase contracts. We also sell LNG for trucks in China, Singapore and Europe.

Integrated gas data table

LNG liquefaction volumes

	2022	2021	Million tonnes 2020
Australia	13.2	13.1	11.8
Brunei	1.2	1.4	1.6
Egypt	0.5	0.3	0.2
Nigeria	3.6	4.3	5.3
Oman	2.8	2.5	2.5
Peru	0.8	0.6	0.9
Qatar	2.4	2.4	2.4
Russia	0.9	2.8	3.1
Trinidad and Tobago	4.3	3.6	5.4
Other	—	—	0.2
Total	29.7	31.0	33.2

Earnings 2022-2021

Segment earnings in 2022 were \$22,212 million, compared with \$8,060 million in 2021. The increase was mainly driven by the combined effect of higher realised prices and contributions from trading and optimisation, and gains related to the fair value accounting of commodity derivatives. This was partly offset by lower volumes and higher operating expenses.

Full year segment earnings included identified items of \$6,075 million which comprised gains of \$6,273 million due to the fair value accounting of commodity derivatives and net impairment reversals

of \$779 million, partly offset by other impacts of \$608 million, which mainly comprised loan write-downs, and charges of \$387 million due to provisions for onerous contracts. The full year 2021 Identified Items were a loss of \$988 million and included losses of \$1,423 million due to the fair value accounting of commodity derivatives and impairment charges of \$395 million, partly offset by gains of \$1,097 million related to the sale of assets.

Earnings 2021-2020

Segment earnings in 2021 were \$8,060 million, compared with a loss of \$7,230 million in 2020. The increase was mainly driven by higher realised prices for oil, LNG and gas, favourable tax movements and higher volumes.

Full year 2021 segment earnings included Identified Items of \$988 million loss which comprised losses of \$1,423 million due to the fair value accounting of commodity derivatives and impairment charges of \$395 million, partly offset by gains of \$1,097 million related to the sale of assets. Full year 2020 Identified Items were \$11,443 million loss, which included impairment charges of \$10,152 million mainly reflecting revisions to mid- and long-term price outlook assumptions and primarily related to the Queensland Curtis LNG and Prelude floating liquefied natural gas (FLNG) operations in Australia and unconventional assets in North America. It also comprised a net charge of \$880 million because of the fair value accounting of commodity derivatives and a charge of \$607 million related to onerous contract provisions.

Cash capital expenditure

Cash capital expenditure in 2022 was \$4,265 million, compared with \$3,502 million in 2021. The increase was mainly due to investment in the North Field East expansion project in Qatar. Our cash capital expenditure is expected to be around \$5 billion in 2023.

Portfolio and business development

Key portfolio events included the following:

- Shell announced in the first quarter 2022 its intent to withdraw from its ventures in Russia with Gazprom and related entities, and to end its involvement in the Nord Stream 2 pipeline project. See Note 6 on pages 242-244 for the actions we have taken since these announcements and for the impact on the consolidated financial statements.
- In March 2022, we produced first gas from Block 22 and NCMA-4 in the North Coast Marine Area in Trinidad and Tobago.
- In May 2022, Shell Australia Pty Ltd and its joint-venture partner, SGH Energy, took a final investment decision to approve the development of the Crux natural gas field, off the coast of Western Australia, which will be processed through the Prelude FLNG facility.
- In July 2022, QatarEnergy selected us to participate in the North Field East (NFE) expansion project in Qatar. In December 2022 QatarEnergy and Shell closed the transaction resulting in Shell purchasing 25% of the shareholding in a joint venture (JV) which owns a 25% interest in the overall NFE project. Thus, Shell's ownership of NFE via its JV shareholding is 6.25%.
- In October 2022, we were also selected as a partner in the North Field South (NFS) project (Shell interest 9.375%). Shell participation in the NFS project remains subject to clearance of remaining customary conditions precedent.

Generating shareholder value | Integrated Gas continued

Business and property

Integrated Gas

A complete list of LNG and GTL plants in operation and under construction in which we have an interest is provided below.

LNG liquefaction plants in operation at December 31, 2022 [A]

	Asset	Location	Shell interest (%)	100% capacity (mtpa) [B]	Shell-operated
Asia					
Brunei	Brunei LNG	Lumut	25	7.6	No
Oman	Oman LNG	Sur	30	7.1	No
	Qalhat LNG [C]	Sur	11	3.7	No
Qatar	Qatargas 4 [D]	Ras Laffan	30	7.8	No
Oceania					
Australia	Australia North West Shelf [D]	Karratha	16.7	16.9	No
	Gorgon LNG [D]	Barrow Island	25	15.6	No
	Prelude [D]	Browse Basin	67.5	3.6	Yes
	Queensland Curtis LNG T1 [D]	Curtis Island	50	4.3	Yes
	Queensland Curtis LNG T2 [D]	Curtis Island	97.5	4.3	Yes
Africa					
Egypt [E]	Egyptian LNG T1	Idku	35.5	3.6	No
	Egyptian LNG T2	Idku	38	3.6	No
Nigeria	Nigeria LNG	Bonny	25.6	24.1	No
South America					
Peru	Peru LNG	Pampa Melchorita	20	4.5	No
Trinidad and Tobago	Atlantic LNG T1	Point Fortin	46	3	No
	Atlantic LNG T2/T3	Point Fortin	57.5	6.6	No
	Atlantic LNG T4	Point Fortin	51.1	5.2	No

[A] We have offtake rights via a lease to 100% of the capacity (2.5 mtpa) of the Kinder Morgan-operated Elba Island liquefaction plant in Georgia, USA.

[B] 100% capacity represents the total capacity that all trains can process as reported by the operator.

[C] The interest is held via an indirect shareholding through Oman LNG.

[D] These assets are clustered as integrated assets and have onshore or offshore upstream production.

[E] In January 2014, force majeure notices were issued under the LNG agreements as a result of domestic gas diversions severely restricting volumes available to the Egyptian LNG (ELNG) plant. These notices remain in place.

LNG liquefaction plants under construction at December 31, 2022

	Asset	Location	Shell interest (%)	100% capacity (mtpa) [A]	Shell-operated
Africa					
Nigeria	Train 7 [B]	Bonny	25.6	7.6	No
North America					
Canada	LNG Canada T1-2 [C]	Kitimat	40.0	14.0	No
Asia					
Qatar	NFE JV [D]	Ras Laffan	25.0	8.0	No

[A] 100% capacity represents the total capacity that all trains are expected to process as reported by the operator.

[B] First LNG is expected around the middle of the 2020s.

[C] Construction started in October 2018 and first LNG is expected around the middle of the 2020s.

[D] Shell holds 25% in the joint venture, which in turn owns 25% of the North Field East expansion project, which has a nameplate capacity of 32 million tonnes per annum. First LNG is expected later in the 2020s.

GTL plants in operation at December 31, 2022

	Asset	Location	Shell interest (%)	100% capacity (b/d) [A]	Shell-operated
Asia					
Malaysia	Shell MDS	Bintulu	72.0	14,700	Yes
Qatar	Pearl	Ras Laffan	100.0	140,000	Yes

[A] 100% capacity represents the total capacity of the plant.

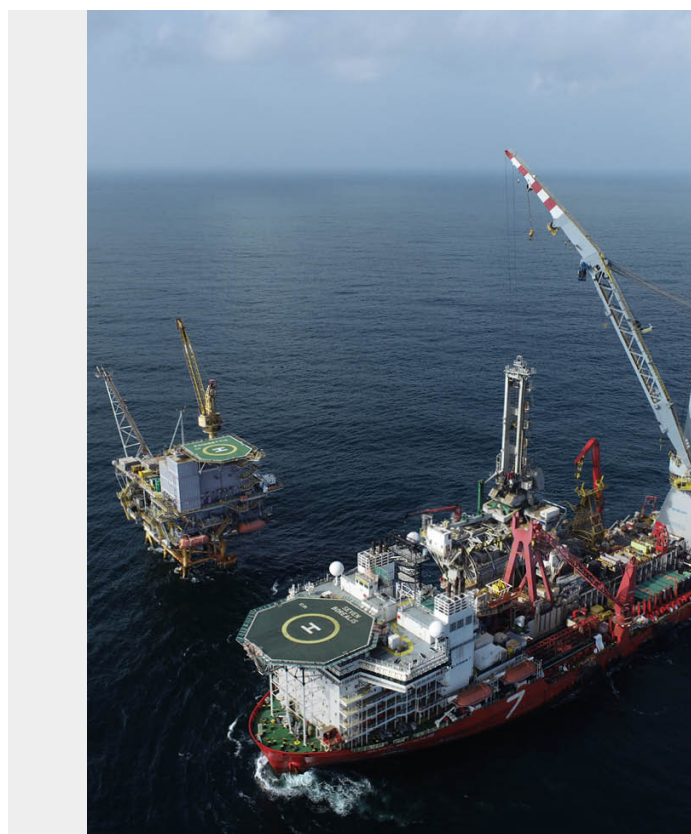
We also have interests and rights in the regasification terminals listed below. Extension of leases or rights beyond the periods mentioned below will be reviewed on a case-by-case basis.

LNG regasification terminals

Project name	Location	Shell capacity rights (mtpa)	Capacity rights period	Shell interest (%) and rights
Costa Azul	Baja California, Mexico	2.7	2008–2028	Capacity rights
Cove Point	Lusby, MD, USA	1.8	2003–2023	Capacity rights
Dragon LNG	Milford Haven, UK	3.1	2009–2029	50
Eemshaven	Groningen, the Netherlands	3.1	2022–2027	Capacity rights
Elba Island	Elba Island, GA, USA	4.6	2003–2027	Leased
Elba Island	Elba Island, GA, USA	2.8	2006–2036	Leased
Elba Island Expansion	Elba Island, GA, USA	4.2	2010–2035	Leased
GATE (Gas Access to Europe)	Rotterdam, the Netherlands	1.5	2015–2031	Capacity rights
Lake Charles	Lake Charles, LA, USA	4.4	2002–2030	Leased
Lake Charles Expansion	Lake Charles, LA, USA	8.7	2005–2030	Leased
Singapore SGM	SLNG, Singapore	[A]	2013–2029	Import rights
Singapore SETL	SLNG, Singapore	[A]	2018–2035	Import rights
Singapore SETL	SLNG, Singapore	up to 1.0 [B]	2021–2025	Import rights
Shell Energy India Pvt Ltd (formerly Hazira)	Gujarat, India	5	2005–2035	100
Shell LNG Gibraltar	Gibraltar	up to 0.04	2018–2038	51

[A] Licences to import LNG and sell regasified LNG in Singapore with no volume cap.

[B] Exclusive licence to import LNG and sell regasified LNG in Singapore for up to 1.0 mtpa.



Colibri gas for LNG export and domestic use in Trinidad and Tobago

In 2022, we produced gas for the first time from the Shell-operated Colibri project in Trinidad and Tobago. Most of Colibri's gas is exported as liquefied natural gas (LNG).

Gas will also be used in the country's petrochemical sector and to generate electricity for the country.

The final investment decision on Colibri was taken in March 2020. The team continued to implement the project and first gas was reached in March 2022, despite termination of operations by a key supplier. We delivered safely, within budget and ahead of schedule.

Colibri is expected to reach about 250 million standard cubic feet of gas per day at peak production through a series of four subsea gas wells. The wells are tied back to the existing Poinsettia platform in the North Coast Marine Area (NCMA).

Shell seeks to provide more affordable, reliable, and cleaner energy to our customers. While the vast majority of Colibri's gas will be exported, about 25% will be supplied to Trinidad and Tobago's National Gas Company (NGC), which will deliver it to the local power utility, Trinidad & Tobago Electricity Commission, to power homes and businesses. The NGC also supplies gas to petrochemical plants in Trinidad, a major exporter of ammonia and methanol.

Photo: Seven Borealis pipelay vessel adjacent to the Poinsettia production facility conducting pipelay activities for the Colibri project.

Oil and natural gas production, exploration and development

Australia

We operate the Queensland Curtis LNG (QCLNG) venture's natural gas operations, including wells, compression stations and processing plants, in Queensland's Surat Basin. We have interests ranging from 44% to 74% in 25 field compression stations and six central processing plants. Our production of natural gas from the onshore Surat Basin supplies the QCLNG liquefaction plant and the domestic gas market.

We have a 50% interest in Arrow, a Queensland-based joint venture with China National Petroleum Corporation (CNPC). Arrow owns coalbed methane assets and a domestic power business.

In addition, Shell has interests in offshore production, LNG liquefaction and exploration licences in the Browse Basin and in the North West Shelf (NWS) and Greater Gorgon areas of the Carnarvon Basin. Woodside is the operator on behalf of the NWS joint venture (Shell interest 16.7%). We have a 25% interest in the Chevron-operated Gorgon LNG joint venture that includes offshore production.

In the Browse Basin, Shell is the operator for the Prelude field (Shell interest 67.5%); the Crux gas and condensate development field (Shell interest 84.5%), where a final investment decision was taken in May 2022; and other backfill projects for Prelude FLNG.

We are also a partner in the Browse joint arrangement (Shell interest 27%) covering the Brecknock, Calliance and Torosa gas fields, which are under development and operated by Woodside.

Barbados

In 2022, we farmed into two exploration blocks (Shell interest 40%), where our partner is the operator.

Bolivia

We hold a 37.5% participating interest in the Caipipendi block where we produce and deliver natural gas to domestic and export markets. We also have a 25% interest in the Tarija XX West block where we produce from the Itaú field.

In 2022, we exited the Iñiguazu exploration block (operated by Repsol) where we held a 15% participating interest.

Canada

In Canada, we produce and market natural gas, natural gas liquids and condensate. We hold mineral acres, primarily in the Montney play in British Columbia and Alberta. We operate four natural gas processing area facilities at our Groundbirch asset in British Columbia.

China

We develop and produce from the onshore Changbei tight-gas field under a production-sharing contract (PSC) with CNPC.

Colombia

We have 50% interests in three blocks that we operate, and 60% interests in two other deep-water blocks where Chevron is the operator.

Egypt

We have a 25% interest in the Burullus Gas Company (Burullus) joint venture, which operates the West Delta Deep Marine concession (Shell interest 50%) and supplies gas to the domestic market and the Egyptian LNG plant. We have a 50% interest in the Rashid Petroleum Company (Rashpetco) joint venture, which operates the Rosetta concession (Shell interest 100%). We have a 30% interest in the El Burg Offshore Company (EBOC) joint venture, which operates the El Burg offshore concession (Shell interest 60%).

We have participating interests in several exploration concessions in the Nile Delta, the wider East Mediterranean and the Red Sea.

Indonesia

We have a 35% interest in the INPEX Masela Ltd joint venture, which owns and operates the offshore Masela block.

Oman

We have a concession to develop and produce natural gas from Block 10 (Shell interest 53.45%). We also have a separate gas sales agreement for gas produced from the block. In September 2022, Shell and its partners signed an exploration and production-sharing agreement with the government of Oman for the exploration, evaluation and development of natural gas resources and condensate in Block 11 (Shell interest 67.5%).

Qatar

We operate the Pearl GTL plant (Shell interest 100%) in Qatar under a development and production-sharing contract with the government. The fully integrated facility has the capacity to produce, process and transport 1.6 billion standard cubic feet per day (scf/d) of gas from Qatar's North Field.

We have a 30% interest in Qatargas 4, which comprises integrated facilities to produce around 1.4 billion scf/d of gas from Qatar's North Field, an onshore gas-processing facility. In July 2022, QatarEnergy selected us to participate in the North Field East (NFE) expansion project in Qatar. In December 2022, QatarEnergy and Shell closed the transaction resulting in Shell purchasing 25% of the shareholding in a joint venture (JV) which owns a 25% interest in the overall NFE project. Thus, Shell's ownership of NFE via its JV shareholding is 6.25%. In October 2022, we were also selected as a partner in the North Field South project (Shell interest 9.375%). Shell participation in the North Field South project remains subject to clearance of remaining customary conditions precedent.

Russia

Shell announced in the first quarter 2022 its intent to withdraw from its ventures in Russia with Gazprom and related entities, and to end its involvement in the Nord Stream 2 pipeline project.

See Note 6, which is incorporated by reference into the Strategic Report, on pages 242-244 for the actions we have taken since these announcements and for the impact on the consolidated financial statements.

Tanzania

We operate and have a 60% interest in Blocks 1 and 4 off the coast of southern Tanzania under a production-sharing agreement with the government of Tanzania that expires in 2024.

Trinidad and Tobago

We have interests in three concessions with producing fields: Central Block (Shell interest 65%), North Coast Marine Area (Shell interest 80.5%), and East Coast Marine Area (Shell interest 100%). In 2022, production started on Block 22 (Shell interest 90%) and NCMA-4 (Shell interest 80%) in the North Coast Marine Area.

Our interests range from 35% to 100% in exploration Blocks 5(d), 5(c)REA, 6(d), and Atlantic Area Block 5.

Turkey

In 2022 we released our exploration licence in the Western Black Sea.

Generating shareholder value

Upstream

Upstream explores for and extracts crude oil, natural gas and natural gas liquids. It also markets and transports oil and gas, and operates the infrastructure necessary to deliver them to the market. Shell's Upstream business delivers reliable energy from conventional oil and gas operations, as well as deep-water exploration and production activities. We are focusing our Upstream portfolio to become more resilient, prioritising value over volume to provide the energy the world needs today whilst funding the energy system of tomorrow.

Segment earnings (\$ billion)

16.2 2021: 9.6

Adjusted Earnings (\$ billion)

17.3 2021: 8.0

Cash flow from operating activities (\$ billion)

29.6 2021: 21.6

Production (thousand boe/d)

1,897 2021: 2,178



Key statistics [A]

	\$ million, except where indicated		
	2022	2021	2020
Segment earnings/(loss)	16,222	9,603	(9,300)
Including:			
Revenue (including inter-segment sales)	60,637	44,971	27,763
Share of profit of joint ventures and associates	2,111	632	(7)
Interest and other income	726	4,592	541
Operating expenses [B]	10,364	10,324	10,650
Underlying operating expenses [B]	10,802	10,086	9,894
Exploration	1,472	1,301	1,131
Depreciation, depletion and amortisation	10,334	13,485	21,079
Taxation charge/(credit)	14,070	6,057	(103)
Identified Items [B]	(1,096)	1,587	(6,874)
Adjusted Earnings [B]	17,319	8,015	(2,426)
Adjusted EBITDA [B]	42,100	27,170	13,045
Capital expenditure	8,020	6,277	6,714
Cash capital expenditure [B]	8,143	6,168	7,099
Oil and gas production available for sale (thousand boe/d)	1,897	2,178	2,324

[A] With effect from January 1, 2022, our reporting segments are Integrated Gas, Upstream, Marketing, Chemicals and Products, Renewables and Energy Solutions and Corporate. Comparative information has been revised.

[B] See "Non-GAAP measures reconciliations" on pages 331-334.

Business conditions

For the business conditions relevant to Upstream, see "Market overview" on pages 39-41.

Production available for sale

In 2022, production was 692 million barrels of oil equivalent (boe), or 1,897 thousand boe per day (boe/d), compared with 795 million boe, or 2,178 thousand boe/d in 2021. Liquids production decreased by 12% and natural gas production decreased by 15%, compared with 2021.

Total production, compared with 2021, decreased as a result of divestments and scheduled maintenance. The impact of field decline was more than offset by growth from new fields.

Controllable availability of 84.7% was driven mainly by unscheduled deferrals in Nigeria (Forcados Oil terminal repairs), extended turnarounds and reliability in the UK (Pierce FPSO, Shearwater and Gannet).

Earnings 2022-2021

Upstream earnings in 2022 were \$16,222 million, compared with \$9,603 million in 2021. The increase was mainly driven by higher realised oil and gas prices and a gain related to storage and working gas transfer effects and impairment reversals. This was partly offset by lower volumes, mainly as a result of divestments, and charges related to the EU solidarity contribution and UK Energy Profits Levy.

Full year 2022 segment earnings included a gain from net impairment reversals of \$853 million and charges of \$1,385 million relating to EU solidarity contributions and \$802 million relating to the UK Energy Profits Levy. These gains and losses are part of identified items and compare with the full year 2021, which included a net gain of \$3,261 million related to the sale of assets (mainly related to the sale of the Permian business in the USA), partly offset by impairment charges of \$633 million, losses of \$393 million for the fair value accounting of commodity derivatives, and legal provisions of \$287 million.

Adjusted Earnings and Adjusted EBITDA were driven by the same factors as the segment earnings and adjusted for identified items.

Earnings 2021-2020

Upstream earnings in 2021 were a profit of \$9,603 million, compared with a loss of \$9,300 million in 2020. Earnings were helped by higher oil and gas prices, mainly driven by the improved macroeconomic conditions and the one-off release of a tax provision in Nigeria and lower depreciation, partly offset by lower production volumes.

Full year 2021 segment earnings included a net gain of \$3,261 million related to the sale of assets (mainly related to the sale of the Permian business in the USA), partly offset by impairment charges of \$633 million, losses of \$393 million for the fair value accounting of commodity derivatives, and legal provisions of \$287 million. These gains and losses are part of identified items, and compare with the full year 2020 segment earnings which included a net charge of \$5,387 million related to impairments, primarily in the US Gulf of Mexico, unconventional assets in North America, offshore assets in Brazil and Europe, and a project in Nigeria (OPL245), mainly triggered by revision of Shell's mid- and long-term commodity price and updated Appomattox subsurface understanding. Also included was a net charge of \$782 million related to the impact of the weakening Brazilian real on a deferred tax position.

Adjusted Earnings and Adjusted EBITDA were driven by the same factors as the segment earnings and adjusted for identified items.

Cash capital expenditure

Cash capital expenditure in 2022 was \$8.1 billion, compared with \$6.2 billion in 2021. The increased expenditure in 2022 was mainly a result of the Brazil Atapu Transfer of Rights and a ramp-up in projects, partially offset by the slippage of activities across the portfolio and divestments. Our cash capital expenditure is expected to be around \$8 billion in 2023.

Portfolio and business development

We took the following key portfolio decisions during 2022:

- In Brazil, in April 2022, we signed a production-sharing contract (PSC) to formally acquire a 25% stake in the Atapu Field.

Generating shareholder value | Upstream continued

- In Brazil, in May 2022, we started production at the FPSO Guanabara in the Mero field, in the offshore Santos Basin.
- In Malaysia, in September 2022, together with PETRONAS Carigali Sdn Bhd, we took the final investment decision (FID) to develop the Rosmari-Marjoram gas project.
- In the UK, in July 2022, we took the final investment decision (FID) to develop the Jackdaw North Sea gas field.
- In the US Gulf of Mexico, in March 2022, we started the production at PowerNap, a subsea development.
- In the US Gulf of Mexico, in February 2023, we started production at Vito, a Shell-operated floating production facility.

We continued to divest assets during 2022, including:

- In Malaysia, in December 2022, we agreed to sell our stake in two offshore production sharing contracts (PSCs) in the Baram Delta to Petroleum Sarawak Exploration & Production Sdn. Bhd. ("PSEP"). The sale concerns non-operated interests of 40% in the Amended 2011 Baram Delta EOR PSC and 50% in the SK 307 PSC. The remaining interests in both PSCs are held by the operator, PETRONAS Carigali Sdn Bhd ("PCSB"). Sale completion is expected in 2023.
- In the Philippines, in November 2022, we sold our 100% shareholding in Shell Philippines Exploration B.V. (SPEX) to Malampaya Energy XP Pte Ltd (MEXP), a subsidiary of Prime Infrastructure Capital Inc (Prime Infra).
- In the USA, in February 2023, we sold our 100% interest in Shell Onshore Ventures LLC, which holds a 51.8% membership interest in Aera Energy LLC to IKAV.

Shell announced in the first quarter of 2022 its intent to withdraw from its ventures in Russia with Gazprom and related entities.

See Note 6, which is incorporated by reference into the Strategic Report, on pages 242-244 for the actions we have taken since these announcements and for the impact on the consolidated financial statements.

Business and property

Our subsidiaries, joint ventures and associates are involved in all aspects of upstream activities, including land tenure, entitlement to produced hydrocarbons, production rates, royalties, pricing, environmental protection, social impact, exports, taxes and foreign exchange.

The conditions of the leases, licences and contracts under which oil and gas interests are held vary from country to country. In almost all cases outside North America, legal agreements are generally granted by, or entered into with, a government, state-owned company, government-run oil and gas company or agency. The exploration risk usually rests with the independent oil and gas company. In North America, these agreements may also be with private parties that own mineral rights. Of these agreements, the following are most relevant to our interests:

- Licences (or concessions), which entitle the holder to explore for hydrocarbons and exploit any commercial discoveries. Under a licence, the holder bears the risk of exploration, development and production activities, and is responsible for financing these activities. In principle, the licence holder is entitled to the totality of production less any royalties in kind. The government, state-owned company or government-run oil and gas company may sometimes enter into a joint arrangement as a participant, sharing the rights and obligations of the licence but usually without sharing the exploration risk. In a few cases, the state-owned company, government-run oil and gas company or agency has an option to purchase a certain share of production.
- Lease agreements, which are typically used in North America and are usually governed by terms similar to licences. Participants may include governments or private entities. Royalties are either paid in cash or in kind.
- Production-sharing contracts (PSCs) entered into with a government, state-owned company or government-run oil and gas

company. PSCs generally oblige the independent oil and gas company, as contractor, to provide all the financing and bear the risk of exploration, development and production activities in exchange for a share of the production. Usually, this share consists of a fixed or variable part that is reserved for the recovery of the contractor's cost (cost oil). The remaining production is split with the government, state-owned company or government-run oil and gas company on a fixed or volume/revenue-dependent basis. In some cases, the government, state-owned company or government-run oil and gas company will participate in the rights and obligations of the contractor and will share in the costs of development and production. Such participation can be across the venture or on a field-by-field basis. Additionally, as the price of oil or gas increases above certain predetermined levels, the independent oil and gas company's entitlement share of production normally decreases, and vice versa. Accordingly, its interest in a project may not be the same as its entitlement.

Europe

Germany

Shell and ExxonMobil are 50:50 shareholders of BEB Erdgas und Erdoel GmbH & Co. KG (BEB) which owns interests in various concessions mainly in Lower Saxony. ExxonMobil Production Deutschland GmbH has a service contract with BEB under which it provides operating services to BEB for most of the concessions.

Italy

Shell has a 39% interest in the Val d'Agri producing concession, operated by ENI S.p.A.

We also have a 25% interest in the Tempa Rossa producing concession, operated by TotalEnergies EP Italia S.p.A.

Netherlands

Shell and ExxonMobil are 50:50 shareholders in Nederlandse Aardolie Maatschappij B.V. (NAM). NAM holds a 60% interest in the onshore low-calorific Groningen gas field (the remaining 40% interest is held by EBN, a Dutch government entity), the Schoonebeek oil field and some 25 smaller hydrocarbon production licences.

Production from the Groningen field induces earthquakes which have led to damage claims, security concerns, a strengthening operation to make buildings earthquake resistant and calls from residents and local politicians to close the field.

Since 2013, the Dutch government has set the annual production and capacity target for the Groningen field which for the gas year 2022-2023 (ending October 1, 2023) was set at 2.8 billion cubic metres. For 2021-2022 the production level was set at 4.5 billion cubic metres.

In June 2018, NAM's shareholders and the Dutch government signed a heads of agreement (HoA) to reduce and eventually stop production from the Groningen field, and to ensure the financial robustness of NAM to fulfil its obligations. Pursuant to this HoA no dividend is expected for 2022 as dividend payments can only be made if a solvency ratio of 25% is reached and maintained.

In September 2018, detailed agreements were signed to further implement the HoA. As part of these agreements, Shell has guaranteed 50% of NAM's 60% share of earthquake-related costs for damage claims and the strengthening of buildings. Whilst the Dutch government has responsibility for issuing production instructions for annual Groningen production and has set up public entities for settling damage claims and strengthening buildings, NAM remains liable to pay for damage caused by earthquakes and strengthening required to comply with the safety norm. Under the terms of the HoA, it was agreed that the Dutch government would pass on to NAM costs insofar

as the costs corresponded to NAM's liability. In 2022, NAM started arbitrations with the Dutch government to have its financial liability determined for costs which the Dutch government compensated to claimants and subsequently charged to NAM.

In September 2019, the Dutch government announced that the reduction of Groningen production would be accelerated and that production would cease in 2022, eight years earlier than planned in the HoA. This has been revised to 2023 or 2024, provided that certain conditions are met, including the timely start-up of a new nitrogen plant, sufficient reduction in demand for low-cal gas, usage of NAM's underground gas storages (UGS) in Grijpskerk and Norg, and sufficient supply of high-cal gas. Compensation payments are made by the government to NAM for the revised usage of the Norg UGS. Discussions continue between the Dutch government and NAM shareholders regarding the compensation payable by the Dutch government to NAM in order to give effect to the terms of the HoA.

The parliamentary enquiry into the production of gas from Groningen and the subsequent effects of the earthquakes moved into the public hearings phase in 2022 and the final report was published on February 24, 2023.

On October 26, 2021, NAM announced that it would split up its non-Groningen assets into several new legal entities, with the intent to divest those legal entities.

Norway

Shell is a partner in 20 production licences on the Norwegian continental shelf, and the operator of eight of these. We have interests in two gas-producing fields: Shell-operated Ormen Lange (Shell interest 17.8%) and Equinor-operated Troll (Shell interest 8.1%). In 2022, a plan for development and operation was submitted for government approval for the Equinor-operated gas discovery Irpa (Shell interest 10%), as a tie-back to the Aasta Hansteen field. We are also the operator of two fields which are being decommissioned: Knarr (which ceased production in 2022) and Gaupe. In addition, we are the technical service provider for the Gassco-operated Nyhamna processing plant.

UK

Shell operates a number of interests on the UK continental shelf under 50:50 joint-venture agreements with Neo Energy and has a 50:50 joint venture agreement with ExxonMobil for the SEGAL gas transportation system; the Brent Field, which is being decommissioned; and other assets in the North Sea. Shell also has non-operated positions in the West of Shetland area, namely Clair (Shell interest 27.97%) and Schiehallion (Shell interest 44.89%), both operated by BP.

In May 2022, the UK's Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) approved the revised environmental statement for the Jackdaw gas field development and gave production consent in June 2022. In July, Greenpeace applied for a judicial review of the Regulator's decision. The application has, at Greenpeace's request, been put on hold pending the decision by the UK Supreme Court on another case which concerns similar legal issues, and which will likely be heard in the second half of 2023. If the hold on Greenpeace's judicial review application is lifted, we currently believe there is a relatively low risk of disruption to the Jackdaw project, in terms of delays and/or changes to the project. The project is expected to come on stream in the mid-2020s.

In 2022, Shell drilled five exploration wells on the UK continental shelf.

From April 2022, Shell assumed the role of technical development lead for the CO₂ capture, transportation and storage modules of the Acorn carbon capture, utilisation and storage (CCUS) and hydrogen project. Acorn is part of the Scottish Cluster, which continues to be the Track 1 reserve cluster in the UK government's CCUS cluster sequencing process. This means that if another cluster selected as Track 1 is discontinued the Scottish Cluster may take its place.

In November 2022, Shell completed the acquisition of a 100% interest in Corallian Energy Limited. The interest comprises the P.2596 licence containing the Victory field gas discovery west of Shetland which is expected to be a subsea tie-back to existing infrastructure tied into the Shetland Gas Plant. Gas would be exported via existing pipelines to the North Sea Midstream Partners operated plant at St Fergus, helping to ensure longer-term gas supply for the UK.

Decommissioning of the Heather A platform and Curlew floating production, storage and offloading (FPSO) asset continued in 2022. Production from Brent Charlie ceased in the first quarter of 2021 and topsides preparations are ongoing in readiness for the lift, removal and recycling of the facilities. OPRED continues to assess the Brent Field decommissioning programme, which pertains to the Brent gravity-based substructures.

Rest of Europe

Shell also has interests in Albania.

Asia (including the Middle East and Russia)

Brunei

Shell and the Brunei government are 50:50 shareholders in Brunei Shell Petroleum Company Sendirian Berhad (BSP). BSP has long-term onshore and offshore oil and gas concession rights and sells most of its gas production to Brunei LNG Sendirian Berhad, with the remainder sold in the domestic market.

See "Integrated Gas" on pages 42-47.

In addition to our interest in BSP, we have a non-operating interest in the offshore Block B concession (Shell interest 35%, operated by TotalEnergies), where gas and condensate are produced from the Maharaja Lela field.

We have a non-operating interest in a gas holding area for deep-water Block CA2 (Shell interest 12.5%, operated by Petronas), under a PSC.

We operate the deep-water Block CA1 (Shell interest 86.95%), in which the Jagus-East field is located, under a PSC. As referred to in the Malaysia section below, the Jagus-East field and the Geronggong field, held by BSP, form part of the unitised GKGJE field.

Iraq

Shell has a 44% interest in the Basrah Gas Company, which gathers, treats and processes associated gas that was previously being flared from the Rumaila, West Qurna 1 and Zubair fields. The processed gas and associated products, such as condensate and LPG, are sold to the domestic market. Any surplus condensate and LPG is exported.

Kazakhstan

Shell is the joint operator with ENI S.p.A. of the onshore Karachaganak oil and condensate field (Shell interest 29.3%). The Karachaganak field is in north-west Kazakhstan and covers an area of more than 280 square kilometres.

We also have an interest in the North Caspian Sea Production Sharing Agreement (Shell interest 16.8%) which includes the Kashagan field in the Kazakh sector of the Caspian Sea. The North Caspian Operating Company is the operator. This shallow-water field covers an area of around 3,400 square kilometres.

We have a 7.4% interest in the Caspian Pipeline Consortium which owns and operates an oil pipeline running from the Caspian Sea to the Black Sea, across parts of Kazakhstan and Russia. We hold our interest in the Caspian Pipeline Consortium via three legal entities, two of which are wholly owned by Shell, and the other is a joint venture with Rosneft (Shell interest 49%), Rosneft-Shell Caspian Ventures Ltd (Cyprus) (RSCV), which was formed in 1996 to primarily own and manage pipeline capacity rights. We continue to manage that part of our interest in CPC held through RSCV in full compliance with applicable laws.

Malaysia

Shell explores for and produces oil and gas off the coast of Sabah and Sarawak under 21 PSCs, in which our interests range from 20% to 92.5%.

Offshore Sabah

- We operate two producing oil fields: (i) the Malikai deep-water field (Shell interest 35%), and (ii) the unutilised GKGJE field consisting of the Malaysian Gumusut and Kakap fields and the Bruneian Geronggong and Jagus-East fields that straddle the Malaysia-Brunei border and have been made into a single unit. Shell's interest in the unutilised field is 37.89%. In June 2022, we took the final investment decision on the GKGJE Phase 4 oil development project. In July 2022, we achieved first oil for the Phase 3 development.
- In March 2022, we signed two new exploration PSCs for Block 2W and X (Shell interest 50% each).
- In our non-operated portfolio:
 - We have a 21% interest in the Siakap North-Petai deep-water field and a 30% interest in the Keabangan field.
 - In October 2022, we signed a new exploration PSC for Block SB 2K (Shell interest 25.1%).
 - In February 2023, we completed the farm-in to one exploration PSC for Block SB2V (Shell interest 40%).

Offshore Sarawak

- We are the operator of eight producing gas fields and one producing oil and gas field. Nearly all the gas produced offshore Sarawak is supplied to Malaysia LNG (MLNG) and to our gas-to-liquids plant in Bintulu. The fields are:
 - gas fields F6, F23, E8, F13 East and F13 West under the MLNG PSC (Shell interest 40%);
 - gas fields F14 and F28 under the SK308 PSC (Shell interest 50%);
 - gas field Gorek under the SK408 PSC (Shell Interest 30%); and
 - oil and gas field E6 under the SK308 PSC (Shell interest 50%).

See "Integrated Gas" on pages 42-47.

- We are also the operator for Block SK318 PSC. This block contains the Timi field (Shell interest 75%) which is under development, and the Rosmari-Marjoram fields (Shell interest 80%). In September 2022, together with PETRONAS Carigali Sdn Bhd, we took the final investment decision to develop the Rosmari-Marjoram natural gas project. Situated around 220 kilometres off the coast of Bintulu, the project comprises a remotely operated offshore platform and onshore gas plant. Rosmari-Marjoram will mainly be powered by renewable energy from solar power offshore and hydroelectric power onshore.
- In November 2022, we progressed with the execution of the MLNG F22, F27, Selasih (FaS) project, which comprises a single well development in each of the F22, F27 and Selasih fields to be drilled from the wellhead platforms with tie-backs to the F23 hub.
- In March 2022, we signed one new exploration PSC for Block SK439 and SK440 (Shell interest 92.5%). In February 2023, we signed one new PSC for Block SK3B (Shell interest 45%).
- In our non-operated portfolio:
 - First gas was achieved for SK320 (Shell interest 20%) in April 2022.



Using renewables to produce gas in Malaysia

In 2022, we took the final investment decision to develop the Rosmari-Marjoram gas production project in Malaysia. The project will be mainly powered by renewable energy, using solar power for its remotely operated offshore platform and hydroelectric power for its onshore gas plant.

Rosmari-Marjoram is designed to produce 800 million standard cubic feet of gas per day and is expected to start production in 2026. The project will include one of the longest gas offshore pipelines in the world, stretching more than 200 kilometres from the field to the coast of Sarawak. Once production starts, the gas will be piped to the Malaysia liquefied natural gas (Malaysia LNG) complex.

Rosmari-Marjoram will help Shell deliver a reliable supply of gas and do this while reducing the emissions from our operations. This is in line with our Powering Progress energy transition strategy to become a net-zero business by 2050.

The project team has demonstrated ingenuity and applied a learner mindset to the design, evolving the project from a conventional offshore processing platform to a carbon-competitive onshore gas plant. Shell focuses on seeking the highest return from investments within the lowest possible carbon emissions budget.

Rosmari-Marjoram's offshore platform will use power from 240 solar panels and the onshore plant is connected to the Sarawak grid system, which is supplied mainly by hydroelectric plants. Batteries and diesel generators will be held in reserve as back-up to ensure the safety of our operations.

Photo: The Rosmari-Marjoram gas project will feed the Bintulu LNG export plant in Sarawak, Malaysia.

Generating shareholder value | Upstream continued

- We have a 30% interest in Jerun which is part of the Block SK408 PSC. Jerun is a gas development with an integrated central processing platform. Block SK408 also contains the producing non-Shell-operated Larak and Bakong fields.
- We also have a 40% interest in the amended 2011 Baram Delta enhanced oil recovery PSC and a 50% interest in the SK307 PSC. In December 2022, Shell signed an agreement to sell its non-operated interests in these two PSCs to Petroleum Sarawak Exploration and Production Sdn Bhd (PSEP), effective January 1, 2023. The sale is expected to be completed in early 2023, subject to completion of conditions which include, amongst others, regulatory approval.

Oman

Shell has a 34% interest in Petroleum Development Oman (PDO), which operates the Block 6 oil concession. Shell is entitled to 34% of oil produced from Block 6 through its interest in Private Oil Holdings Oman Ltd. The government of Oman has a 60% interest in PDO and the Block 6 oil concession through its 100% owned company, Energy Development Oman (EDO). PDO operates a concession area of about 90,000 square kilometres and has more than 200 producing oil fields.

We have a 50% interest in Block 42 under an Exploration and Production Sharing Agreement (EPSA) where Shell is the operator. The other 50% interest is held by the government through its 100% owned company, OQ. We have a 100% interest in Block 55 under an EPSA.

Russia

Shell announced in the first quarter of 2022 its intent to withdraw from its ventures in Russia with Gazprom and related entities.

See Note 6, which is incorporated by reference into the Strategic Report, on pages 242-244 for the actions we have taken since these announcements and for the impact on the "Consolidated Financial Statements".

Syria

Shell holds a 65% interest in Syria Shell Petroleum Development B.V. (SSPD), a joint venture between Shell and the China National Petroleum Corporation. SSPD holds a 31.25% interest in Al Furat Petroleum Company, a Syrian joint stock company, whose role was to perform petroleum operations. Shell also holds a 70% interest in two exploration licences via Shell South Syria Exploration B.V. In December 2011, in compliance with international sanctions on Syria, including European Council Decision 2011/782/CFSP, Shell suspended all exploration and production activities in Syria. SSPD continued to fulfil minimum contractual obligations towards the Syrian finance and labour ministries, in compliance with applicable trade control laws. In 2022, as part of the minimum contractual obligations, payments for taxes related to salary and social security amounted to \$1,400.

Rest of Middle East and Asia

Shell also has interests in Kuwait and the United Arab Emirates.

On November 1, 2022, Shell Petroleum N.V. completed the sale of its 100% shareholding in Shell Philippines Exploration B.V. (SPEX) to Malampaya Energy XP Pte Ltd, a subsidiary of Prime Infrastructure Capital Inc (Prime Infra). SPEX owns a 45% operating interest and is operator in Service Contract 38, which includes the Malampaya gas field. The sale completion transferred ownership and control of SPEX to Prime Infra.

Africa

Nigeria

Shell operates a number of interests in onshore and offshore oil exploration and production assets in Nigeria.

Onshore

The Shell Petroleum Development Company of Nigeria Limited (SPDC) is the operator of the SPDC joint venture (SPDC JV, Shell interest 30%) which, after the handover of its operations in OML 11 in 2022, has 15 Niger Delta onshore oil mining leases (OMLs).

SPDC also has three shallow-water oil mining leases (OML 74, 77 and 79) and a 40% interest in the non-operated Sunlink joint venture which has one shallow-water lease (OML 144).

In 2021, we announced our intention to reduce our involvement in onshore oil production in Nigeria, in line with our Powering Progress strategy.

Offshore

Our main offshore deep-water activities are carried out by Shell Nigeria Exploration and Production Company Limited (SNEPCo, Shell interest 100%). SNEPCo has interests in three deep-water blocks that are under PSC terms: the producing assets Bonga (OML 118) and Erha (OML 133), and the non-producing asset Bolia Chota (OML 135). SNEPCo operates OML 118 (Shell interest 55%), including the Bonga field FPSO vessel. We also operate OML 135, encompassing the Bolia and Doro fields (Shell interest 55%). We have a 43.8% non-operating interest in OML 133 (including the Erha FPSO).

In 2022, OML 118 and OML 133 were renewed for 20 years following settlement of disputes regarding historic allocation of production between Nigerian National Petroleum Corporation (NNPC) and the parties to the PSCs.

Authorities are investigating our involvement in Nigerian oil Block OPL 245 and the 2011 settlement of litigation pertaining to that block.

See Note 31 to the "Consolidated Financial Statements" on pages 283-285.

Business update

In August 2021, the Petroleum Industry Act (PIA) entered into effect, creating a new regulatory framework for the petroleum industry in Nigeria. The PIA introduces significant changes and we are actively engaged in the implementation process to ensure that these changes are implemented in a timely manner in our operations.

In 2022, our share of production, onshore and offshore, in Nigeria was 131 thousand boe/d, compared with 175 thousand boe/d in 2021. Security issues, sabotage and crude oil theft in the Niger Delta continued and remained significant challenges to our onshore operations in 2022, leading to a significant reduction of crude available for export from the Bonny terminal for several months. We will continue to monitor the situation closely and evaluate implications for the integrity of our infrastructure and the sustainability of our current operations. We continue to put the safety of our employees and contractors first.

In our Nigerian operations, we face various risks and adverse conditions which could have a significant adverse effect on our operational performance, earnings, cash flows and financial condition.

See "Risk factors" on page 25.

There are limitations to the extent to which we can mitigate these risks. We liaise with host communities, and governmental and non-governmental organisations to help promote peaceful and safe operations for our people and local communities. We carry out regular portfolio assessments so we can maintain our long-term competitiveness in Nigeria. We support the Nigerian government's efforts to improve the efficiency, functionality and domestic benefits of Nigeria's oil and gas industry. We monitor legislative developments and the security situation. We continue to be transparent about how we manage and

report spills, and how we respond to spills. We implement a maintenance strategy to support sustainable equipment reliability and have begun a multi-year programme to reduce routine flaring of associated gas.

See "Our Journey to net zero" on pages 82-109.

Rest of Africa

Shell also has interests in Algeria, Mauritania, Namibia, Sao Tome and Principe, South Africa and Tunisia.

In 2021, Shell announced plans to hand back to the government of Tunisia upstream assets associated with the Miskar and Hasdrubal concessions. In 2022, Shell handed back the Miskar concession upon its expiry. Discussions continue regarding the Hasdrubal hand-back.

North America

Canada

Shales assets in Canada are now reported as part of the Integrated Gas segment instead of the Upstream segment.

See "Integrated Gas" on pages 42-47.

USA

The majority of our oil and gas interests in the USA comprise leases for federal offshore tracts in the deep waters of the Gulf of Mexico. Such leases usually have a fixed primary term and, once production is established, the leases remain in effect through continued production, subject to compliance with the terms and provisions of the leases (including appurtenant applicable laws and regulations).

In February 2023, we sold our 100% interest in Shell Onshore Ventures LLC, which holds a 51.8% membership interest in Aera Energy LLC to IKAV.

Shell holds one licence interest in the North Slope area of Alaska. In 2020, we received regulatory approval to combine our near-shore leases in West Harrison Bay into a single unit. Shell is currently seeking a co-owner to operate the unit.

Gulf of Mexico

Shell's major production area in the USA is the Gulf of Mexico. We have a total of 327 active federal offshore leases where Shell is the operator and an additional 103 active federal offshore leases where Shell has a non-operated interest.

We are the operator of eight production hubs: Mars (Shell interests ranging from 33.7% to 100%), Olympus (Shell interests ranging from 71.5% to 100%), Auger (Shell interests ranging from 27.5% to 100%), Perdido (Shell interests ranging from 33.3% to 40%), Ursa (Shell interests ranging from 40% to 80%), Enchilada/Salsa (Shell interests ranging from 37.5% to 75%), Appomattox (Shell interest 79%) and Stones (Shell interest 100%). We also have the West Delta 143 processing facilities (Shell interest 71.5%).

We continue to produce from Coulomb (Shell interest 100%) which ties into the Na Kika platform (Shell interest 50%) operated by BP.

We continued exploration, development and abandonment activities in the Gulf of Mexico in 2022.

In March 2022, we began production at PowerNap (Shell interest 100%), a subsea tie-back to the Shell-operated Olympus tension leg platform (Shell interest 71.5%) in the Mars Corridor. PowerNap is expected to produce up to 20,000 barrels of oil equivalent per day (boe/d) at peak rates.



Vito - delivering value with a smaller, less costly design

Upstream seeks to deliver more value for shareholders by producing oil and gas more cost competitively, while striving for lower carbon emissions. Shell has more than 40 years of deep-water experience and we are constantly learning.

We planned a new Shell-operated deep-water platform for the Gulf of Mexico, Vito (Shell interest 63.1%), and then redesigned it to be simpler and more cost-efficient. The result: a platform a third of its original planned size at 70% less cost. The Vito team rose to the challenge and achieved first production in February 2023. Peak production is estimated at 100,000 barrels of oil equivalent per day.

Vito's simplified hull design reduces operating expenses since it requires less maintenance. Its simplified mooring design requires less equipment, less capital investment and reduces safety exposures to operators. By limiting the topside scope to a weight less than 9,000 tonnes, this new design focused on being less complex to operate and less expensive to build.

Vito has not only delivered shareholder value but will also pave the way for other deep-water developments through innovation and simplification. Our Shell-operated Whale project (Shell interest 60%), also in the Gulf of Mexico and approved in 2021, will follow suit and replicate much of Vito's smaller, more cost-effective design.

Photo: In July 2022, our latest deep-water project, Vito, set sail from Ingleside, Texas to go out for installation in the US Gulf of Mexico.

Together with our partner, China National Offshore Oil Corporation (CNOOC), we have reached a final investment decision (FID) on Rydberg (Shell interest 80%). It is a subsea tie-back to the Shell-operated Appomattox production hub (Shell interest 79%). The project is expected to start production in 2024 and produce up to 16,000 barrels of oil equivalent per day (boe/d) at peak rates.

In June 2022, we acquired a 51% operated interest from Equinor in the North Platte deep-water development project. To reflect Shell's entry to the project, Shell and Equinor have agreed to rename the North Platte opportunity to Sparta. Front-end engineering and design (FEED) has been well matured, and Shell is working closely with Equinor to progress the opportunity.

In February 2023, we began production at the Shell-operated Vito floating production facility (Shell interest 63.1%). Vito is expected to produce up to 100,000 barrels of oil equivalent per day (boe/d) at peak rates. We also made progress on the development of Whale (Shell interest 60%), which is a Shell-operated stand-alone host in the execution phase, expected to achieve first oil in late 2024.

The 2022 Atlantic hurricane season did not have a material impact on production at our Gulf of Mexico assets.

Rest of North America

Shell also has deep-water licences and one shallow-water licence in Mexico.

South America

Argentina

Shell has interests in the onshore Vaca Muerta Basin in the Neuquén Province. We are the operator of the Cruz de Lorena, Sierras Blancas and Coiron Amargo Sur Oeste (Shell interest 90% each), and Bajada de Añelo (Shell interest 50%) areas. We have non-operated interests in the areas of Rincon La Ceniza and La Escalonada (Shell interest 45% each), both operated by Total Austral S.A., and in the Bandurria Sur area (Shell interest 30%), operated by YPF S.A. We are the operator of a joint venture created for the construction of a pipeline which connects Sierras Blancas and the regional distribution network (Shell interest 60%).

In the north-western Argentina basin, we have a non-operated interest in the onshore Acambuco area (Shell interest 22.5%), operated by Pan American Energy.

In addition to the producing interests, we are the operator of two frontier exploration areas offshore Argentina (Shell interest 60% each) and we have a non-operated interest in an adjacent area (Shell interest 30%), operated by Equinor.

Brazil

Shell's operated assets in Brazil consist of the Bijupirá and Salema fields (Shell interest 80% each), which are being decommissioned; the producing BC-10 field (Shell interest 50%) in the Campos Basin; the Gato do Mato and the adjacent Sul de Gato do Mato areas in the Santos Basin (Shell interest 50%), subject to unitisation and with development options under evaluation. We also hold an interest in 13 exploration blocks in the Santos Basin (Shell interests ranging from 45% to 100%), 10 blocks in the Barreirinhas Basin (Shell interests ranging from 50% to 100%), four blocks in the Campos Basin (Shell interests ranging from 40% to 100%) and one block in the Potiguar Basin (Shell interest 100%).

Our non-operated portfolio consists of eight producing fields in the offshore Santos Basin: the Sapinhoá field (Shell interest 30%, operated by Petrobras and straddling the BM-S-9 and Entorno de Sapinhoá blocks already unitised); the Lapa field (Shell interest 30% in Block BM-S-9A, operated by TotalEnergies); the Berbigão and Sururu fields (Shell interest 25% in Block BM-S-11A, operated by Petrobras and subject to ongoing unitisation agreement discussions); the Atapu field (Shell interest 16.7% and straddling the BM-S-11A and Atapu PSC area already unitised); the Tupi field (Shell interest 23%, already unitised, in Block BM-S-11 and operated by Petrobras); the Iracema field (Shell interest 25% in Block BM-S-11 and operated by Petrobras); and the Mero field in the Libra PSC area (Shell interest 20%, unitisation with an adjoining area still subject to government approval and operated by Petrobras).

In addition to the producing assets, we hold interests in four non-operated exploration blocks, two in the Santos Basin (Shell interest of 20% and 40%, both operated by Petrobras) and two in the Potiguar Basin (Shell interest 40%, both operated by Petrobras).

The FPSO Guanabara production started in the Mero field in April 2022, offshore Santos Basin. Mero is expected to receive three more FPSOs and start producing from these between 2023 and 2025.

In April 2022, we signed the PSC related to the acquisition of 25% of Atapu Transfer of Rights area (acquired in the ANP bid round in 2021) and increasing Shell's interest in the Atapu field from 4.3% to 16.7%.

In December 2022, Shell placed a successful bid in the ANP's Permanent Offer PSC bid round for the acquisition of 40% of the Sudoeste de Sagitário block in the Santos Basin and is awaiting ratification.

Rest of South America

Shell also has interests in Suriname and Uruguay.

Trading and supply

Shell markets and trades crude oil from most of its Upstream operations.

Generating shareholder value

Oil and gas information

Proved developed and undeveloped reserves of Shell subsidiaries and Shell share of joint ventures and associates

	Crude oil and natural gas liquids (million barrels)	Synthetic crude oil (million barrels)	Natural gas (thousand million scf)	Total (million boe)[A]
Shell subsidiaries				
Increase/(decrease) in 2022:				
Revisions and reclassifications	137	(25)	(31)	107
Improved recovery	32	—	—	32
Extensions and discoveries	61	—	1,270	280
Purchases and sales of minerals in place	66	240	662	420
Total before taking production into account	296	215	1,901	839
Production [B]	(504)	(17)	(2,648)	(978)
Total	(208)	198	(747)	(139)
At January 1, 2022	3,820	533	23,795	8,456
At December 31, 2022	3,612	731	23,048	8,317
Shell share of joint ventures and associates				
Increase/(decrease) in 2022:				
Revisions and reclassifications	(25)	—	(733)	(152)
Improved recovery	—	—	—	—
Extensions and discoveries	4	—	80	18
Purchases and sales of minerals in place	159	—	2,549	599
Total before taking production into account	138	—	1,896	465
Production [C]	(29)	—	(486)	(113)
Total	109	—	1,410	352
At January 1, 2022	228	—	3,949	909
At December 31, 2022	337	—	5,359	1,261
Total	—	—	—	—
Increase/(decrease) before taking production into account	434	215	3,797	1,304
Production	(533)	(17)	(3,134)	(1,091)
Increase/(decrease)	(99)	198	663	213
At January 1, 2022	4,048	533	27,744	9,365
At December 31, 2022	3,949	731	28,407	9,578
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31, 2022	—	365	—	365

[A] Natural gas volumes are converted into oil equivalent using a factor of 5,800 standard cubic feet (scf) per barrel.

[B] Included 40 million boe consumed in operations (natural gas: 228 thousand million scf; synthetic crude oil: 1 million barrels).

[C] Included 5 million boe consumed in operations (natural gas: 31 thousand million scf).

Generating shareholder value | Oil and gas information continued

Proved reserves

The proved oil and gas reserves of Shell subsidiaries and the Shell share of the proved oil and gas reserves of joint ventures and associates are set out in more detail in "Supplementary Information

– Oil and Gas (unaudited)" on pages 288-306.

Before taking production into account, our proved reserves increased by 1,304 million boe in 2022. This consisted of an increase of 839 million boe from Shell subsidiaries and an increase of 465 million boe from the Shell share of joint ventures and associates. After taking production into account, our proved reserves increased by 213 million boe in 2022 to 9,578 million boe at December 31, 2022.

Shell subsidiaries

Before taking production into account, Shell subsidiaries' proved reserves increased by 839 million boe in 2022. This consisted of an increase of 296 million barrels of crude oil and natural gas liquids, an increase of 328 million boe (1,901 thousand million scf) of natural gas and an increase of 215 million barrels of synthetic crude oil. The 839 million boe increase is the net effect of a net increase of 107 million boe from revisions and reclassifications, an increase of 280 million boe from extensions and discoveries, an increase of 32 million boe from improved recovery, and a net increase of 420 million boe related to purchases and sales of minerals in place.

After taking into account production of 978 million boe (of which 40 million boe were consumed in operations), Shell subsidiaries' proved reserves decreased by 139 million boe in 2022 to 8,317 million boe. In 2022, Shell's subsidiaries proved developed reserves (PD) decreased by 519 million boe to 6,221 million boe and proved undeveloped reserves (PUD) increased by 380 million boe to 2,096 million boe.

Shell share of joint ventures and associates

Before taking production into account, the Shell share of joint ventures and associates' proved reserves increased by 465 million boe in 2022. This consisted of an increase of 138 million barrels of crude oil and natural gas liquids and an increase of 327 million boe (1,896 thousand million scf) of natural gas. The 465 million boe increase comprised a net decrease of 152 million boe from revisions and reclassifications, an increase of 18 million boe from extensions and discoveries and an increase of 599 million boe from purchase of minerals in place.

After taking into account production of 113 million boe (of which 5 million boe were consumed in operations), the Shell share of joint ventures and associates' proved reserves increased by 352 million boe to 1,261 million boe at December 31, 2022.

The Shell share of joint ventures and associates' proved developed reserves (PD) decreased by 193 million boe to 608 million boe, and proved undeveloped reserves (PUD) increased by 545 million boe to 653 million boe.

For further information, see "Supplementary Information - oil and gas (unaudited)" on pages 288-306.

Proved undeveloped reserves

In 2022, Shell subsidiaries and the Shell share of joint ventures and associates' PUD increased by 925 million boe to 2,749 million boe. There were decreases of 331 million boe as a result of maturation to PD, mainly 39 million boe in Mero (Brazil), 31 million boe in Pierce (UK), and 261 million boe spread across other fields. This was a decrease of 116 million boe as a result of revisions, reclassifications and entitlement changes, which were mainly because of the de-recognition of reserves in Russia and de-maturation of some PUD wells in British Columbia, Canada, after regulator authorisations were suspended

in 2022. These were offset by an increase of 301 million as a result of de-maturation of PD to PUD, mainly due to 262 million boe in Kashagan (Kazakhstan), where a new slug catcher needs to be installed, an increase of 32 million boe due to improved recovery, a net increase of 741 million boe due to purchases and sales of minerals in place and a net increase of 298 million boe due to extensions and discoveries, mainly due to 102 million boe in Crux (Australia), 78 million boe in Marjoram (Malaysia), and 118 million boe spread across other fields.

In addition to the maturation of 331 million boe from PUD to PD, 126 million boe was matured to PD from contingent resources through PUD as a result of project execution during the year.

PUD held for five years or more (PUD5+) at December 31, 2022, amounted to 156 million boe, a decrease of 82 million boe compared with the end of 2021. The decrease in PUD5+ during 2022 was driven mainly by changes in Lunskeye (Russia) and Kolo Creek (Nigeria).

The fields with the largest PUD5+ on December 31, 2022, were Gorgon (Australia) and Tupi (Brazil). These PUD5+ remain undeveloped because of the complexity and scale of the project (Australia) or because ongoing development requires the ongoing drilling of additional wells (Brazil).

During 2022, we spent \$5.8 billion on development activities related to PUD maturation.

Delivery commitments

We sell crude oil and natural gas from our producing operations under a variety of contractual obligations. Most contracts generally commit us to sell quantities based on production from specified properties, although some natural gas sales contracts specify delivery of fixed and determinable quantities, as discussed below.

In the past three years, we met our contractual delivery commitments, with the notable exceptions of Egypt, Trinidad and Tobago, and Malaysia. In the period 2023-2025, we are contractually committed to deliver to third parties, joint ventures and associates a total of 5,870 billion scf of natural gas from our subsidiaries, joint ventures and associates. The sales contracts contain a mixture of fixed and variable pricing formulae that are generally referenced to the prevailing market price for crude oil, natural gas or other petroleum products at the time of delivery.

In the period 2023-2025, we expect to meet our delivery commitments for almost all the areas in which they are carried, with an estimated 71% coming from PD, 5% through the delivery of gas that becomes available to us from paying royalties in cash, and 24% from the development of PUD as well as other new projects and purchases.

The key exceptions are:

- In Egypt, the expected shortfall of 491 billion scf (85% of the promised gas delivery) for the 2023-2025 period is mainly caused by the performance of the West Delta Deep Marine fields being insufficient to meet the committed quantities to ELNG. If the government divert more gas to the domestic market, this would increase the shortfall.
- In Trinidad and Tobago (North Coast Marine Area), we expect to cover 77% of our delivery commitments from existing developed resource volumes and new projects, resulting in an expected true shortfall of some 62 billion scf.
- In Malaysia, one of the third-party gas supply lines which was under maintenance has not been repaired during 2022. Force majeure has been declared, and no penalties have been incurred, resulting in an expected true shortfall of some 77 billion scf (64% of the promised gas delivery).

Summary of proved oil and gas reserves of Shell subsidiaries and Shell share of joint ventures and associates (at December 31, 2022)

Based on average prices for 2022

	Crude oil and natural gas liquids (million barrels)	Natural gas (thousand million scf)	Synthetic crude oil (million barrels)	Total (million boe)[A]
Proved developed				
Europe	143	2,635	—	597
Asia	1,153	8,959	—	2,698
Oceania	73	4,240	—	804
Africa	187	984	—	356
North America				
USA	356	275	—	404
Canada	3	712	731	857
South America	838	1,589	—	1,113
Total proved developed	2,753	19,394	731	6,829
Proved undeveloped				
Europe	52	424	—	125
Asia	585	5,127	—	1,469
Oceania	33	1,878	—	356
Africa	31	857	—	179
North America				
USA	187	246	—	229
Canada	1	244	—	43
South America	307	237	—	348
Total proved undeveloped	1,196	9,013	—	2,749
Total proved developed and undeveloped				
Europe	195	3,059	—	722
Asia	1,738	14,086	—	4,167
Oceania	106	6,118	—	1,160
Africa	218	1,841	—	535
North America				
USA	543	521	—	633
Canada	4	956	731	900
South America	1,145	1,826	—	1,461
Total	3,949	28,407	731	9,578
Reserves attributable to non-controlling interest in Shell subsidiaries			365	365

[A] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

Generating shareholder value | Oil and gas information continued

Exploration

Shell's exploration team searches for crude oil and gas, both onshore and offshore. Exploration may result in discoveries of oil and gas that we can develop, helping maintain energy security and contributing to our Powering Progress strategy.

In 2022, producible hydrocarbons were encountered in Malaysia, the UK and the Gulf of Mexico. Hydrocarbons were also encountered in Namibia and further appraisal is being undertaken to determine producibility.

Gulf of Mexico

In 2022, Shell acquired 20 blocks in the Gulf of Mexico in Lease Sale 257. We relinquished a lease for one block ahead of expiration.

Brazil

In 2022, the Brazilian government ratified 11 Santos Basin blocks. Shell secured five blocks in the 2021 17th National Petroleum Agency Bid-Round and the remaining six in the 2022 3rd Permanent Offer Concession Bid-Round (Shell interest 70% in seven of them, 100% in the remaining four, operator in all cases). We also secured one Santos block in 2022 1st Production Sharing Permanent Offer Bid-Round in Brazil (Shell interest 40%, non-operated), which is awaiting government ratification.

Malaysia

In 2022, Shell relinquished one non-operated Sabah block (Shell interest 50%). We signed three exploration PSCs for the offshore Sarawak and Sabah blocks (Shell interest 92.5% in two Sarawak blocks, 50% in two Sabah blocks, operator). We also signed an exploration PSC for another non-operated Sabah block (Shell interest 25.1%).

UK

In 2022, Shell farmed into three exploration licences in the UK's southern North Sea area (Shell interest 50%, non-operated).

New frontiers

In June 2022, Shell secured two blocks in the Open Uruguay Round, which are awaiting government ratification (Shell interest 100%, operator).

In September 2022, we took over an additional 50% participating interest in two operated blocks offshore Sao Tome and Principe, after the withdrawal of a partner, giving us a total interest of 85% in both blocks.

In December 2022, we completed the farm-out of a 45% non-operated participating interest in a deep-water exploration licence off the Western Cape of South Africa.

For further information, see "Supplementary Information - oil and gas (unaudited)" on pages 288-306.

Location of oil and gas exploration and production activities

Location of oil and gas exploration and production activities [A] (at December 31, 2022)

	Exploration	Development and/or Production	Shell operator [B]
Europe			
Albania	•	•	•
Cyprus		•	
Germany		•	
Italy		•	
Netherlands	•	•	•
Norway	•	•	•
UK	•	•	•
Asia			
Brunei	•	•	•
China		•	•
Indonesia		•	
Kazakhstan		•	
Malaysia	•	•	•
Oman	•	•	•
Qatar		•	•
Oceania			
Australia	•	•	•
Africa			
Egypt	•	•	•
Mauritania	•		•
Namibia	•		•
Nigeria	•	•	•
Sao Tome and Principe	•		•
South Africa	•		•
Tanzania		•	•
Tunisia		•	•
North America			
Mexico	•		•
USA	•	•	•
Canada	•	•	•
South America			
Argentina	•	•	•
Barbados	•		
Bolivia		•	
Brazil	•	•	•
Colombia	•	•	•
Suriname	•		•
Trinidad and Tobago	•	•	•
Uruguay	•		•

[A] Includes joint ventures and associates. Where a joint venture or an associate has properties outside its base country, those properties are not shown in this table.

[B] In several countries where "Shell operator" is indicated, Shell is the operator of some but not all exploration and/or production ventures.

Generating shareholder value | Oil and gas information continued

Oil and gas production available for sale

Crude oil and natural gas liquids [A]

	2022		2021		2020	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
Europe						
Italy	9,091	—	9,677	—	11,342	—
UK	23,905	—	25,554	—	30,061	—
Other [B]	3,722	621	5,456	1,205	7,523	1,084
Total Europe	36,718	621	40,687	1,205	48,926	1,084
Asia						
Brunei	3,256	16,282	1,076	17,894	387	17,094
Kazakhstan	29,667	—	35,592	—	37,769	—
Malaysia	16,759	—	17,983	—	18,494	—
Oman	82,006	—	78,745	—	74,854	—
Russia	10,955	1,963	21,012	7,769	20,816	9,050
Other [B]	24,965	7,498	30,061	7,548	30,101	7,629
Total Asia	167,608	25,743	184,469	33,211	182,421	33,773
Total Oceania [B]	9,391	—	11,844	—	7,416	—
Africa						
Nigeria	27,554	—	35,911	—	48,620	—
Other [B]	1,855	—	5,540	—	8,485	—
Total Africa	29,409	—	41,451	—	57,105	—
North America						
USA	121,690	—	164,811	—	165,169	—
Canada	687	—	2,640	—	8,128	—
Total North America	122,377	—	167,451	—	173,297	—
South America						
Argentina	9,023	2,587	4,836	1,566	3,371	729
Brazil	127,862	—	126,566	—	131,339	—
Other [B]	1,583	—	1,620	—	1,701	—
Total South America	138,468	2,587	133,022	1,566	136,411	729
Total	503,971	28,951	578,924	35,982	605,576	35,586

[A] Reflects 100% of production of subsidiaries except in respect of production-sharing contracts (PSCs), where the figures shown represent the entitlement of the subsidiaries concerned under those contracts.

[B] Comprises countries where production was lower than 10,100 thousand barrels or where specific disclosures are prohibited.

Synthetic crude oil

	2022	2021	2020
	Shell subsidiaries	Shell subsidiaries	Shell subsidiaries
North America - Canada	16,949	19,891	18,920

Natural gas [A]

	2022		2021		Million standard cubic feet	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
Europe						
Netherlands	—	133,210	—	159,107	—	131,648
Norway	174,523	—	178,577	—	187,627	—
UK	69,647	—	49,128	—	65,012	—
Other [B]	45,159	—	47,127	—	48,923	—
Total Europe	289,329	133,210	274,832	159,107	301,562	131,648
Asia						
Brunei	15,328	138,007	17,989	147,865	21,025	159,846
China	56,008	—	55,967	—	46,750	—
Kazakhstan	57,932	—	72,176	—	86,999	—
Malaysia	200,249	—	193,871	—	226,791	—
Russia	2,085	37,897	4,113	125,973	4,301	142,418
Other [B]	378,313	118,435	447,743	118,397	452,528	118,153
Total Asia	709,915	294,339	791,859	392,235	838,394	420,417
Oceania						
Australia	693,293	22,577	696,562	19,272	633,580	20,646
Total Oceania	693,293	22,577	696,562	19,272	633,580	20,646
Africa						
Egypt	49,618	—	86,348	—	104,946	—
Nigeria	118,032	—	161,916	—	190,982	—
Other [B]	11,966	—	23,473	—	27,438	—
Total Africa	179,616	—	271,737	—	323,366	—
North America						
USA	112,560	—	198,578	—	255,383	—
Canada	122,753	—	116,423	—	164,451	—
Total North America	235,313	—	315,001	—	419,834	—
South America						
Bolivia	40,360	—	45,214	—	45,015	—
Brazil	73,975	—	72,107	—	73,914	—
Trinidad and Tobago	186,150	—	121,411	—	141,576	—
Other [B]	12,912	2,227	11,006	393	9,609	830
Total South America	313,397	2,227	249,738	393	270,114	830
Total	2,420,863	452,353	2,599,729	571,007	2,786,850	573,541

[A] Reflects 100% of production of subsidiaries except in respect of PSCs, where the figures shown represent the entitlement of the subsidiaries concerned under those contracts.

[B] Comprises countries where production was lower than 41,795 million scf or where specific disclosures are prohibited.

Average realised price by geographical area

Crude oil and natural gas liquids

	2022		2021		\$/barrel 2020	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
Europe	94.52	91.26	68.30	64.18	39.51	39.05
Asia	88.69	100.81	63.82	70.09	38.73	42.51
Oceania	78.37	—	63.56	—	21.29	—
Africa	104.84	—	70.89	—	41.23	—
North America - USA	92.89	—	62.75	—	34.17	—
North America - Canada	62.10	—	46.58	—	27.17	—
South America	85.84	71.21	64.28	56.91	36.01	37.28
Total	90.06	97.80	64.28	69.34	36.72	42.31

Synthetic crude oil

	2022		2021		\$/barrel 2020	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
North America - Canada			86.93		60.11	31.13

Natural gas

	2022		2021		\$/thousand scf 2020	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
Europe	27.24	26.87	10.71	9.86	3.66	3.76
Asia	3.74	10.88	2.54	6.91	1.88 [A]	4.19
Oceania	13.21	6.75	7.74	4.04	5.95 [A]	3.15
Africa	7.08	—	3.43	—	2.55	—
North America - USA	8.46	—	4.40	—	1.72	—
North America - Canada	4.08	—	2.70	—	1.61	—
South America	8.71	3.90	4.04	1.82	1.35	1.90
Total	10.88	14.56	5.39	7.60	2.99 [A]	4.06

[A] As revised, following a reassessment.

Average production cost by geographical area

Crude oil, natural gas liquids and natural gas [A]

	2022		2021		\$/boe 2020	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
Europe	24.83	12.25	21.48	8.59	20.05	11.44
Asia	6.75	8.06	5.66	7.64	5.54	6.83
Oceania	10.32	24.97	9.26	24.68	8.92	20.23
Africa	13.66	—	11.47	—	9.43	—
North America - USA	11.03	—	10.88	—	12.50	—
North America - Canada	11.15	—	10.64	—	10.52	—
South America	6.91	7.74	5.80	5.51	5.18	9.18
Total	10.20	9.59	9.12	8.23	9.10	8.02

[A] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

Synthetic crude oil

	2022	2021	\$/barrel 2020
	Shell subsidiaries	Shell subsidiaries	Shell subsidiaries
North America - Canada	23.05	18.87	18.28

Generating shareholder value

Marketing

Marketing comprises Mobility, Lubricants, and Sectors and Decarbonisation activities. Mobility operates Shell's retail network, including electric vehicle charging services. Lubricants produces, markets and sells lubricants for road transport, and for machinery used in manufacturing, mining, power generation, agriculture and construction. Sectors and Decarbonisation sells fuels, and speciality products and services, including energy solutions that help customers reduce emissions in the aviation, marine, commercial road transport and agricultural sectors, among others.

Segment earnings (\$ billion)

2.1 2021: 3.5

Adjusted Earnings (\$ billion)

2.8 2021: 3.5

Cash flow from operating activities (\$ billion)

2.4 2021: 5.0

Marketing sales volumes (thousand b/d)

2,503 2021: 2,433



Key statistics [A]

	\$ million, except where indicated		
	2022	2021	2020
Segment earnings [B]	2,133	3,535	4,081
Including:			
Revenue (including inter-segment sales)	121,243	83,748	55,997
Share of profit of joint ventures and associates	237	385	491
Interest and other income	(104)	278	143
Operating expenses [C]	8,384	7,501	6,305
Underlying operating expenses [C]	8,281	7,366	6,161
Depreciation, depletion and amortisation	1,900	1,700	1,499
Taxation charge/(credit)	903	903	846
Identified Items [C]	(622)	68	13
Adjusted Earnings [C]	2,754	3,468	4,068
Adjusted EBITDA (CCS basis) [C]	5,324	6,021	6,455
Capital expenditure	4,527	2,122	1,684
Cash capital expenditure [C]	4,831	2,273	1,774
Marketing sales volumes (thousand b/d)	2,503	2,433	2,276

[A] With effect from January 1, 2022, our reporting segments are Integrated Gas, Upstream, Marketing, Chemicals and Products, Renewables and Energy Solutions and Corporate. Comparative information has been revised.

[B] See Note 8 to the "Consolidated Financial Statements" on pages 245-249. Segment earnings are presented on a current cost of supplies basis.

[C] See "Non-GAAP measures reconciliations" on pages 331-334.

Business conditions

For the business conditions relevant to Marketing, see "Market overview" on pages 39-41.

Marketing sales

In 2022, Marketing sales volumes were 2,503 thousand barrels of oil per day (TBL/day), which was 3% higher than 2021 sales volumes of 2,433 TBL/day mainly as a result of demand recovery in aviation (within Sectors and Decarbonisation).

Earnings 2022-2021

Segment earnings in 2022 of \$2,133 million were 40% lower than in 2021. This was driven by higher operating expenses (\$704 million) partly offset by higher marketing margins (\$171 million).

Segment earnings in 2022 included a net charge of \$622 million, comprising:

- impairment charges of \$321 million (mainly related to withdrawal from Russian oil and gas activities);
- net loss from sale of assets of \$135 million (mainly related to the withdrawal from Russian oil and gas activities, partly offset by a gain on the revaluation of the existing 50% share of the Texas Petroleum Group following the acquisition of the remaining 50% share); and
- provisions for onerous contracts of \$62 million.

These net losses are part of identified items and compare with 2021 which included a net gain of \$68 million as follows:

- net gain from disposal of assets of \$290 million (mainly related to the dilution of interest in the Raizen joint venture);
- redundancy and restructuring costs of \$109 million (mainly the cost of Reshape 2020-2021); and
- impairment charges of \$106 million (goodwill impairment on acquisitions of Ubitricity and Multi Service Commercial Road Transport card platform).

Adjusted Earnings compared with 2021 decreased by \$714 million, driven by the following:

- Mobility adjusted earnings were \$469 million lower than in 2021, mainly as a result of higher operating expenses and unfavourable tax movements. This was partly offset by better margins.
- Lubricants adjusted earnings were \$266 million lower than in 2021, mainly because of lower margins due to a higher base oil price, lower associate and joint-venture income and higher operating expenses.
- Sectors and Decarbonisation adjusted earnings were \$21 million higher than in 2021, mainly because of better margins (demand recovery in aviation). This was partly offset by higher operating expenses and higher financing expenses in joint ventures.

Earnings 2021-2020

Segment earnings in 2021 of \$3,535 million were 13% lower than in 2020. This was driven by higher operating expenses, partly offset by higher volumes.

Segment earnings in 2021 included a net gain of \$68 million as described above. This net gain is part of identified items and compares with 2020 which included a net gain of \$13 million as follows:

- net gains of \$132 million on sale of assets, mainly related to the acquisition of the remaining 51% equity shares from a joint-venture partner in China;
- restructuring costs of \$90 million (various initiatives across the Marketing segment); and
- impairment charges of \$33 million.

Adjusted Earnings compared with 2020 decreased by \$600 million, driven by the same factors as the segment earnings adjusted for identified items.

Cash capital expenditure

Cash capital expenditure was \$4.8 billion in 2022, of which \$1.5 billion was in non-energy products and \$1.4 billion in low-carbon energy solutions. Cash capital expenditure was \$2.3 billion in 2021, of which \$0.7 billion was in non-energy products and \$0.5 billion in low-carbon energy solutions.

Cash capital expenditure increased by \$2.5 billion, because of higher spend on business acquisitions across Marketing (including the acquisition of certain company-owned fuel and convenience retail sites from the Landmark group of companies in the USA, and the acquisition of EcoOils Limited in Singapore). Our cash capital expenditure is expected to be around \$6 billion in 2023.

Portfolio and business developments

Significant portfolio and business developments in 2022 included:

- In May 2022, we completed the sale of Shell Neft LLC, Shell's retail stations and lubricants business in Russia, to PJSC LUKOIL. See Note 6 on pages 242-244 for more information.
- In June 2022, we completed the acquisition of 184 company-owned fuel and convenience retail sites and 107 supply agreements for the independently operated retail fuel and convenience retail sites from the Landmark group of companies in the USA. The agreement to acquire the retail fuel station network (including fuel stations, convenience retail and dealer supply agreements) was signed in October 2021.
- In December 2022, we completed the acquisition of the Environmentally Considerate Lubricants (ECLs) business of the PANOLIN Group. The transaction includes the PANOLIN brand, ECL product formulations, intellectual property, technical expertise and technology, international customer base and portfolio of products.
- In February 2023, we completed the acquisition of 100% of the shares of Nature Energy Biogas A/S for nearly \$2 billion.



Building integrated renewable natural gas (RNG) value chain at global scale

On February 20, 2023, Shell announced it had completed the acquisition of Denmark-based Nature Energy, Europe's largest producer of renewable natural gas (RNG) from biomass, for around \$2 billion. The acquisition, which was announced in November 2022, helps accelerate our transition to become a net-zero emissions energy business by 2050 by offering our customers low-carbon fuels, which can help them decarbonise.

Nature Energy produces RNG from agricultural, industrial, and household waste. It has 14 operating plants and established supply infrastructure. The company produced around 6.5 million MMBtu in 2022 and has around 30 new plant projects in Europe and North America which could deliver up to 9.2 million MMBtu/year by 2030.

RNG, also known as biogas or biomethane, is chemically identical to conventional natural gas and can be used in our existing transmission and distribution infrastructure. This makes it a competitive option to help decarbonise hard-to-abate sectors, including commercial road transport, shipping, heating and heavy industry. The sustainability benefits are amplified by the processing and use of methane that would otherwise be released to the atmosphere from the decomposition of organic byproducts and waste.

Shell's Powering Progress strategy seeks to deliver affordable, reliable, low-carbon energy to our customers.

Photos: A truck has delivered manure to Nature Energy's Korskrø plant, in the southwest of Jutland, near the Danish city of Esbjerg. Nature Energy converts waste, like manure, into renewable natural gas.

Business and property

Mobility

Shell is one of the world's largest mobility retailers, by number of sites, with more than 46,000 Shell-branded mobility locations in more than 80 markets at the end of 2022. We operate different models across these markets, from full ownership of retail sites through to brand licensing agreements.

Every day, around 32 million customers visit our mobility locations for an evolving range of quality fuels, including electric vehicle charging, and convenience and non-fuel products and services. We offer our business customers Shell Fleet Solutions, through which they can obtain items including fuel cards, road services and carbon-offset offers. Beyond our mobility locations, we also serve electric vehicle customers at their homes and workplaces through Shell Recharge Solutions, and at on-street locations through Ubitricity.

In addition to fuels, we are expanding our convenience and non-fuel retail offer to cater to more of our customers' needs. At many of our sites, we offer a range of convenience items, including beverages and fresh food, and services such as lubricant changes and car washes. At the end of 2022, Shell operated 12,500 convenience stores worldwide and we expect to grow this number to 15,000, including Shell-branded mobility locations by 2025. We have upgraded more than 1,500 stores with our Shell Café premium fresh coffee and food offer since launching in 2021.

We remain committed to developing traditional fuels for drivers of internal combustion engine vehicles. Aided by our partnership with Scuderia Ferrari, we have concentrated on developing fuels with special formulations designed to clean engines and improve performance. In 2022, we launched a new and improved formulation of Shell V-Power across multiple markets, with further roll-out planned for 2023. We sold fuels under the Shell V-Power brand in 69 markets in 2022.

We are also expanding networks of refuelling stations of lower-emission fuels, including biofuels, hydrogen, and various gaseous fuels such as LNG and bio-LNG. We have more than 50 hydrogen retail sites in Europe and North America, where drivers can fill up their vehicles with hydrogen fuel. In nine markets, Shell Mobility provides customers with the opportunity to compensate their carbon emissions, including through carbon credits.

Shell Mobility aims to take a leadership position in the energy transition by marketing more and cleaner fuels for our customers. At the end of 2022, Shell owned or operated around 139,000 charge points, including more than 28,000 charge points at Shell forecourts, on-street locations, mobility hubs and destinations like supermarkets.

In January 2022, Shell opened its first electric vehicle charging hub in the UK in Fulham, London, where petrol and diesel pumps at an existing fuel station have been replaced with charge points. Shell Fulham features nine high-powered, ultra-rapid 175 kW charge points.

Lubricants

Shell Lubricants has been the number one global finished lubricants supplier in terms of market share for 16 consecutive years, according to Kline & Company data for 2021. Shell lubricants are available across more than 160 markets for passenger cars, motorcycles, trucks, coaches, and machinery used in manufacturing, mining, power generation, agriculture and construction.

We also make premium lubricants for conventional vehicles and Shell E-fluids for electric vehicles using gas-to-liquids (GTL) base oils that are made from natural gas at our Pearl GTL plant in Qatar.

See "Integrated Gas" on page 47.

We have a global lubricants supply chain with a network of 32 blending plants, four base oil plants, ten grease plants and six GTL base oil storage hubs.

Through our marine activities, we primarily provide the shipping and maritime sectors with lubricants. We also provide fuels, chemical products, and related technical and digital services. We supply more than 200 grades of lubricants and seven types of fuel to vessels worldwide, ranging from large ocean-going tankers to small fishing boats. Shell marine lubricant products are currently used in more than 10,000 vessels and are available in over 700 ports across more than 60 countries.

Sectors and Decarbonisation

Sectors and Decarbonisation sells fuels, speciality products and services including energy solutions that help customers reduce emissions in the aviation, marine, commercial road transport, and agricultural sectors, among others.

Shell Aviation provides aviation fuel, lubricants and low-carbon solutions globally. In February 2022, Shell became the first supplier of sustainable aviation fuel (SAF) to customers in Singapore. Together with Accenture and American Express Global Business Travel (Amex GBT), Shell launched Avelia - one of the world's first blockchain-powered digital sustainable aviation fuel book-and-claim solutions for business travel. Avelia is designed to help trigger demand for SAF, providing confidence to suppliers like us to further increase investment in production, and in turn lowering the price point for these fuels.

Shell Marine offers a portfolio of marine fuels, lubricants and low-carbon solutions, with a supply network that covers key bunkering locations globally.

Shell is investing in a variety of fuels, technologies and solutions to support a decarbonised future for shipping. In June 2022, Shell and CMA CGM signed a non-binding memorandum of understanding to support the advancement of low-carbon marine fuels and innovative technical solutions, alongside a multi-year LNG supply agreement in the Port of Singapore from the second half of 2023.

Shell Commercial Road Transport provides fuels, lubricants and digital services to customers with heavy-duty vehicles in their fleets. In 2022, Shell expanded its LNG refuelling network to more than 60 operated sites, bringing the number of sites where Shell customers can access LNG in Europe to more than 160. In February 2022, Shell became the first fuel provider to offer customers in the Netherlands a blended product, by feeding a portion of Shell BioLNG into its entire LNG network.

Shell Bitumen supplies customers across 60 markets and provides enough bitumen to resurface 500 kilometres of road lanes every day. It also invests in research and development to create innovative products.

Generating shareholder value | Marketing continued

Shell Sulphur Solutions manages the complete value chain of sulphur, from refining to marketing. It provides sulphur for use in applications such as fertiliser, mining and chemicals. It also licenses Shell Thiogro technologies to create innovative and custom sulphur-enhanced fertilisers.

In 2022, around 9.5 billion litres of biofuels (2021: 9.1 billion litres) went into Shell's fuels worldwide, which includes sales made by Raízen, our non-operated joint venture in Brazil (Shell interest 44%).

In 2022, Raízen produced around 3 billion litres of ethanol (2021: 2.5 billion litres) and around 4.8 million tonnes of sugar from sugar cane (2021: 4 million tonnes). The cellulosic ethanol plant at Raízen's Costa Pinto mill in Brazil produced 26 million litres of ethanol in 2022 (2021: 19 million litres).

Renewable natural gas (RNG), also known as biogas or biomethane, is gas derived from processing organic waste in a controlled environment until it is fully interchangeable with conventional natural gas.

Shell is constructing two facilities which will convert dairy manure to RNG and which will be co-located at the Bettencourt Dairies in Wendell, Idaho, USA. Once operational, Shell Downstream Bovarius is expected to produce approximately 400,000 MMBtu a year of negative-carbon-intensity RNG. The second facility, Shell Downstream Friesian, is expected to produce approximately 350,000 MMBtu a year of negative-carbon-intensity RNG using cow manure from the dairy once operational.

In Europe, we are offering liquefied renewable natural gas (bio-LNG) to customers with trucks powered by natural gas. In 2022, in collaboration with Nordsol, we commenced production at our first European bio-LNG plant, in Amsterdam Westpoort, in the Netherlands. This made us the first fuel provider to offer a blend of bio-LNG throughout the entire LNG network in the Netherlands. We also began construction of a bio-LNG plant at our Energy and Chemicals Park Rheinland, scheduled to commence operations in 2023.

Business activities with Syria and Cuba

Syria
We ceased all operations in Syria in 2011. In 2022, we renewed our trademark rights in Syria and paid \$381 to the Syrian Arab Republic Ministry of Finance, and \$783 in agent and handling fees. The renewal of the trademark rights is not indicative of any sales of products in Syria.

Cuba
We do not have any operations in Cuba.

Marketing data tables

Branded retail sites [A]

	2022	2021	2020
Europe	8,260	8,178	8,071
Asia [B]	10,470	10,753	10,387
Oceania [B]	1,083	1,060	1,071
Africa	2,815	2,724	2,622
Americas [C]	23,597	23,305	23,461
Total	46,225	46,020	45,612

[A] Includes different models, from full-ownership retail sites, and sites operated by joint ventures, through to brand licensing agreements, and excludes sites closed for more than six months.

[B] Asia includes Turkey and Russia; Oceania includes French Polynesia, Guam, Palau and New Caledonia.

[C] Includes around 7,900 retail sites operated by the Raízen joint venture.

Marketing sales volumes [A][B][C][D]

	2022	2021	2020
Thousand b/d			
Europe			
Mobility	296	360	344
Lubricants	17	16	15
Sectors & Decarbonisation	238	121	107
Total	551	497	466
Asia			
Mobility	520	512	475
Lubricants	38	42	30
Sectors & Decarbonisation	124	107	111
Total	682	661	616
Africa			
Mobility	47	45	40
Lubricants	3	3	3
Sectors & Decarbonisation	8	7	7
Total	58	55	50
Americas			
Mobility	797	828	782
Lubricants	25	24	23
Sectors & Decarbonisation	390	368	339
Total	1,212	1,220	1,144
Total product sales			
Mobility	1,660	1,745	1,641
Lubricants	83	85	71
Sectors & Decarbonisation	760	603	564
Total	2,503	2,433	2,276
Gasolines	1,160	1,165	1,090
Kerosines	321	232	214
Gas/Diesel oils	731	746	698
Fuel oil	11	7	8
Other products	280	283	266
Total	2,503	2,433	2,276

[A] With effect from January 1, 2022, the Marketing segment consists of Mobility, Lubricants, and Sectors and Decarbonisation. Comparative sales volumes have been revised for these businesses, with the exception of the Commercial Road Transport sector, which transferred from Mobility to Sectors and Decarbonisation with effect from January 1, 2022, but where comparative information is not revised due to impracticability.

[B] Excludes deliveries to other companies under reciprocal sale and purchase arrangements, that are in the nature of exchange contracts.

[C] Includes the Shell share of Raízen's sales volumes and joint ventures' sales volumes.

[D] Sales volumes from markets where Shell operates under trademark licensing agreements are excluded.

Generating shareholder value

Chemicals and Products

Chemicals and Products includes chemicals manufacturing plants with their own marketing network, and refineries which turn crude oil and other feedstocks into a range of oil products. These are moved and marketed around the world for domestic, industrial and transport use. The business also includes pipelines, trading of crude oil, oil products and petrochemicals, and oil sands activities, which involves the extraction of bitumen from mined oil sands and its conversion into synthetic oil.

Segment earnings (\$ billion)

4.5 2021: 0.4

Adjusted Earnings (\$ billion)

4.7 2021: 2.1

Cash flow from operating activities (\$ billion)

12.9 2021: 3.7

Refinery processing intake (thousand b/d)

1,402 2021: 1,639

Refining & Trading sales volumes (thousand b/d)

1,700 2021: 2,026

Chemicals sales volumes (thousand tonnes)

12,281 2021: 14,216



Key statistics [A]

	\$ million, except where indicated		
	2022	2021	2020
Segment earnings/(loss) [B]	4,515	404	(3,821)
Including:			
Revenue (including inter-segment sales)	147,026	118,338	85,713
Share of profit of joint ventures and associates	374	989	1,064
Interest and other income	244	37	(236)
Operating expenses [C]	11,361	10,347	10,514
Underlying operating expenses [C]	11,368	10,298	9,916
Depreciation, depletion and amortisation	3,289	5,485	10,096
Taxation charge/(credit)	935	(210)	(1,754)
Identified Items [C]	(204)	(1,712)	(6,656)
Adjusted Earnings [C]	4,719	2,115	2,835
Adjusted EBITDA [C]	8,561	5,635	6,032
Capital expenditure	3,835	5,091	4,163
Cash capital expenditure [C]	3,838	5,175	4,198
Chemicals manufacturing plant utilisation (%)	79%	85%	88%
Refinery utilisation (%)	86%	80%	83%
Refinery processing intake (thousand b/d)	1,402	1,639	2,063
Refining & Trading sales volumes (thousand b/d)	1,700	2,026	2,434
Chemicals sales volumes (thousands tonnes)	12,281	14,216	15,036

[A] With effect from January 1, 2022, our reporting segments are Integrated Gas, Upstream, Marketing, Chemicals and Products, Renewables and Energy Solutions and Corporate. Comparative information has been revised.

[B] See Note 8 to the "Consolidated Financial Statements" on pages 245-249. Segment earnings are presented on a current cost of supplies basis.

[C] See "Non-GAAP measures reconciliations" on pages 331-334.

Business conditions

For the business conditions relevant to Chemicals and Products, see "Market overview" on pages 39-41.

Chemical manufacturing plant utilisation

Utilisation is defined as the actual usage of the plants as a percentage of the rated capacity. Chemicals manufacturing plant utilisation was 79% in 2022 (previous methodology: 72%) compared with 85% in 2021 (previous methodology: 78%). The decrease was mainly a result of optimisation for the low-margin environment and higher turnarounds during 2022.

Refinery utilisation

Utilisation is defined as the actual usage of the plants as a percentage of the rated capacity. Refinery utilisation was 86% in 2022 (previous methodology: 74%) compared with 80% in 2021 (previous methodology: 72%) as a result of less unplanned maintenance and lower turnarounds.

With effect from the second quarter 2022, the methodology applied in calculating both Chemicals plant utilisation and Refinery utilisation has been revised to further align with industry disclosures. The revisions include moving from stream days capacity (defined as the maximum throughput, excluding the impact of maintenance or operational outages) to calendar days capacity (defined as the throughput including typical limitations such as maintenance over an extended period of time). Furthermore, Refinery utilisation is now specific to the capacity of the crude distillation unit (except for Scotford Refinery which uses the capacity of the hydrocracker), and no longer the capacity across all refinery units.

Chemicals and Products sales

In 2022, Chemicals sales volumes were 12,281 thousand tonnes, 14% lower than 2021 sales volumes of 14,216 thousand tonnes, due to lower demand.

In 2022, Refining & Trading sales volumes were 1,700 thousand b/d, 16% lower than 2021 volumes of 2,026 thousand b/d due to impact of divestments

Earnings 2022-2021

Segment earnings in 2022 were \$4,515 million, 1018% higher than in 2021, reflected higher Products margins (increase of \$5,721 million) reflecting higher Refining margins and higher contributions from trading and optimisation, lower tax charges (decrease of \$300 million), as well as lower depreciation charges (decrease of \$175 million). These were partly offset by lower Chemicals margins (decrease of \$2,705 million) and higher operating expenses (increase of \$822 million).

Segment earnings in 2022 included a net charge of \$204 million.

This included:

- impairment charges of \$226 million mainly related to impairment of capital expenditure additions across sites based on the revisions to medium- and long-term price outlook assumptions decision considered in 2020;
- legal provisions of \$149 million;
- losses of \$147 million related to the fair value accounting of commodity derivatives;
- tax charges relating to the EU solidarity contribution of \$74 million;
- gains of \$223 million related to the sale of assets; and
- gains of \$104 million related to the remeasurement of redundancy and restructuring costs (mainly pension curtailments).

Generating shareholder value | Chemicals and Products continued

These gains and losses are part of identified items and compare with 2021 which included a net charge of \$1,712 million as follows:

- impairment charges of \$1,814 million mainly related to the divestment of Puget Sound, Mobile and Deer Park refineries in the USA and closure of production unit on Jurong Island, Singapore;
- provisions for onerous contracts of \$82 million; and
- a net gain of \$160 million related to the fair value accounting of commodity derivatives.

Adjusted Earnings in 2022 were \$4,719 million, compared with \$2,115 million in 2021. Chemicals accounted for (29)% of these 2022 earnings, Refining for 80% and Trading and Supply for 49%. The increase in Adjusted Earnings of \$2,604 million, driven by the following:

- Products Adjusted Earnings were \$5,728 million higher than in 2021, mainly driven by higher realised refining margins due to increased prices and higher contributions from trading and optimisation. These were partially offset by higher operating expenses.
- Chemicals Adjusted Earnings were \$3,125 million lower than in 2021, mainly because of lower margins due to weak price environment, lower associate income and higher operating expenses.

Earnings 2021-2020

Segment earnings in 2021 were \$404 million, 111% higher than in 2020.

Segment earnings in 2021 included a net charge of \$1,712 million as described above. This net charge is part of identified items and compares with 2020 which included a net charge of \$6,656 million as follows:

- Impairment charges of \$5,500 million (across sites, reflecting revisions to medium- and long-term price outlook assumptions in light of changes in supply and demand fundamentals in the energy market; macroeconomic conditions; the COVID-19 pandemic; expenditure at Pulau Bukom in Singapore including transformation; and the shutdown of the Convent refinery in Louisiana, USA);
- restructuring costs of \$313 million, mainly shutdown of Convent, Bukom transformation and various initiatives across Chemicals & Products;
- other net charges of \$657 million (mainly onerous contract provisions due to shutdown of Convent and legal provision);
- net charge of \$112 million related to the fair value accounting of commodity derivatives; and
- net loss from sale of assets of \$74 million.

Adjusted Earnings were \$2,115 million in 2021 compared to \$2,835 million in 2020. The decrease in Adjusted Earnings of \$720 million was driven by the following:

- Products adjusted earnings were \$1,511 million lower than in 2020, mainly driven by lower contributions from trading and optimisation, higher operating expenses and unfavourable tax movements. These were partially offset by higher margins in Refining, Oil sands (higher average realised price) and lower depreciation.
- Chemicals adjusted earnings were \$792 million higher than in 2020, mainly because of higher margins due to stronger price environment, favourable deferred tax movements, partly offset by higher operating expenses.

Cash capital expenditure

Cash capital expenditure was \$3.8 billion in 2022, compared with \$5.2 billion in 2021.

Cash capital expenditure decreased by \$1.4 billion, mainly because of lower spend on the construction of our cracker facilities in Pennsylvania, USA, and lower turnaround. Our cash capital expenditure is expected to be around \$3 billion to \$4 billion in 2023.

Portfolio and business developments

Significant portfolio and business developments in 2022 included:

- In October 2022, Shell USA, Inc. and Shell Midstream Partners, L.P. completed the definitive agreement and plan of merger announced in July 2022, pursuant to which Shell USA, Inc. acquired all of the common units representing limited partner interests in Shell Midstream Partners, L.P. not held by Shell USA, Inc. or its affiliates.
- In November 2022, we commenced operations of our Pennsylvania Chemical project, Shell Polymers Monaca (SPM). The Pennsylvania facility is the first major polyethylene manufacturing complex in the north-eastern USA and has a designed output of 1.6 million tonnes annually.

Business and property

Chemicals

Our plants produce a range of base chemicals, including ethylene, propylene and aromatics, and intermediate chemicals such as styrene monomer, propylene oxide, solvents, detergent alcohols, ethylene oxide and ethylene glycol. We have the capacity to produce around 8.1 million tonnes of ethylene a year (including the Shell share of capacity entitlement (offtake rights) of joint ventures and associates, which may be different from nominal equity interest). We are expanding our product portfolio to include sustainable chemicals made from bio-based and circular feedstocks, more intermediates and performance chemicals such as polyethylene and polycarbonate. We operate chemical plants worldwide and have a global balance of locations, feedstocks and products that allows us to seize commercial opportunities and withstand cycles of lower margins.

Shell Chemicals is transforming and has integrated further with Refining. In addition to our standalone, chemicals-only production sites, we are transforming our refineries into energy and chemicals parks. We expect this to happen at the following sites: Norco in the USA, Scotford in Canada, Pernis in the Netherlands, Rheinland in Germany and Pulau Bukom in Singapore. We are also exploring options for the former Convent Refinery in Louisiana, USA, which is currently shut down, and may turn it into a low-carbon fuels facility. The energy and chemicals parks are expected to focus more on meeting customers' low-carbon and sustainability needs.

In 2022, we supplied more than 12 million tonnes of petrochemicals to more than 1,000 industrial customers worldwide. Products made from chemicals are used in everyday life in medical equipment, construction, transport, electronics, agriculture and sports. As global demand for chemicals increases, we plan to increase the size of our business, by understanding and responding to our customers' needs.

Generating shareholder value | Chemicals and Products continued

Products – Refining & Trading

Refining

We have interests in eight refineries worldwide, with a capacity to process a total of 1.7 million barrels of crude oil per day. The distribution of our refining capacity is 60% in Europe, 26% in the Americas and 14% in Asia.

Shell Refining is transforming. We are concentrating our refineries portfolio to meet our strategic aims and to capitalise on the strong integration between our customers, trading operations, chemical plants and, increasingly, our low-carbon fuels output. We are transforming our refining sites into energy and chemicals parks. See "Chemicals" on page 71 for details. Transforming our refineries will mean developing new facilities and converting or dismantling existing units. We plan to process less crude oil and use more renewable and recycled feedstocks such as hydrogen, biofuels and plastic waste.

Trading and Supply

Through our main trading offices in London, Houston, Singapore and Rotterdam, we trade crude oil, low-carbon fuels, refined products, chemical feedstocks and environmental products. Trading and Supply trades in physical and financial contracts, lease storage and transportation capacities, and manages shipping and wholesale commercial fuel activities globally.

Operating in around 25 countries, with about 180 Shell and joint-venture (including pipeline) terminals, we believe our supply and distribution infrastructure is well positioned to make deliveries around the world.

Shipping and Maritime enables the safe delivery of the Shell Trading and Supply contracts. This includes supplying feedstocks for our refineries and chemical plants, and finished products such as gasoline, diesel and aviation fuel to our Marketing segment and customers.

Shell Wholesale Commercial Fuels provides fuels for transport, industry and heating and from reliable main-grade fuels to premium products.

Pipelines

We own and operate eight tank farms across the USA through Shell Pipeline Company LP (Shell interest 100%). It transports around 1.5 billion barrels of crude oil, refined products and chemicals a year through around 6,000 kilometres of pipelines in the Gulf of Mexico and nine US states. Our non-Shell-operated ownership interests provide another 13,000 kilometres of pipeline.

We carry more than 40 types of crude oil and more than 20 grades of fuel and chemicals, including gasoline, diesel, aviation fuel, chemicals and ethylene.

Shell Midstream Partners, L.P., a master limited partnership headquartered in Houston, Texas, became a wholly owned subsidiary of Shell in October 2022. Accordingly, we now own, operate, develop and acquire pipelines and other midstream and logistics assets. Our assets include interests in entities that own crude oil and refined products pipelines and terminals that serve as key infrastructure to (i) transport onshore and offshore crude oil production to USA Gulf Coast and Midwest refining markets and (ii) deliver refined products from those markets to major demand centres. Our assets also include interests in entities that own natural gas and refinery gas pipelines that transport offshore natural gas to market hubs and deliver refinery gas from refineries and plants to chemical sites along the USA Gulf Coast.

See "Governance - related party transactions" on page 200 for further information regarding the acquisition of remaining common units held by the public representing limited partner interests in Shell Midstream Partners, L.P.

Oil Sands

Synthetic crude oil is produced by mining bitumen-saturated sands, extracting the bitumen, and transporting it to a processing facility where hydrogen is added to make a wide range of feedstocks for refineries. The Athabasca Oil Sands Project (AOSP) in Alberta, Canada, includes the Albian Sands mining and extraction operations, the Scotford upgrader and the Quest carbon capture and storage (CCS) project.

We have a 50% interest in 1745844 Alberta Ltd. (formerly known as Marathon Oil Canada Corporation), which holds a 20% interest in the Athabasca Oil Sands Project.

Business activities with Syria

We ceased supplying polyols, via a Netherlands-based distributor, to private-sector customers in Syria in 2018. Polyols are commonly used for the production of foam in mattresses and soft furnishings.

Chemicals and Products data tables

The tables below reflect Shell subsidiaries and instances where Shell owns the crude oil or feedstocks processed by a refinery. Other joint ventures and associates are only included where explicitly stated.

Refining & Trading sales volumes [A][B]

	Thousand b/d		
	2022	2021	2020
Europe	830	426	472
Asia	377	870	974
Africa	39	47	70
Americas	454	683	918
Total	1,700	2,026	2,434
Gasolines	410	551	660
Kerosines	117	123	163
Gas/Diesel oils	616	735	921
Fuel oil	270	337	346
Other products	287	280	344
Total	1,700	2,026	2,434

[A] Excludes deliveries to other companies under reciprocal sale and purchase arrangements, that are in the nature of exchanges. Sales of condensate are included.

[B] Certain contracts are held for trading purposes and reported net rather than gross. The effect in 2022 was a reduction in refining and trading sales of approximately 1,197 thousand b/d (2021: 1,127 thousand b/d; 2020: 1,284 thousand b/d).

Cost of crude oil processed or consumed [A]

	\$/barrel		
	2022	2021	2020
Total	84.39	60.51	35.03

[A] Includes Upstream and Integrated Gas margins on crude oil supplied by Shell subsidiaries, joint ventures and associates.

Generating shareholder value | Chemicals and Products continued

Crude distillation capacity [A]

	Thousand b/stream day [B]		
	2022	2021	2020
Europe	990	1,023	1,059
Asia	237	307	573
Africa	23	90	90
Americas	449	729	1,028
Total	1,698	2,149	2,750

[A] Average operating capacity for the year, excluding mothballed capacity.

[B] Stream day capacity is the maximum capacity with no allowance for downtime.

Crude oil processed [A]

	Thousand b/d		
	2022	2021	2020
Europe	715	761	810
Asia	184	223	292
Africa	16	57	54
Americas	353	455	719
Total	1,268	1,496	1,875

[A] Includes natural gas liquids, share of joint ventures and associates and processing for others.

Refinery processing intake [A]

	Thousand b/d		
	2022	2021	2020
Crude oil	1,267	1,496	1,876
Feedstocks	135	143	187
Total	1,402	1,639	2,063
Europe	763	806	854
Asia	184	225	302
Africa	16	57	54
Americas	439	551	853
Total	1,402	1,639	2,063

[A] Includes crude oil, natural gas liquids and feedstocks processed in crude distillation units and in secondary conversion units.

Refinery processing outturn [A]

	Thousand b/d		
	2022	2021	2020
Gasolines	477	624	771
Kerosines	166	141	158
Gas/Diesel oils	512	611	774
Fuel oil	90	108	140
Other	193	258	279
Total	1,438	1,742	2,122

[A] Excludes own use and products acquired for blending purposes.

Manufacturing plants at December 31, 2022

Refineries in operation

	Location	Asset class	Shell interest (%) [A]	Crude distillation capacity	Thousand barrels/stream day, 100% capacity [B]		
					Thermal cracking/visbreaking/coking	Catalytic cracking	Hydro-cracking
Europe							
Germany	Miro [C]		32	313	40	96	—
	Rheinland	■ ●	100	354	49	—	90
	Schwedt [C]		38	234	46	57	—
Netherlands	Pernis	■ ●	100	447	—	53	104
Asia							
Singapore	Pulau Bukom	■ ●	100	237	—	—	61
Africa							
South Africa	Durban [C] [D]		36	180	25	37	—
Americas							
Argentina	Buenos Aires [C]	● □	44	108	20	22	—
Canada							
Alberta	Scotford	■	100	100	—	—	83
Ontario	Samia	□	100	85	5	21	10
USA							
Louisiana	Norco	■	100	250	29	119	44

[A] Shell interest is rounded to the nearest whole percentage point; Shell share of production capacity may differ.

[B] Stream day capacity is the maximum capacity with no allowance for downtime.

[C] Not operated by Shell.

[D] Refinery operations were paused from Q2 2022.

■ Integrated refinery and chemical complex
 ● Refinery complex with cogeneration capacity
 □ Refinery complex with chemical unit(s)

Chemicals data tables

The tables below reflect Shell subsidiaries and instances where Shell owns the crude oil or feedstocks processed by a refinery. Other joint ventures and associates are only included where explicitly stated.

Ethylene capacity [A]

	2022	Thousand tonnes/year	
		2021	2020
Europe	1,710	1,726	1,701
Asia	2,542	2,542	2,530
Americas [B]	3,821	2,321	2,268
Total	8,073	6,589	6,499

[A] Includes the Shell share of capacity entitlement (offtake rights) of joint ventures and associates, which may be different from nominal equity interest. Nominal capacity is quoted at December 31.

[B] Includes data pertaining to Shell Polymers Monaca which commenced operations in November 2022.



Converting plastic waste to chemical feedstock at Moerdijk

Shell is investing in a new pyrolysis oil upgrader at its Shell Chemicals Park Moerdijk in the Netherlands which will convert plastic waste into chemical feedstock, replacing traditional hydrocarbon raw materials. The new upgrader is expected to start production in 2024 and will help us meet the rising demand from our customers for more low-carbon products that are made from recycled material.

The new pyrolysis oil upgrader unit treats liquid made from plastic waste that cannot be mechanically recycled. The upgrader prevents waste that would otherwise have gone to landfill or incineration. The unit will have a capacity of 50,000 tonnes per annum, which is equivalent to the weight of about 7.8 billion plastic bags. This contributes to our circular economy ambition to recycle one million tonnes of plastic waste in our chemical plants by 2025.

We will use the treated pyrolysis oil to produce chemicals which are the ingredients used in many end products that are all around us.

Over the next 10 years, the Shell Chemicals Park Moerdijk plans to increase the use of circular and bio-based feedstocks, growing its offer of low-carbon products, and aims to become net zero through using hydrogen and implementing carbon capture and storage (CCS) technology.

Photo: Pipe racks in one of the many units of Shell Chemicals Park Moerdijk, the Netherlands.

Generating shareholder value | Chemicals and Products continued

Chemicals sales volumes [A]

	2022	Thousand tonnes/year	
		2021	2020
Europe			
Base chemicals	2,809	3,883	3,490
Intermediates and other chemicals products	1,955	2,076	1,990
Total	4,764	5,959	5,480
Asia			
Base chemicals	825	1,354	1,192
Intermediates and other chemicals products	2,147	2,656	2,969
Total	2,972	4,010	4,161
Americas			
Base chemicals	2,125	1,984	2,936
Intermediates and other chemicals products	2,420	2,263	2,459
Total	4,545	4,247	5,395
Total product sales			
Base chemicals	5,759	7,221	7,618
Intermediates and other chemicals products	6,522	6,995	7,418
Total	12,281	14,216	15,036

[A] Excludes feedstock trading and by-products.

Major chemical plants in operation [A]

	Location	Thousand tonnes/year, Shell share capacity [B]					
		Ethylene	Polyethylene	Styrene monomer	Ethylene glycol	Higher olefins [C]	Additional products
Europe							
Germany	Rheinland	324	—	—	—	—	A
Netherlands	Moerdijk	971	—	815	153	—	A, I
UK	Mossmorran [D]	415	—	—	—	—	O
Asia							
China	Nanghai [D]	1,100	605	645	415	—	A, I
Singapore	Jurong Island [E]	281	—	1,069	1,081	—	A, I, P, O
	Pulau Bukom	1,161	—	—	—	—	A, I
Americas							
Canada	Scotford	—	—	475	462	—	A, I
USA	Monaca [F]	1,500	1,600	—	—	—	
	Deer Park	889	—	—	—	—	A, I
	Geismar	—	—	—	400	1,390	I
	Norco	1,432	—	—	—	—	A
Total		8,073	2,205	3,004	2,511	1,390	

[A] Major chemical plants are large integrated chemical facilities, typically producing a range of chemical products from an array of feedstocks.

[B] Shell share of capacity of subsidiaries, joint arrangements and associates (Shell- and non-Shell-operated), excluding capacity of the Infineum additives joint ventures.

[C] Higher olefins are linear alpha and internal olefins (products range from C4 to C2024).

[D] Not operated by Shell.

[E] The Polypropylene and olefins production mentioned refers to Shell share of capacity of our non-operated joint ventures Petchem Corporation of Singapore (PCS) and The Polyolefin Company (TPC) which are on Jurong Island.

[F] Shell Polymers Monaca commenced its operations in November 2022.

A Aromatics, lower olefins
I Intermediates
P Polypropylene
O Other

Other chemical locations [A]

	Location	Products
Europe		
Germany	Karlsruhe	A
	Schwedt	A
Netherlands	Rotterdam	A, I, O
Americas		
Argentina	Buenos Aires	I
Canada	Sarnia	A, I

[A] Other chemical locations reflect locations with smaller chemical units, typically serving more local markets.

A Aromatics, lower olefins
 I Intermediates
 O Other

Generating shareholder value

Renewables and Energy Solutions

Renewables and Energy Solutions (R&ES) includes renewable power generation, the marketing and trading of power and pipeline gas, as well as carbon credits, and digitally enabled customer solutions. R&ES also includes the production and marketing of hydrogen, development of commercial carbon capture and storage (CCS) hubs, investment in nature-based projects that avoid or reduce carbon emissions (NBS), and Shell Ventures, which invests in companies that work to accelerate the energy and mobility transformation.

Segment earnings (\$ billion)

(1.1) 2021: (1.5)

Adjusted Earnings (\$ billion)

1.7 2021: (0.2)

Cash flow from operating activities (\$ billion)

(6.4) 2021: 0.5

External power sales (terawatt hours) [A]

243 2021: 247

Sales of pipeline gas to end-use customers (terawatt hours) [B]

843 2021: 899

Renewable capacity (gigawatt) [C]

6.4 2021: 3.0

[A] Physical power sales to third parties; excluding financial trades and physical trade with brokers, investors, financial institutions, trading platforms, and wholesale traders.

[B] Physical natural gas sales to third parties; excluding financial trades and physical trade with brokers, investors, financial institutions, trading platforms, and wholesale traders. Excluding sales of natural gas by other segments and LNG sales.

[C] Renewable power generation capacity (Shell Interest) in operation, under construction and/or committed for sale.



Key statistics [A]

	\$ million, except where indicated		
	2022	2021	2020
Segment earnings/(loss)	(1,059)	(1,514)	(479)
Including:			
Revenue (including inter-segment sales)	59,981	27,090	13,979
Share of profit of joint ventures and associates	(7)	(27)	(50)
Interest and other income	57	200	(197)
Operating expenses [B]	3,590	2,745	1,716
Underlying operating expenses [B]	3,583	2,737	1,711
Depreciation, depletion and amortisation	777	326	424
Taxation charge/(credit)	(303)	(342)	(61)
Identified Items [B]	(2,805)	(1,272)	(277)
Adjusted Earnings [B]	1,745	(243)	(202)
Adjusted EBITDA [B]	2,459	(21)	25
Capital expenditure	2,609	2,069	363
Cash capital expenditure [B]	3,469	2,359	928
External power sales (terawatt hours)	243	247	252
Sales of pipeline gas to end-use customers (terawatt hours)	843	899	882

[A] With effect from January 1, 2022, our reporting segments are Integrated Gas, Upstream, Marketing, Chemicals and Products, Renewables and Energy Solutions and Corporate. Comparative information has been revised.

[B] See "Non-GAAP measures reconciliations" on pages 331-334.

Business conditions

For the business conditions relevant to Renewables and Energy Solutions, see "Market overview" on pages 39-41.

External power sales

In 2022, our external power sales were 243 terawatt hours (TWh), compared with 247 TWh in 2021. The difference was mainly a result of higher volume sales during a Texas winter storm in 2021 and mild weather conditions in 2022. This was partly offset by business growth in the Americas and Europe.

Sales of pipeline gas to end-use customers

In 2022, our sales of pipeline gas to end-use consumers were 843 TWh, compared with 899 TWh in 2021. This difference was also mainly a result of high demand during the Texas winter storm in 2021, and more sales to trading intermediaries versus end-user counterparties.

Earnings 2022-2021

Segment earnings in 2022 were a loss of \$1,059 million, compared with a loss of \$1,514 million in 2021. The narrowing of the loss was mainly driven by higher prices and contributions from trading, marketing and optimisation results for gas and power (around \$1,900 million). This was partly offset by higher operating expenses as a result of business growth and acquisitions (around \$900 million), impairment (around \$400 million) and tax charges (around \$100 million).

Full year 2022 segment earnings included Identified Items of \$2,805 million which comprised losses of \$2,443 million due to the fair value accounting of commodity derivatives and impairment charges of \$361 million mainly in Europe. The full year 2021 Identified Items were a loss of \$1,272 million, mainly as a result of the fair value accounting of commodity derivatives.

Adjusted Earnings were \$1,745 million in 2022. Adjusted Earnings from Energy Marketing and Trading and Optimisation accounted for 135% of R&ES 2022 Adjusted Earnings, partially offset by Renewable Power Generation, Hydrogen, CCS, NBS and Shell Ventures that accounted for (35)%.

Adjusted EBITDA was \$2,459 million and included the impact of underlying operating expenses of \$3,583 million, driven by business growth and the early-development stage of some of the portfolios prior to operating status.

Adjusted Earnings were a loss of \$243 million in 2021. Adjusted Earnings from Renewable Power Generation, Hydrogen, CCS, NBS, and Shell Ventures accounted for 155% of R&ES 2021 negative Adjusted Earnings. These were partially offset by a positive Adjusted Earnings contribution from Energy Marketing and Trading and Optimisation (55)%.

Earnings 2021-2020

Segment earnings in 2021 were a loss of \$1,514 million, compared with a loss of \$479 million in 2020. This bigger loss was mainly driven by higher operating expenses, mainly related to provisions for counterparty risk due to the Texas winter storm (around \$1,000 million), and lower contributions from trading, marketing and optimisation results for gas and power (around \$300 million). This was partly offset by lower tax charges (around \$300 million).

Full year 2021 segment earnings included Identified Items of \$1,272 million which comprised losses mainly due to the fair value accounting of commodity derivatives. Full year 2020 Identified Items were a loss of \$277 million reflecting impairment charges of \$190 million and the fair value accounting of commodity derivatives of \$89 million.

Generating shareholder value | Renewables and Energy Solutions continued

Cash capital expenditure

Cash capital expenditure in 2022 was \$3.5 billion, of which \$2.9 billion was in low-carbon energy solutions. Cash capital expenditure in 2021 was \$2.4 billion, of which \$1.8 billion was

in low-carbon energy solutions. This increase was mainly a result of the development projects in our wind and solar power generation business.

Our cash capital expenditure is expected to be in the range of \$2-4 billion in 2023.

Portfolio and business development

Key portfolio events included the following:

- In January 2022, Shell and ScottishPower won bids to develop 5 GW of floating wind power in the UK.
- In January 2022, we started operations at the power-to-hydrogen electrolyser in China.
- In February 2022, we completed the acquisition of online energy retailer Powershop Australia which was announced in November 2021.
- In April 2022, Atlantic Shores Offshore Wind (ASOW), our 50:50 joint venture with EDF Renewables North America, was awarded the commercial lease for acreage in the New York Bight offshore wind auction, USA. This was after it was announced as provisional winner in February.
- In July 2022, we took the final investment decision to build a 200 MW electrolyser, Holland Hydrogen I (Shell interest 100%), which is expected to be operational from 2025.
- In August 2022, we completed the acquisition of renewable energy platform Sprng Energy group in India, which was announced in April 2022.
- In December 2022, Ecowende, our joint venture with Eneco, won the tender to develop a 760 MW offshore wind farm at Hollandse Kust (west) lot VI in the Netherlands.

Business and property

We are building our R&ES portfolio through organic and inorganic growth. Most of these growth opportunities are in sectors that differ from, but have similarities and links to, Shell's existing oil and gas businesses.

Some acquired companies in new business sectors are not yet in full compliance with the Shell Control Framework. Following specific assessment for each of those companies, dedicated projects were put in place to achieve compliance, with regular updates on the progress.

Energy Marketing

We provide electricity and smart energy solutions to residential, commercial and industrial customers. We do this through direct electricity sales, storage solutions and energy optimisation services.

We sell natural gas and power to more than 2.2 million retail customers mainly in the UK, the USA, Australia, Germany, and the Netherlands.

Our largest markets for commercial and industrial customers are Australia and the USA. In Australia we are one of the largest commercial and industrial retailers of electricity in the market.

In January 2023 we launched a strategic review of our European home energy retail business including our operations in the UK, the Netherlands and Germany. Our priority remains to ensure our customers in those countries continue to receive a reliable and affordable energy supply. No decisions have been taken at this time. We intend to provide an update on the outcome of the review in due course.

Trading and Optimisation

We market and trade natural gas and power from our own assets and from third parties. In the USA we are one of the leading power wholesale traders.

Renewable Power Generation

We enable renewable power generation by owning and operating wind farms and solar plants, and participating in joint ventures.

At the end of 2022, our share of renewable generation capacity was 2.2 GW in operation and 4.2 GW in development. Our renewable power capacities are listed below:

Renewable power capacity in operation and in development as of December 31, 2022 - by region

Location	In operation [A]		In development [B]	
	100% capacity (MW)	Shell interest (MW)	100% capacity (MW)	Shell interest (MW)
Asia	2,250	1,830	681	614
Europe	932	344	1,664	1,208
North America	103	51	3,596	2,241
Australia	—	—	120	120
Total	3,285	2,225	6,061	4,183

Renewable power generation capacity in operation and in development as of December 31, 2022

	2022	2021	2020
Renewable power generation capacity (Shell interest - gigawatt):			
In operation [A]	2.2	0.7	0.4
In development [B]	4.2	2.3	1.7

[A] Renewable generation capacity post commercial operation date.

[B] Renewable generation capacity under construction and/or committed for sale under long-term offtake agreements (PPA).

Hydrogen

We are part of joint ventures and alliances that have built hydrogen filling stations for passenger cars and trucks. Since July 2021, we have operated an electrolyser (Shell interest 100%) in Germany, which produces green hydrogen (produced using electricity from renewable sources). In China, our joint venture Zhangjiakou City Transport and Shell New Energy Co., Limited (Shell interest 47.5%) developed a renewable power electrolyser and is developing hydrogen filling stations in Zhangjiakou City in the Beijing-Tianjin-Hebei region.

The electrolyser started operations in January 2022. In July 2022, we announced the final investment decision to build the 200 MW electrolyser Holland Hydrogen I (Shell interest 100%) in the Netherlands, which is expected to be operational from 2025.

Carbon capture and storage

Carbon capture and storage (CCS) is a combination of technologies that capture and store CO₂ deep underground, preventing its release into the atmosphere. In the R&ES segment we offer CCS services to our customers. Existing CCS operations that help decarbonise our own assets are reported in the segment where the relevant asset sits.

We have a 33.3% interest in the Northern Lights CCS joint venture, where the other partners are Equinor and TotalEnergies (equal partners). The project is located in Norway and is under construction. Phase One is expected to be operational in 2024.

Nature and Environmental Solutions

Nature and Environmental Solutions include our Nature-Based Solutions (NBS) business and the Environmental Products Trading Business (EPTB). NBS conserve, enhance and restore ecosystems – such as forests, grasslands and wetlands – to prevent greenhouse gas emissions or reduce atmospheric CO₂ levels.

Through EPTB we develop, offtake, trade and supply environmental products across compliance and voluntary markets, and this includes working with our other businesses such as Integrated Gas or Marketing to provide integrated energy solutions to customers.

Shell Ventures

Shell Ventures are corporate venture funds, where we act as an investor and a partner to help commercialise innovative businesses. We aim to accelerate the energy and mobility transformation by investing in companies that lower emissions, electrify energy systems, gain data-based insights and provide innovative consumer solutions.



Treasury Wine Estates switches to solar

In 2022, Shell helped wine producer Treasury Wine Estates, owner of the Penfolds, 19 Crimes, St Huberts and Wolf Blass labels, get closer to achieving its net-zero target and become a renewable energy producer by installing a combined 9,500 solar panel modules at two of its Australian sites.

The solar modules were installed at the Barossa Winery and packaging centre in South Australia, and the Karadoc Winery in Victoria. They have been installed on rooftops and in open ground areas, and are expected to generate more than 5,500 megawatt-hours of electricity per year. This is the equivalent of powering 900 homes and offers an example of how the wine industry can navigate the energy transition.

Treasury Wine Estates wants to produce wine sustainably and is aiming for net-zero emissions from its own operations and the energy it consumes by 2030. Shell's Powering Progress strategy seeks to help customers decarbonise by identifying and providing solutions for cleaner, affordable and reliable energy.

Shell Energy is working with Treasury Wine Estates, which has 13,000 hectares of vineyards all over the world, to provide renewable energy across the wine company's operations, from cultivation to cellar door, tasting halls, offices and packaging centres. A further 9,000 solar panels are in the process of being installed at Treasury Wine Estates' Californian vineyards, including Sterling Winery, TWE Paso Winery, Paris Valley Ranch and Beaulieu Vineyards.

Photo: Solar panels installed at Treasury Wine Estates, Australia, helping TWE get closer to achieving its net-zero target.

Generating shareholder value

Corporate

Earnings

	2022	2021	\$ million 2020
Segment earnings	(2,461)	(2,606)	(2,952)
Comprising:			
Net interest [A]	(1,723)	(2,701)	(2,991)
Operating expenses and other [B]	(745)	(570)	(943)
Taxation credit	7	665	982
Identified Items	(90)	81	460
Adjusted Earnings	(2,371)	(2,686)	(3,412)
Adjusted EBITDA	(725)	(554)	(933)

[A] Mainly Shell's interest expense (excluding accretion expense) and interest income.

[B] Other mainly comprises net foreign exchange gains and losses on financing activities, headquarters and central functions' costs not recovered from business segments, and net gains on sale of properties.

Overview

The Corporate segment covers the non-operating activities supporting Shell. It comprises Shell's holdings and treasury organisation, self-insurance activities and headquarters and central functions. All finance expense, income and related taxes are included in Corporate segment earnings rather than in the earnings of business segments.

The holdings and treasury organisation manages many of the Corporate entities. It is the point of contact between Shell and external capital markets, conducting a wide range of transactions, such as raising debt instruments and transacting foreign exchange. Treasury centres in London and Singapore support these activities.

Headquarters and central functions provide business support in communications, finance, health, human resources, information technology (IT), legal services, real estate and security. They also provide support for shareholder-related activities. The central functions are supported by business service centres, which process transactions, manage data and produce statutory returns, among other services. Most headquarters and central-function costs are recovered from the business segments. Costs that are not recovered are retained in Corporate.

Earnings 2022-2021

Segment earnings in 2022 were an expense of \$2,461 million, compared with \$2,606 million in 2021.

This decrease in expense was mainly driven by favourable movements in net interest expense. This was primarily due to an increase in interest income generated on cash balances, a reduction in interest expense on lease liabilities, and a reduction in interest expense on debt following repayments in 2021. This was partially offset by lower tax credits on financing items and higher net foreign exchange losses due to unfavourable exchange rate movements.

Prior year earnings summary

Our earnings summary for the financial year ended December 31, 2021, compared with the financial year ended December 31, 2020, can be found in the Annual Report and Accounts (page 74) and Form 20-F (page 73) for the year ended December 31, 2021, as filed with the Registrar of Companies for England and Wales and the US Securities and Exchange Commission, respectively.

Self-insurance

We mainly self-insure our hazard risk exposures. Our Group insurance companies are adequately capitalised to meet self-insurance obligations and respective regulations, though they may transfer risks to third-party insurers where economical, effective and relevant (see "Risk factors" on page 27). We continually assess the safety performance of our operations and make risk mitigation recommendations, where relevant, to minimise the risk of an accident.

Information technology and cyber security

Digitalisation is a key success factor in Shell's Powering Progress strategy. Shell is fast transforming its IT systems to support the evolving portfolio of businesses and is investing in new technologies to enhance IT capabilities such as data analytics, artificial intelligence, machine learning and virtual reality, bringing value to the business.

The growing dependence on information technology and data also brings risks which could cause significant harm to Shell in the form of loss of productivity, loss of intellectual property, regulatory fines and reputational damage. Cyber security is key to managing those risks, especially in today's increasingly regulated environment and adverse cyber threat landscape.

Shell operates a multi-level defence strategy underpinned by the Shell IT Control Framework and advanced cyber defence capabilities to prevent, detect, respond to, and evolve with complex cyber and data privacy risks. At the same time, we continuously measure and, where required, further improve our cyber-security capabilities to reduce the likelihood of successful cyber attacks.

A cyber security mindset across the enterprise forms the first line of defence to protect Shell. Robust governance processes are embedded across Shell to increase cyber awareness, monitor key cyber risks, and provide risk assurance. Cyber risk strategy and risk management are regularly reviewed with the Audit Committee and Board of Directors. Shell employees and contract staff are subject to mandatory courses and regular awareness campaigns aimed at protecting us against cyber threats.

See "Risk factors" on page 26.

Our journey to net zero

Shell has long recognised that greenhouse gas (GHG) emissions from the use of hydrocarbon-based energy are contributing to the warming of the climate system. We support the more ambitious goal of the UN Paris Agreement, which is to limit the rise in global average temperature this century to 1.5 degrees Celsius above pre-industrial levels.

Shell's Powering Progress strategy is designed to generate shareholder value while meeting our target of becoming a net-zero emissions energy business by 2050.

Since 2017, Shell has supported the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). The TCFD aims to improve the disclosure of climate-related risks and opportunities and provide stakeholders with the information they need to undertake robust and consistent analyses of the potential financial impacts of climate change. The TCFD recommends disclosure of qualitative and quantitative information aligned to its four core elements: governance, strategy, risk management, and metrics and targets.

We recognise the value that the recommendations bring and, in accordance with UK Listing Rule 9.8.6R, set out below our climate-related financial disclosures consistent with all of the TCFD Recommendations and Recommended Disclosures. By this we mean the four recommendations and the 11 recommended disclosures set out in Figure 4 of Section C of the report entitled "Recommendations of the Task Force on Climate-related Financial Disclosures" published in June 2017 by the TCFD. We also take into account relevant supplemental guidance including, for example, the TCFD's additional guidance "Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures" (also known as the 2021 TCFD Annex) published in October 2021 by the TCFD. We continue to align and enhance our climate-related disclosures.



Our journey to net zero continued

Our journey to net zero

Governance (see Governance for more information)



Strategy (see Strategy for more information)

We seek to decarbonise our own operations...

- portfolio changes: acquisitions, new low-carbon projects, shutting down and decommissioning units, divestments, natural decline
- improving the energy efficiency of our operations
- low-carbon energy and chemicals parks
- using more renewable electricity in our operations
- developing carbon capture and storage (CCS)
- using high-quality carbon credits, if required

...whilst supporting the transformation of the energy system

- provide more electricity and renewable power
- develop low- and zero-carbon alternatives to traditional fuels
- help customers to decarbonise their use of energy
- address remaining emissions from conventional fuels with CCS and carbon credits

Our financial strength and access to capital give us the ability to reshape our portfolio as the energy system transforms.

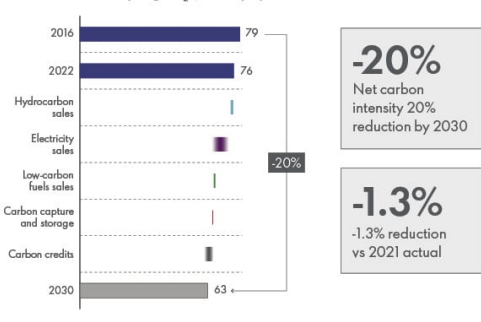
Climate Risk Management (see Climate Risk Management for more information)



Metrics & Targets (see Metrics & Targets for more information)

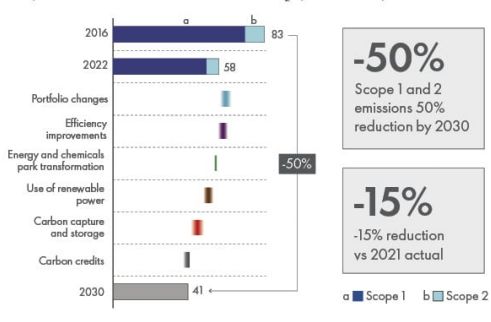
Working to reduce our net carbon intensity

Net carbon intensity in gCO₂e/MJ, equity control



Working to reduce our absolute Scope 1 and 2 emissions

Scope 1 and 2 emissions in million tonnes CO₂e per annum, operational control



Our journey to net zero continued

Governance of climate-related risks and opportunities

Board oversight of climate-related risks and opportunities

Our governance framework is designed to effectively deliver on the energy transition ambitions of Shell's Powering Progress strategy.

For detailed information on our Powering Progress strategy refer to pages 13-15.

The Board reviews our energy transition strategy periodically and oversees its implementation and delivery. In 2022, the Board considered climate-related matters throughout the year, including the assessment of climate-related risks and the effectiveness of corresponding risk management activities, and challenged and endorsed business plans, including consideration of major capital expenditures, acquisitions and divestments. In 2022, the Board convened eight times and continued to oversee the Powering Progress strategy and net-zero initiatives, including at the Board Strategy Day in June 2022.

Find more information in "Governance" (see page 139).

Three Board committees provide primary oversight of the delivery of our energy transition strategy: the Safety, Environmental and Sustainability Committee (SESCO), the Audit Committee (AC) and the Remuneration Committee (REMCO). The importance of our energy transition strategy means that these committees are informed about climate-related matters on a frequent basis throughout the year. See "Climate change governance organogram" below.

The SESCo provides oversight of our technical delivery when it comes to reducing our carbon emissions, and the potential impacts and adaptation measures related to the physical risks of climate change. This includes reviewing our carbon management framework (CMF) and monitoring progress in reducing emissions to meet targets. The SESCo

met five times in 2022 and discussed some aspects of climate-related matters at every meeting. After each meeting the SESCo Chair provided updates to the Board.

For more information on the SESCo's activities in 2022, see pages 151-152.

Our AC provides oversight of the effectiveness of the risk management framework and the integrity of our financial reporting to ensure that our financial statements reflect the risks and opportunities associated with our energy transition strategy and climate change. During 2022, the AC convened six times and discussed climate-related matters on each occasion.

More information on our Audit Committee's activities in 2022 can be found in the Audit Committee Report on pages 153-165.

The REMCO develops our remuneration policy and sets performance conditions designed to challenge and support the Executive Committee to reduce net carbon emissions while maintaining shareholder value. The REMCO met five times during 2022, with climate-related matters discussed at each meeting.

Find more information on our Remuneration Committee's activities in 2022 in the "Directors' Remuneration Report" on pages 166-170 and the "Annual Report on Remuneration" on page 172.

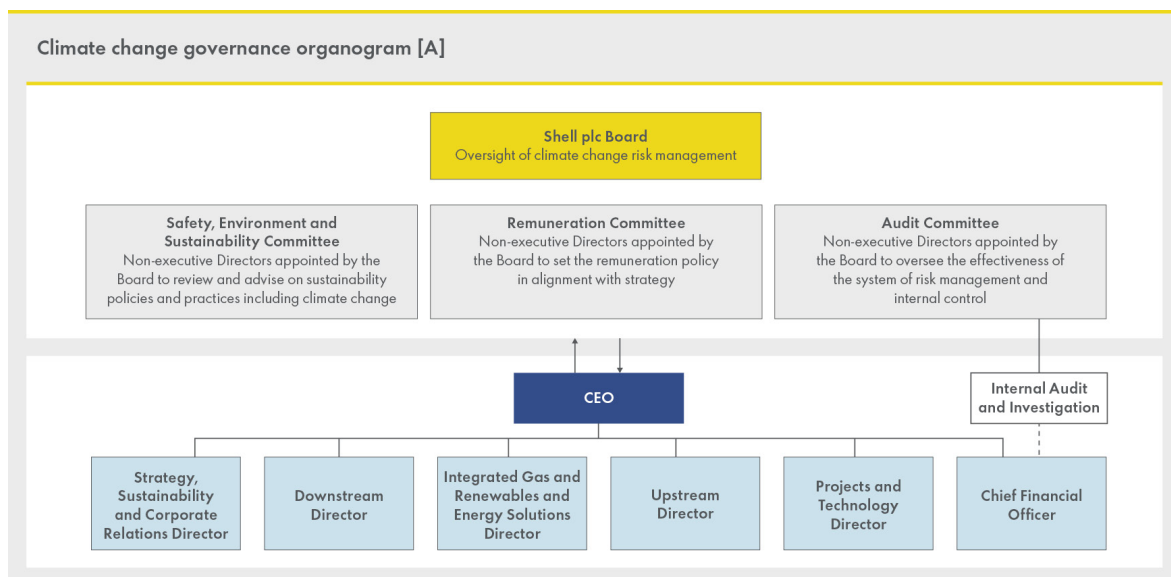
Climate performance and remuneration

Energy transition targets were part of the 2022 annual bonus scorecard (15% weighting) for almost all of Shell's employees, as well as the 2022 Performance Share Plan (PSP) awards (10% weighting) and the 2022 Long-term Incentive Plan (LTIP) for senior executives (20% weighting), both vesting in 2025.

See "Directors' Remuneration Report" on pages 166-170 for further information.

Find additional information on the Board's oversight in "Governance framework" on pages 141-142.

Management's role in assessing climate-related risks and opportunities



[A] Current structure which is subject to change with effect from July 1, 2023. See page 85 for more information.

Our journey to net zero continued

The Chief Executive Officer (CEO) has the delegated authority from the Board to manage Shell's actions in relation to the Company's strategy, which includes climate change. The CEO is assisted on climate-related matters by members of the Executive Committee to implement Shell's energy transition strategy and ensure that such matters are appropriately monitored:

- The Director of Strategy, Sustainability and Corporate Relations supports the CEO in developing Shell's energy transition strategy, including climate scenarios development, and augmenting our CMF. The CMF includes the setting of carbon budgets for our businesses, and the implementation of carbon management activities.
- The Downstream Director is responsible for identifying and delivering climate-related opportunities, as well as managing and mitigating the climate risks of our existing Downstream businesses. The Sectors and Decarbonisation organisation supports the Downstream Director in implementing the sectoral decarbonisation approach.
- The Integrated Gas, Renewables and Energy Solutions Director is responsible for developing and advancing low-carbon solutions and opportunities, including those across our solar, hydrogen and wind businesses, as well as managing and reducing carbon emissions from our business.
- The Upstream Director is responsible for identifying and delivering low-carbon and emission-reduction opportunities in our oil and gas business. This includes managing and reducing our carbon emissions, for example, by reducing routine flaring and, in some cases, by using renewable energy to power our oil and gas extraction activities.
- The Projects & Technology (P&T) Director is responsible for setting emissions, climate, and reporting standards that are applicable to all our businesses. The P&T Director is also responsible for developing new technologies that will help our businesses to deliver on net-zero emissions reduction targets through both energy efficiency measures and solutions geared towards decarbonisation.
- The Chief Financial Officer (CFO) is responsible for monitoring the effective application of the Shell Control Framework, which provides the basis for managing our material risks including climate-related risks and opportunities, and the assurance over our financial information, carbon emissions and climate-related disclosures.

On January 30, 2023, Shell announced it would reduce the size of its Executive Committee from nine to seven members. The changes are expected to take effect from July 1, 2023. The Integrated Gas and Upstream businesses will be combined into a single Integrated Gas and Upstream Directorate. The Downstream business will be combined with Renewables and Energy Solutions to form a new Downstream and Renewables Directorate. The Strategy, Sustainability and Corporate Relations directorate will be discontinued, and Strategy, Sustainability and New Business Development will now report directly to the CFO. The new structure is aimed at enabling more streamlined planning and capital allocation decisions. The intention of this change is to simplify the organisation further and improve performance as we deliver our Powering Progress strategy.

Additional supporting governance

There are two key supporting management committees, with representatives from across Shell, which play a critical role in driving our energy transition strategy:

- The Capital Investment Committee (CIC) facilitates portfolio management discussions and reviews each investment opportunity that is, due to its size, subject to approval by the CEO or the Board. These reviews ensure that the climate risks and opportunities, together with other defined criteria including shareholder value, are embedded in investment decision-making. This committee is made up of senior executives, including the CEO, CFO, and individual business directors.

- The Carbon Reporting Committee (CRC) includes senior management representatives from business units, P&T climate-related disciplines and various functions, such as Strategy, Finance and Legal. This committee is tasked with ensuring that GHG emissions measures, both absolute emissions and carbon intensity, and associated metrics, comply with all regulatory and legal requirements. The CRC is responsible at Group level for the calculation methodologies and reporting of GHG emissions metrics, and the review and approval of external disclosures.

In addition to these committees, our network of country chairs supports the overall governance and development and deployment of climate-related initiatives. They facilitate the setting of each country's plans in support of Powering Progress.

Processes by which management is informed about climate-related issues
Several processes are employed across the organisation to ensure that management teams can effectively monitor and manage climate-related matters. The management teams are helped by a combination of carbon-management-related standards and frameworks, forums at various levels of the organisation, and capability development programmes. These include our carbon management framework, carbon pricing, and the Greenhouse Gas (GHG) and Energy Management process, which forms part of our Health, Safety, Security, Environment and Social Performance (HSSE & SP) Control Framework.

Carbon management framework

Shell's carbon management framework (CMF) helps us set carbon budgets in the operating plans for our businesses. The CMF seeks to manage and reduce emissions in a manner that is similar to how we use our financial framework. Carbon budgets are an effective measure for maintaining absolute emissions below a capped level, however achieving our intensity target is dependent on our energy product mix which is not driven by carbon budgets alone.

The CMF allows for carbon budgets to be allocated to our businesses and trade-offs between emitting carbon and generating shareholder value to occur within those budgets. The CMF helps inform portfolio decisions and support our decarbonisation targets. This provides leadership with the information required to make decisions on GHG reduction opportunities and portfolio choices required to achieve our decarbonisation targets.

For the 2022 operating plan cycle, our net carbon intensity (NCI) targets were translated into Scope 1, 2 and 3 (see definition on page 86) carbon budgets for each business. These budgets were used to optimise the operating plans for each business.

Some examples of how our decarbonisation targets are taken into account in fundamental decisions across the organisation are as follows:

- Our businesses further embedded carbon emissions objectives in their respective Capital, Portfolio and Carbon forums. The forums consist of the most senior business management representatives who are responsible for active portfolio management through evaluation, and delivery of growth and divestment decisions.
- Certain assets are required to identify GHG abatement opportunities and reflect them in their annual business plans.

Our journey to net zero continued



Greenhouse gas and energy management

Each Shell entity and Shell-operated venture is responsible for the development of its GHG emissions and energy management plans.

Our Greenhouse Gas and Energy Management process sets out Shell's requirements for GHG reduction opportunities and portfolio choices to meet our carbon budgets and achieve our decarbonisation targets. These requirements allocate accountabilities for GHG and energy management within businesses, assets and projects, including responsibility for analysing our emissions, benchmarking performance, identifying improvement opportunities, and forecasting future performance. These requirements are applied to capital project delivery and through the asset-level annual business planning process, ensuring it is reflected in both opportunity realisation and strategic asset management planning.

A key aspect of the GHG and Energy Management process is the development of an energy efficiency and greenhouse gas reduction opportunity curve, economically assessed against the current and future costs of carbon. This information provides the basis for forecasts of absolute GHG emissions and associated intensities at the asset and project level. These forecasts are then aggregated to inform decisions on potential decarbonisation opportunities across our businesses.

A Global Process Council for GHG and Energy Management, led by the Global Process Owner for GHG and including business and functional experts, meets regularly to evaluate opportunities for the ongoing improvement of processes, tools, communications, and capabilities needed within the businesses to achieve our decarbonisation aspirations.

The requirements of our GHG & Energy Management Process are integrated into our annual business planning cycle.

Definition - Scope 1, 2 and 3 emissions

We follow the GHG Protocol's Corporate Accounting and Reporting Standard, which defines three scopes of GHG emissions:

- Scope 1: direct GHG emissions from sources under Shell's operational control.
- Scope 2: indirect GHG emissions from generation of purchased energy consumed by Shell assets under operational control.
- Scope 3: other indirect GHG emissions, including emissions associated with the use of energy products sold by Shell.



Carbon pricing

We consider the potential costs associated with operational GHG emissions when we assess the resilience of new projects. For each region, we have developed short-, medium- and long-term estimates of future costs of carbon. These are reviewed and updated annually. See Note 4 to the "Consolidated Financial Statements" for further details on our regional cost of carbon estimates.

Up to 2030, costs for carbon emissions estimates are largely policy driven through emission trading schemes or taxation levied by governments and which varies significantly on a country-by-country basis. Beyond 2030, where policy predictions are more challenging, the costs for carbon emissions are estimated based on the expected costs of abatement technologies required for 2050. The costs are estimated to be at \$125 per tonne (RT 2022) under Shell's mid-price scenario. Under a high-price scenario, the costs are set at \$220 per tonne (RT 2022), the top of the bioenergy with CCS cost range and the lower end of the direct air capture cost range.

See "The resilience of Shell's strategy" on pages 92-93 for more information on how carbon costs impact Shell's resilience to climate-related risks, including sensitivity analysis.

Our journey to net zero continued

Energy transition strategy

Powering Progress is our strategy to become a net-zero emissions energy business, purposefully and profitably. Powering Progress aims to deliver value for our shareholders, for our customers and for wider society.

For more information, see the "Our strategy" section on pages 13-15.

Our strategy aims to support the more ambitious goal of the Paris Agreement. Tackling climate change is an urgent challenge. It requires a fundamental transformation of the global economy and the energy system so that society stops adding to the total amount of greenhouse gases in the atmosphere, achieving what is known as net-zero emissions. That is why Shell has set a target to become a net-zero emissions energy business by 2050.

To help us get there, we have set short-, medium- and long-term targets to reduce our carbon intensity, measured using our net carbon intensity (NCI) metric. For more information see "Setting targets for NCI" on page 103.

There is no established standard for aligning an energy supplier's decarbonisation targets with the temperature limit goal of the Paris Agreement. In the absence of a broadly accepted standard, Shell has developed its own approach to demonstrate Paris alignment by setting carbon intensity targets within a pathway derived from scenarios from the IPCC Special Report on Global Warming of 1.5°C (SR 1.5), most of which show the global energy system reaching net zero between 2040 and 2060.

This pathway is aligned with the more ambitious temperature goal of the Paris Agreement to limit global mean temperature rise to 1.5°C above pre-industrial levels by 2100. We believe our targets are aligned with the IPCC SR1.5 pathway.

When constructing the pathway, we filtered out certain outlying IPCC scenarios to ensure that Shell's targets are aligned with earlier action, and low-overshoot scenarios. Overshoot refers to the extent to which a scenario exceeds an emissions budget and subsequently relies on carbon sinks to compensate for the excess emissions.

Becoming a net-zero emissions energy business means reducing emissions from our operations, and from the fuels and other energy products, such as electricity, that we sell to our customers. It also means capturing and storing any remaining emissions using technology, protecting natural carbon sinks, and providing high quality carbon credits to our customers to compensate for hard-to-abate emissions.

An increasing number of countries and companies have announced targets to achieve net-zero emissions by the middle of the century, and we are starting to see some changes in the demand and supply of energy. However, achieving the 1.5 degrees Celsius goal will be challenging and requires unprecedented global collaboration. The pace of change will also vary around the world.

Climate-related risks and opportunities identified by Shell over the short, medium and long term

We are continually enhancing our strategic risk management approach to addressing climate-related risks. Our strategy is shaped in response to risks and opportunities identified across the customer sectors and regions we work in.

The process for identifying and assessing climate-related risks and opportunities is set out under "Climate Risk Management" below. Shell has identified climate change and the associated energy transition as a material risk based on societal concerns and developments related to climate change and managing GHG emissions. The risks could potentially result in changes to the demand for our products, our operational costs, supply chains, markets, the regulatory environment, our licence to operate, and litigation. The risks are composed of a combination of complex and interrelated elements that affect Shell's overall business value chain, and our asset, product and business portfolio. The risk landscape is evolving rapidly. To achieve our emissions reduction targets, active holistic management of all climate-related risk components is important. The composite risk is broken down into the following sub-components:

- commercial risk;
- regulatory risk;
- societal risk (including litigation risk); and
- physical risk.

We also seek to identify opportunities for Shell in the energy transition, from our existing position as a leading global energy provider. These risks and opportunities are described below and are also summarised in the "Risk factors" section of the Strategic Report on pages 21-30.

Time horizons: short, medium and long

Due to the inherent uncertainty, and the pervasive nature of the risks across our strategy and business model, we monitor climate-related risks and opportunities across multiple time horizons.

- Short term (up to three years): we develop detailed financial projections and use them to manage performance and expectations on a three-year cycle. These projections incorporate decarbonisation measures required to meet our short-term targets.
- Medium term (generally three to 10 years): embedded within our operating plan, with our continued focus on the customer, the investments and portfolio shifts required in the medium term that will fundamentally reshape Shell's portfolio. At the same time, our existing asset base is expected to provide the cash flow to finance this transition of our revenue in this period.
- Long term (generally beyond 10 years): it is expected that our portfolio and product mix will look very different, addressing the shift from an asset-based approach to a customer-based business model.

Our journey to net zero continued

Transition risks

Climate-related commercial risk

- The transition to a low-carbon economy may lead to lower sales volumes and/or margins due to a general reduction or elimination of demand for oil and gas products, possibly resulting in underutilised or stranded oil and gas assets and a failure to secure new opportunities.
- Changing preferences of investors and financial institutions could reduce access to and increase the cost of capital.

Relevant time horizon:
medium and long

Potential material impacts on the organisation

Lower demand and margins for oil and gas products
Changing customer sentiment towards renewable and sustainable energy products may reduce demand for our oil and gas products. An excess of supply over demand could reduce fossil fuel prices. This could be a factor contributing to additional provisions for our assets and result in lower earnings, cancelled projects and potential impairment of certain assets.

Changing preferences of investors and financial institutions
Financial institutions are increasingly aligning their portfolios to a low-carbon and net-zero world, driven by both regulatory and broader stakeholder pressures. A failure to decarbonise the business portfolios in line with investor and lender expectations could have a material adverse effect on our ability to use financing for certain types of projects. This could also adversely affect our potential partners' ability to finance their portion of costs, either through equity or debt.

Sensitivity analysis of a 1% shift in Shell's weighted average cost of capital on asset carrying values is presented in 'Carbon pricing and discount rate sensitivities' on page 93.

Remaining in step with the pace and extent of the energy transition
The energy transition provides us with significant opportunities, as described in the "Transition opportunities" below. If we fail to stay in step with the pace and extent of change or customers' and other stakeholders' demand for low-carbon products, this could adversely affect our reputation and future earnings. If we move much faster than society, we risk investing in technologies, markets or low-carbon products that are unsuccessful. Therefore we cannot transition too quickly or we will be trying to sell products that customers do not want. This could also have a material adverse effect on financial results.

Technology and innovation are essential to our efforts to help meet the world's energy demands competitively. If we are unable to develop the right technology and products in a timely and cost-effective manner, or if we develop technologies, products and solutions that harm the environment or people's health, there could be an adverse effect on our future earnings.

Climate-related regulatory risk

The transition to a low-carbon economy will likely increase the cost of compliance for our assets and/or products, and may include restrictions on the use of hydrocarbons. The lack of net-zero-aligned global and national policies and frameworks increases the uncertainty around this risk.

Relevant time horizon:
short, medium, and long

Potential material impacts on the organisation

Increased compliance costs
Some governments have introduced carbon-pricing mechanisms, which we believe can be an effective way to reduce GHG emissions across the economy at the lowest overall cost to society.

Shell's cost of compliance with the EU Emissions Trading Scheme (ETS) and related schemes was around \$493 million in 2022, as recognised in Shell's Consolidated Statement of Income for 2022. A further \$3,512 million of costs were incurred in respect of biofuels (\$2,918 million) and renewable power (\$594 million) programmes (see Note 5 to the "Consolidated Financial Statements" on pages 241-242).

Shell's annual carbon cost exposure is expected to increase over the next decade because of evolving carbon regulations. The forecasted annual cost exposure in 2023 is estimated to be around \$0.8 billion and around \$1.5 billion in 2032. This estimate is based on a forecast of Shell's equity share of emissions from operated and non-operated assets (including joint ventures and associates), and real-term carbon cost estimates using the mid-price scenario (see Note 4 to the "Consolidated Financial Statements" on pages 230-240 for more information). This exposure also takes into account the estimated impact of free allowances as relevant to assets based on their location.

Restrictions on use of hydrocarbons
Around 90% of the global economy is now signed up to net-zero commitments as of June 2022, according to the Energy and Climate Intelligence Unit. This brings an increasing risk that governments set future regulatory frameworks that restrict further exploration and production of hydrocarbons, and bring in controls to limit the use of such products. Failure to replace proved reserves could result in an accelerated decrease of future production, which could have a material adverse effect on our earnings, cash flows and financial condition.

Lack of net-zero-aligned global and national policies and frameworks
The lack of net-zero-aligned global and national policies and frameworks increases the uncertainty around how carbon pricing and other regulatory mechanisms will be implemented in the future. This makes it harder to determine the appropriate assumptions to be taken into account in our financial planning and investment decision processes.

Our journey to net zero continued

Transition risks continued

Climate-related societal risk (including litigation risk)

As societal expectations develop around climate change, there is a potential impact on Shell's licence to operate, reputation, brand and competitive position. This is likely to include litigation.

Relevant time horizon:
short, medium and long

Potential material impacts on the organisation

Decline in reputation and brand

Societal expectations of businesses are increasing, with a focus on business ethics, quality of products, contribution to society, safety and minimising damage to the environment. There is an increasing focus on the role of the oil and gas sector in the context of climate change and the energy transition. This could negatively affect our brand, reputation and licence to operate, which could limit our ability to deliver our strategy, reduce consumer demand for our branded and non-branded products, harm our ability to secure new resources and contracts, and restrict our ability to access capital markets or attract staff.

Deteriorating relationships with key stakeholders

Failure to decarbonise Shell's value chain in line with societal, governmental and investor expectations is a material risk to Shell's reputation as a responsible and market-leading energy company. The impact of this risk includes shareholder divestment, greater regulatory scrutiny and potential asset closure resulting from public interest groups' protests.

Litigation

There is an increasing risk to oil and gas companies from public, private and governmental lawsuits. Such action may have wide-ranging consequences, including forcing entities to hand over strategic autonomy in part to regulators, divest from hydrocarbon technologies, denial of regulatory approvals and/or paying fines/penalties or large compensation packages to the plaintiff.

In some countries, governments, regulators, organisations and individuals have filed lawsuits of a wide variety, including seeking to hold oil and gas companies liable for costs associated with climate change, or seeking court-ordered reductions in emissions, challenging the regulatory approvals and operating licenses, or challenging energy transition strategies and plans. While we believe these lawsuits to be without merit, losing could have a material adverse effect on our earnings, cash flows and financial condition.

For example, in May 2021, the District Court in The Hague, the Netherlands, ruled that, by end 2030, Shell must reduce, from its consolidated subsidiaries, its aggregate net Scope 1, 2 and 3 emissions by 45%, compared with 2019 levels. The Scope 1 component is a results-based obligation and the Scope 2 and 3 components are a significant best efforts obligation. In 2019, our Scope 1 emissions from our consolidated subsidiaries were 86 million tonnes of carbon dioxide equivalent (CO₂e) (rounded) (financial control basis).

Physical risks

Climate-related physical risk

The potential physical effects of climate change may impact Shell's assets, operations, supply chains, employees and markets.

Relevant time horizon:
short, medium and long

Potential material impacts on the organisation

Mitigation of physical risks, whether or not related to climate change, is considered and embedded in the design and construction of assets. The potential impact of physical changes comes from both acute and chronic physical risks.

Acute risks, such as flooding and droughts, wildfires and more severe tropical storms, and chronic risks, such as rising temperatures and rising sea levels, could potentially impact some of our facilities, operations and supply chains. The frequency of these hazards and impacts is expected to increase in certain high-risk locations. Extreme weather events, whether or not related to climate change, could have a negative impact on our earnings, cash flows and financial conditions.

We have performed a limited analysis addressing a range of typical climate change features for a select group of assets. As this is an emerging area of risk assessment, we aim to deepen our understanding of these potential future risks.

Additionally, the impact of physical climate change on our operations is unlikely to be limited to the boundaries of our assets. The overall impact including how supply chains, resource availability and markets may be affected also needs to be considered for a holistic assessment of this risk. Our assets manage this risk as part of broad risk and threat management processes as required by our HSSE & SP Control Framework.

Our journey to net zero continued

Transition opportunities

Climate-related opportunities

The transition to a low-carbon economy also brings significant opportunities for us to benefit from changing customer demands, given our position as a leading global energy provider.

Relevant time horizon: short, medium and long

Potential material impacts on the organisation

As the global energy mix changes, our current infrastructure, know-how and global footprint put us in an ideal position to service the changing energy demands of the market. Our research and development (R&D) activities are key to achieving our net-zero emissions target.

As we shift from an asset-based to a customer-focused business model our current key focus areas for seizing this opportunity are:

1. Renewables and Energy Solutions

This encompasses our wind, solar, hydrogen, electric vehicle charging, nature-based solutions, and carbon capture and storage businesses. Electricity generated by wind and solar power plays a direct role in reducing emissions in passenger transport and parts of industry. It can also be used to create hydrogen. We expect hydrogen to present a business opportunity for heavy-duty road freight over a shorter time horizon and within shipping, industry and, possibly, aviation, over a longer time horizon. Hydrogen also has the potential to become a material part of Shell's business-to-business (B2B) operations, as heavy industry begins to transition away from energy sourced from hydrocarbons.

In 2022, Shell announced the final investment decision to build Holland Hydrogen 1, a 200 MW electrolyser that will be constructed on the Tweede Maasvlakte in the Port of Rotterdam and is expected to produce up to 60,000 kilograms of renewable hydrogen per day.

In 2022, Shell's spending on CCS opportunities (operating expenses and cash capital expenditure) amounted to around \$220 million, an increase of 51% from the \$146 million in 2021. Shell's equity share of captured and stored CO₂ was around 0.4 million tonnes in 2022, in line with the 2021 amount.

2. Biofuels

Shell and the non-operated joint venture Raizen (Shell interest 44%) are together one of the world's largest blenders and distributors of biofuels. Shell plans to continue to invest in and increase the production of these low-carbon fuels. Our low-carbon fuels projects and operations around the world form part of a wider commitment to provide a range of energy choices for customers. For example, we believe that sustainable aviation fuels (SAF) provide the most effective way of reducing emissions within the aviation sector, with wider adoption of SAF enabling us to provide more low-carbon fuels to our customers. Biofuels may also present opportunities in the shipping, road freight and other sectors.

Together with our customers, we are working on changing energy demand and developing ways to help increase the use of low-carbon fuels and decrease carbon emissions from this sector. Meanwhile, on the supply side, in Rotterdam in the Netherlands, Shell is building an 820,000-tonnes-a-year biofuels facility. This is expected to be among the largest in Europe producing sustainable aviation fuel and renewable diesel made from waste and certified sustainable vegetable oils.

3. Natural gas

Demand for liquefied natural gas (LNG) is expected to grow. As one of the world's largest suppliers of liquefied natural gas (LNG), with around 40 million tonnes of equity capacity, we can ship natural gas to where it is needed. LNG plays an important role in enabling countries to replace coal-fired power generation with a less carbon-intensive alternative. Shell seeks to provide more affordable, reliable and cleaner energy to our customers. In 2022, we produced gas for the first time from the Shell-operated Colibri project in Trinidad and Tobago. While the majority of Colibri's gas will be exported as LNG, around 25% will be used to power local homes and businesses.

4. Transforming refineries into energy and chemicals parks
An important aim of our Powering Progress strategy is to transform refineries into energy and chemicals parks so that we can sell more low-carbon and sustainable products.

Impact of climate-related risks and opportunities on Shell's businesses, strategy and financial planning

The transformation of the energy system to net-zero emissions will require simultaneous action in three areas – an unprecedented improvement in the efficiency with which energy is used, a sharp reduction in the carbon intensity of the energy mix, and the mitigation of residual emissions using technology and natural sinks. While it is difficult to predict the exact combination of actions that will deliver the net-zero goal, scenarios help us to consider the variables and the potential direction and pace of the transition needed.

We have been developing scenarios within Shell for almost 50 years, helping Shell leaders to explore ways forward and make better decisions. Shell scenarios are designed to stretch management's thinking when it comes to considering events that may be remotely possible. Scenarios help management make choices in times of uncertainty and transition as we grapple with tough energy and environmental issues. They are aligned to different energy transition pathways and help in decision-making by guiding the identification of risks and opportunities.

Different socio-economic and technological parameters are used to construct these scenarios, such as:

- sectoral and regional energy demand;
- future trajectory of oil consumption and demand for natural gas;
- renewable electricity demand and the pace of the electrification of the global energy system;
- supply of solar and wind energy;
- pace of uptake of electric vehicles;
- demand for biofuels;
- growth of the hydrogen economy;
- level of carbon capture and storage (CCS);
- deployment of lower-carbon energy technologies; and
- global trade of oil and gas.

Management consideration of different climate change outcomes informs a range of areas including, but not limited to, the setting of the long-term strategy, business planning, and investment and divestment decisions. The outcomes considered by management vary in relation to the extent and pace of the energy transition.

Our journey to net zero continued

Impact on strategic planning

The application of scenario analysis informs our assessment of the impact of a wide range of risks and opportunities, including climate-change related issues, on our strategy and business planning, both at the Group and business unit levels. At the Group level, the potential impacts of the energy transition on our business model are discussed and assessed at the Board and the Executive Committee level as part of the annual strategic and business planning cycle. This assessment allows us to challenge accepted ways of thinking, identify material risks and opportunities, and identify key tensions and trade-offs.

Key financial and non-financial components of business planning

The Board approves our annual business plan. The plan contains operational and financial metrics, and its objective is to drive the delivery of our Powering Progress strategy.

Decarbonisation targets are key to our business planning process. Each business owner offers viable Scope 1, 2 and 3 reduction opportunities as part of this process, in line with the CMF (see page 85).

The business plan is underpinned by assumptions about internal and external parameters and includes:

- commodity prices;
- refining margins;
- production levels and product demand;
- exchange rates;
- future carbon costs;
- the schedules of capital investment programmes; and
- risks and opportunities that may have material impacts on free cash flow.

These assumptions are developed with input from our scenarios and internal estimates and outlooks. The level of uncertainty around these assumptions increases over longer time horizons.

Impact on business and financial planning

There is no single scenario that underpins Shell's business and financial planning. Scenarios are not intended to be predictions of likely future events or outcomes and, therefore, are not the basis for Shell's operating plans and financial statements. Our scenarios help in developing our future oil and gas pricing outlooks. The oil and gas pricing outlooks takes account of factors relating to the energy transition, such as potential changes in supply and demand (see details of scenario parameters above). The low-, medium- and high-pricing outlooks are prepared by a team of experts, reviewed by the Shell Executive Committee, and approved by the CEO and CFO. The medium pricing outlook represents management's reasonable best estimate and is the basis for Shell's financial statements, operating plans and impairment testing.

Shell's targets to reduce absolute Scope 1 and 2 emissions by 50% by 2030, compared with 2016 levels on a net basis (i.e. including carbon credits), and 20% reduction in net carbon intensity by 2030 have been included in Shell's operating plan. We will continue to update our business plan, price outlooks and assumptions as we move towards net-zero emissions by 2050.

As described in "Climate-related risks and opportunities identified by Shell over the short, medium and long term", the low-pricing outlooks could result in increased commercial, regulatory and societal risks, as well as transition opportunities. How these risks are prioritised is described in "Shell's processes for identifying and assessing climate-related risks". Given our target to become a net-zero emissions energy business by 2050, the use of low-pricing outlooks is a part of our resilience testing and resulting actions.

Our strategy and national net-zero commitments

In line with LR 9.8.6FG, we have considered the extent to which country-level net zero commitments have been considered in developing our transition plan.

Our Powering Progress strategy aims to deliver a net-zero emissions energy business by 2050. The pace of the energy transition will be heavily influenced by government policy, creating a strong country and regional dimension in seeking to deliver the aims of the Paris Agreement. Our commitment is a global one and, as such, we look to deliver our strategy through a global lens.

We seek to translate our energy transition strategy into specific targets and plans at a business segment level, ensuring we take capital deployment and portfolio decisions in the context of the globally integrated nature of our operations. However, we continue to recognise the importance of engagement and collaboration in delivering the fundamental changes to the energy system that are required. This includes supporting and advocating for policies that aim to reduce carbon emissions and working with governments and other stakeholders in the development of policy that supports the transition to a lower-carbon energy system. As national transition plans develop, consideration will be given to the impact on our operations and the associated implications for our energy transition strategy.

Our journey to net zero continued

Resilience of Shell's strategy to different climate-related scenarios

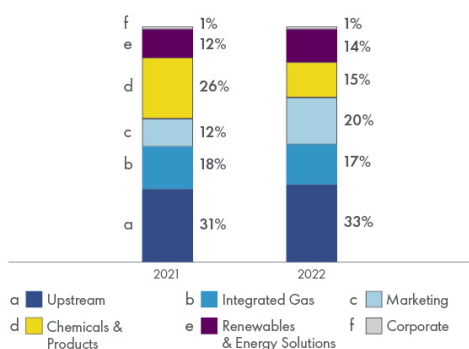
Shell's financial strength and access to capital give us the ability to reshape our portfolio as the energy system transforms. They also allow us to withstand volatility in oil and gas markets.

We continue to optimise our capital allocation balancing energy security and demand, as well as internal and external transition considerations and opportunities. We aim to find the right balance between managing our upstream assets – which provide the vital supplies of oil and gas that the world needs today and produce the returns needed to help us fund the transition – and investing in the energy transition. These activities are essential to identify, build and scale up profitable projects that offer low-carbon energy solutions for our customers.

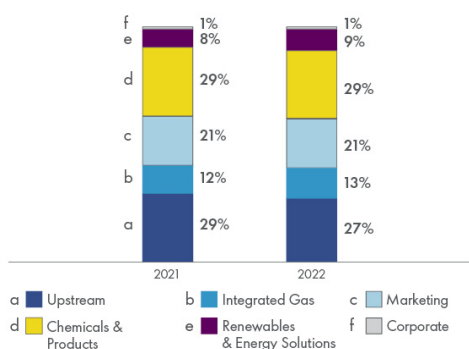
From January 1, 2022, we have disclosed the financial performance of our Renewables and Energy Solutions (R&ES) segment. R&ES is a business through which we seek to develop commercial opportunities which will be key in supporting the delivery of our net-zero emissions target.

See Note 8 to the Consolidated Financial Statements "Segment Information" on pages 245-249 for more information.

Cash capital expenditure evolution by segment



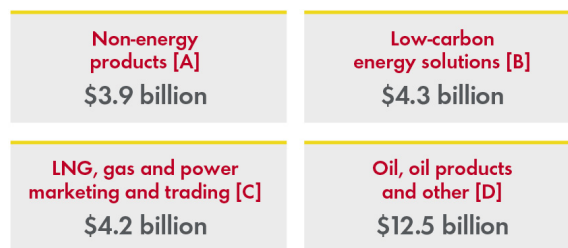
Operational expenditure evolution by segment



Cash capital expenditure by segment for 2023 is expected to be in the range of \$8 billion for Upstream, \$6 billion for Marketing, \$5 billion for Integrated Gas, \$3-4 billion for Chemicals and Products, and \$2-4 billion for R&ES.

Investing through the energy transition

Total cash capital expenditure of \$25 billion in 2022



[A] Products for which usage does not cause Scope 3, Category 11 emissions: Lubricants, Chemicals, Convenience Retailing, Agriculture & Forestry, Construction & Road.

[B] E-Mobility and Electric Vehicle Charging Services, Low-Carbon Fuels (Biofuels/HEFA), Renewable Power Generation (Solar/Wind), Environmental Solutions, Hydrogen, CCUS. We define low-carbon energy products as those that have an average carbon intensity that is lower than conventional hydrocarbon products, assessed on a lifecycle basis (including emissions from production, processing, distribution and end use).

[C] LNG Production & Trading, Gas & Power Trading, and Energy Marketing.

[D] Upstream segment, GTL, Refining & Trading, Marketing fuel and hydrocarbon sales, Shell Ventures, Corporate segment.

Movements in cash capital expenditure versus 2021 were as follows:

- 'Non-energy products' reduced by 9% (from \$4.2 billion in 2021) mainly through lower spend at Shell Polymers Monaca as construction came to completion.
- 'Low-carbon energy solutions' increased by 89% (from \$2.3 billion in 2021) mainly through higher investments in renewable power generation, low-carbon fuels, and e-mobility.
- 'LNG, gas and power marketing and trading' increased by 17% (from \$3.6 billion in 2021) reflecting investment in the North Field East expansion project in Qatar.
- 'Oil, oil products and other' increased by 30% (from \$9.6 billion in 2021) mainly through our Upstream deepwater operations, including the acquisition of a 25% stake in the Atapu field in Brazil.

Key aspects of Shell's financial resilience in the context of climate-related impacts are assessed and described in more detail in Note 4 to the "Consolidated Financial Statements". This describes how Shell has considered climate-related impacts in key areas of the financial statements and how this translates into the valuation of assets and measurement of liabilities. Shell's financial statements are based on reasonable and supportable assumptions that represent management's best estimate of the range of economic conditions that may exist in the foreseeable future.

Sensitivity analysis using external, and often normative, climate scenarios has been performed for the period covering asset life cycles. If these different price outlooks were used, this would impact the recoverability of certain assets recognised in the Consolidated Balance Sheet as at December 31, 2022.

As there is no single scenario that underpins our plans, sensitivity analysis has been conducted using a range of key assumptions to test the resilience of our asset base. This includes sensitivity analysis on asset carrying values using commodity price outlooks from external and often normative climate change scenarios; shifting trends in our portfolio, particularly exploration and evaluation, Upstream production and refineries; risks related to stranded assets; resilience of investments for transformation of the refining portfolio into five energy and chemicals parks; forecasted taxable profits sufficient to recover deferred tax assets; dividend resilience; and limited risk on timing of decommissioning and restoration activities for Integrated Gas and Upstream.

Our journey to net zero continued

Commodity price sensitivities

Oil and gas prices are one of the key assumptions that underpin Shell's financial statements, with the mid-price outlook informed by Shell's scenario planning representing management's best estimate. Price outlooks reflect a broad range of factors, including, but not limited to, future supply and demand, and the pace of growth of low-carbon solutions. The scenarios have been selected to illustrate the resilience of the asset base under a range of possible outcomes, including the price implications arising from the IEA Net Zero Emissions scenario which provides a potential path for the global energy system to net-zero emissions by 2050. Sensitivities of asset carrying amounts to prices are under the assumption that all other factors in the models used to calculate impacts remain unchanged.

Sensitivity analysis has been performed using price outlooks from:

1. Average prices from three 1.5-2 degrees Celsius external climate change scenarios. In view of the broad range of price outlooks across the various scenarios, the average of three external price outlooks was taken from IHS Markit/ACCS 2022; Woodmac WM AET-1.5 degree; and IEA NZE50.

Applying these prices to Integrated Gas assets of \$75 billion and Upstream assets of \$88 billion as at December 31, 2022, shows recoverable amounts that are \$4-6 billion and \$1-2 billion lower, respectively, than the carrying amounts as at December 31, 2022.

2. Hybrid Shell Plan and IEA NZE50: for this Shell's mid-price outlook is applied for the next 10 years. Because of greater uncertainty, the IEA normative Net Zero Emissions scenario is applied for the period after 10 years. This weights less price-risk uncertainty to the first 10 years reflected in the operating plan period and applies more risk to the more uncertain subsequent periods.

Applying this priceline to Integrated Gas assets of \$75 billion and Upstream assets of \$88 billion as at December 31, 2022, shows recoverable amounts that are \$4-6 billion and \$1-2 billion lower, respectively, than the carrying amounts as at December 31, 2022.

3. For 2022, we have also included sensitivities based on a 1.5 degree scenario, derived from IEA NZE50. This priceline applies the IEA normative Net Zero Emissions scenario over the whole period under review. This priceline has been applied for the first time in the current year in order to also reflect the sensitivity to a pure net-zero emissions scenario from the IEA.

Applying this priceline to Integrated Gas assets of \$75 billion and Upstream assets of \$88 billion as at December 31, 2022, shows recoverable amounts that are \$9-12 billion and \$8-11 billion lower, respectively, than the carrying amounts as at December 31, 2022.

In addition, further sensitivities are provided of -10% or +10% to Shell's mid-price outlook, as an average percentage over the full period. A change of -10% or +10% to the mid-price outlook, as an average percentage over the full period, would result in around \$2-5 billion impairment or some \$2-4 billion impairment reversal, respectively, in Integrated Gas and Upstream as at December 31, 2022.

Compared with the prior year the impact on recoverable amounts is significantly lower as a result of the higher short- and medium-term commodity prices.

Carbon pricing and discount rate sensitivities

The risk of stranded assets may increase in a higher carbon price scenario. Sensitivities of our asset carrying values to carbon prices have been based on an IEA NZE 2050 scenario, to illustrate the resilience of asset carrying values to higher long-term carbon prices than those included in the Shell mid-price outlook.

Applying the IEA NZE 2050 carbon price scenario to Integrated Gas assets of \$75 billion and Upstream assets of \$88 billion, up to the end of life of these assets, shows recoverable amounts that are \$2-5 billion and not significantly lower, respectively, than the carrying amounts as at December 31, 2022.

See "Carbon pricing" on page 86 for more information on our carbon price assumptions.

The discount rate applied for impairment testing is based on a nominal post-tax weighted average cost of capital (WACC) of 5% for Power activities and a nominal post-tax WACC of 6.5% for all other businesses. The discount rate includes generic systematic climate change risk. In addition, cash flow projections applied in individual assets include specific asset risks. An increase in systematic climate risk could lead to a higher WACC and consequently to a higher discount rate to be applied in impairment testing. We have used a 1% shift in discount rate for sensitivity analysis purposes as an indicator of the resilience of our asset base to incremental increases in our cost of capital.

An increase of the WACC of 1% under the assumption that all other factors in the models used to calculate recoverability of carrying amounts remain unchanged would lead to an impairment of \$1-3 billion for Integrated Gas and up to \$1 billion in each of the following segments: Upstream, Chemicals and Products, and Renewables and Energy Solutions. No significant impairment would arise in the Marketing segment.

See Note 4 to the Consolidated Financial Statements on page 230 for further information on climate-related impacts in key areas of the financial statements.

Delivering our energy transition strategy

To ensure the resilience of our Powering Progress strategy, our responses to the risks and opportunities identified are:

- delivery through our integrated business model;
- a sectoral decarbonisation approach – recognising that we need to work with our customers to identify low-carbon energy solutions for their energy demands; and
- decarbonisation of our energy value chains and operations.

Our net-zero target includes emissions from our operations, and the life-cycle emissions from all the energy products we sell. We will seek to reduce emissions from our own operations, including the production of oil and gas. More than 90% of the total emissions we include within the NCI boundary are indirect emissions associated with third-party products and end use emissions of energy products we sell, so we are also working with our customers to support them in transitioning to low-carbon products and services.

Our integrated approach allows us to withstand volatility in oil and gas markets. Our financial framework is based on sector-leading cash flow, continued capital discipline, capital flexibility and a strong balance sheet.

- Upstream delivers the cash and returns needed to fund our shareholder distributions and the transformation of our portfolio, and provides vital supplies of oil and natural gas to help meet the world's energy needs.
- Integrated Gas and Chemicals and Products make the products needed to help enable the energy transition. They produce sustainable cash flow and provide us with the asset infrastructure to support our investments in the future of energy.
- Marketing and R&ES include service stations, sales of gasoline and diesel, fuels for business customers, power, hydrogen, biofuels, charging for electric vehicles, carbon credits, and development of commercial CCS. They focus on working with our customers to help accelerate the transition to net zero and are the foundation for the future businesses in Shell.

See "Outlook" for more information on page 19.

Our journey to net zero continued

Our research and development (R&D) activities are also key to achieving our net-zero emissions target. They are an important way to address the technology risk as mentioned in the "Transition risk and opportunities" section.

In 2022, our R&D expenditure on projects that contributed to decarbonisation was around \$440 million, representing about 41% of our total R&D spend, compared with around 40% in 2021. This includes expenditure on reducing greenhouse gas emissions:

- for our customers through renewable power generation, storage, e-mobility and other electrification solutions;
- from our own operations, for example, by improving energy efficiency and electrification;
- from the fuels and other products we sell to our customers - for example, biofuels, synthetic fuels and products made from low-carbon electricity, and hydrogen produced using renewable sources;
- by carbon capture, utilisation and storage applied to hydrogen production from natural gas and other carbon emissions; and
- by researching nature-based solutions to offset emissions.

Examples of R&D activities other than decarbonisation include safety, performance products such as lubricants and polymers, robotics, automation and artificial intelligence.

Supporting our customers in achieving net-zero emissions

Changes to the supply of energy products and decarbonising the energy system require structural changes in the end-use of energy. This requires energy users to improve, update or replace equipment so that they can use carbon-based energy more efficiently, or switch to low- and zero-carbon energy.

For example, in the transport sector, decarbonisation includes replacing internal combustion engine vehicles with electric and hydrogen vehicles. In the industrial sector, replacing oil- and coal-fired furnaces with electrical furnaces would be one solution, carbon capture and storage is another. And in the buildings sector, replacing gas heating systems with electric heating systems would also contribute to decarbonisation.

Such structural changes will help to trigger transitions along the supply chain of individual sectors and across sectors, including the production of energy and emissions over time. The IEA estimates that these changes in the end-use of energy will require substantial investment. Under the IEA Net Zero Emissions by 2050 scenario, for every one US dollar spent on fossil fuels, a further five US dollars need to be spent on clean energy and a further four US dollars spent on efficiency and end-uses.

Helping to transform energy demand is the focus of our decarbonisation strategy. To help transform demand, we are working with customers sector-by-sector across the energy system. We will seek to change the mix of energy products we sell to our customers as their needs for energy change. This is reflected in Shell's strategy to develop a portfolio that seeks to:

- provide more electricity to customers, while also driving a shift to renewable electricity;
- develop low- and zero-carbon alternatives to traditional fuel, including biofuels, hydrogen, and other low- and zero-carbon gases;
- work with customers across different sectors to decarbonise their use of energy; and
- address any remaining emissions from conventional fuels with solutions such as CCS and carbon credits.

Energy transition in action - selection of portfolio changes and actions in 2022: Electricity and renewable power

- acquisition of Sprng Energy Group, a solar and wind platform in India;
- winning bids with our partners to build offshore wind farms in the UK, the Netherlands and US waters (December: Hollandse Kust west VI with Eneco; July: with Scottish Power in the UK; February: Atlantic Shores in the USA);
- the acquisition of Powershop Australia, an online energy retailer; and
- started operations at the power-to-hydrogen electrolyser in China.

Develop low- and zero-carbon alternatives to traditional fuels

- acquisition of Denmark's Nature Energy - the largest producer of renewable natural gas in Europe, completed on February 20, 2023;
- final investment decision to build a 200 MW electrolyser, Holland Hydrogen I (Shell interest 100%);
- agreement to buy sugar-cane ethanol under a long-term agreement with Raízen (Shell interest 44%). The low-carbon fuel is expected to be produced by five plants that Raízen plans to build in Brazil, bringing its total portfolio of ethanol facilities to nine; and
- began construction of a bio-LNG plant at the Energy and Chemicals Park Rheinland in Germany to make liquefied natural gas from biological waste.

Help customers to decarbonise their use of energy

- launched a programme with our partners called Avelia which will encourage companies to invest in the production of SAF;
- made progress rolling out our network of charging for electric vehicles and joint venture with Chinese automobile company BYD to operate a network of charging points in Shenzhen; and
- acquisition of German company SBRS GmbH, which provides electric charging services for e-buses, e-trucks and e-vans. This is a step towards decarbonising the commercial road transport sector.

CCS and carbon credits

- Agreement with Northern Lights CCS joint venture (Shell interest 33.3%) in Norway and Yara for a world-first cross-border carbon capture, transport and storage contract.
- Investment in Carbonext, a Brazilian company operating carbon-centric preservation projects in the Amazon.

Our journey to net zero continued

Because emissions resulting from customer use of our energy products make up the greatest percentage of Shell's carbon emissions, this is where we believe we can make the greatest contribution to the energy transition, by enabling our customers to transition to low-carbon energy products and services. We intend to increase our share of low-carbon energy sales, which is reflected in our target to reduce the NCI of the energy products we sell by 20% between 2016 and 2030.

See "Working to reduce our net carbon intensity" for more information on page 104.

We have restructured our company so that we can better identify opportunities and the role that we can play in each sector to help transform demand. We are moving from an approach focused on types of products to one where our customer and account management is focused on sectors.

We aim to build on our existing relationships across each sector, with consumers, infrastructure owners, other suppliers and policymakers to help to accelerate change.

Our strategic approach to climate change emphasises the need to work collaboratively. We aim to make strategic alliances with customers, other companies and entire sectors so we and they can make profitable progress towards net zero.

Collaborating with our customers

We are helping software company SAP move to an emissions-free global car fleet by 2030 in support of its net-zero targets. Through our Accelerate to Zero programme, Shell is providing on-the-go and home charging, as well as other fleet solutions, for SAP employees in several countries. At SAP's headquarters in Walldorf, Germany, we are working to build solar generation capacity to help the company decarbonise and become more self-reliant in its energy use.

As a founding member of the Oil and Gas Climate Initiative (OGCI) we are part of a group of 12 national and international energy companies. The OGCI supports the climate goals of the UN Paris Agreement and recognises that collective actions will help drive the energy transition.

Decarbonising our value chains and operations

We will seek to base the decarbonisation of our value chains and operations on a deep understanding of the decarbonisation strategies and plans of our customers and users of our energy products. We are focused on decarbonising our own operations by:

- making portfolio changes, such as acquisitions of and investments in new, low-carbon projects. We are also decommissioning plants, divesting assets and reducing our production through the natural decline of existing oil and gas fields;
- improving the energy efficiency of our operations;
- transforming our remaining integrated refineries into low-carbon energy and chemicals parks, which involves decommissioning plants;
- using more renewable electricity to power our operations;
- developing CCS for our facilities; and, if required,
- using high-quality carbon credits to compensate for any remaining emissions from our operations.

We have set an interim target to achieve a 50% reduction in absolute Scope 1 and 2 emissions under our operational control by 2030 on a net basis, when compared with 2016.

See "Working to reduce our absolute Scope 1 and 2 emissions" for more information on page 104.

Our journey to net zero continued

Climate risk management

Shell's processes for identifying and assessing climate-related risks

Identifying climate-related risks

As discussed in "Energy transition strategy", Shell considers climate change and GHG emissions a material risk factor. We monitor the risks related to these across four components:

- commercial risks;
- regulatory risks;
- societal risks (including litigation risk); and
- physical risks.

These components are monitored and assessed on an integrated basis, necessitated by the interdependence of the risks and the related actions. The different components pose different kinds of exposures spanning different time horizons. Similarly, the responses to the components of the risk are also planned by taking a holistic view.

For example, the increasing cost of complying with emission limits in some regions is a regulatory risk that may require operational responses in the near term. The reduction in demand for legacy hydrocarbons is a commercial risk that may have a medium- to long-term impact, demanding changes to our strategic portfolio and business models. The risk of physical impacts of climate change may occur in the short, medium and long term and would require actions to mitigate adverse impacts on our assets and supply chain. As an example, the transformation of our refineries into energy and chemicals parks reduces the level of our operational emissions and medium- to long-term commercial risks, allowing us to plan for future adaptation measures.

Our integrated approach to risk management and the resulting changes in our strategy ensure we manage our aggregate climate change risk within our overall risk appetite over different time horizons.

Shell's processes for identifying and assessing risks are part of our Shell Control Framework.

Our risk management procedures that help us identify climate-related risks and opportunities include:

- monitoring external developments, including policy changes and new regulations;
- evaluating the status of risk indicators, which illustrate how well we are managing each component of the risk related to climate change and GHG emissions; and
- learning from incidents and assurance findings.

We use these procedures to identify risks relating to climate change and GHG emissions, which in turn enables us to determine their significance, both individually and relative to other risks.

Assessing climate-related risks

Processes within the Shell Control Framework that help us assess each identified risk include the evaluation of its impact, likelihood and the level of risk we are willing to accept.

When assessing the likelihood of a risk occurring, we consider factors such as our ability to prevent the risk happening and whether the risk has materialised in the past.

We consider the financial consequences and how it might affect our reputation, our ability to comply with regulations, and possible damage to health, safety, our assets and the environment. The impact, and hence materiality, of a risk is based on how critical it could be to our business model.

We operate in multiple countries and therefore societal risks are material as they are directly linked to our licence to operate.

The impact and likelihood assessment helps us to prioritise risks and determine their relative materiality, based on a comprehensive picture of significant risks to a relevant business's objectives.

To support our risk assessments, we seek to establish the level of risk that we are willing to accept in pursuit of Shell's strategy and objectives. We consider the amount of resources – such as financial resources, people, processes, systems and controls – that we are willing and able to allocate to manage each risk in pursuit of our objectives and the impact to Shell's overall risk profile.

The impact and likelihood assessment, combined with risk appetite, determines the type of risk responses, such as controls and assurance activities, that may be required to manage each risk.

Possible responses include:

- accepting the risk without any further action;
- mitigating or reducing the risk with appropriate controls, supported by assurance activities;
- transferring the risk, for example to insurance providers where appropriate; and
- altogether stopping or forgoing the activity that gives rise to the risk.

In determining our risk responses, we always seek to comply with our Code of Conduct and other boundaries, such as our financial framework, which set the aggregate level of risk appetite that could be sustained. The financial framework considers boundaries such as our net debt levels and our credit rating.

Physical risks

Potential physical impacts to our assets, irrespective of cause, are important for us to manage.

Climate variability is considered in the design and operation of our assets and infrastructure to minimise the risk of adverse incidents to our employees and contractors, the communities where we operate, our equipment and infrastructure. Our new projects consider anticipated weather and climatic events in their design and Metocean (meteorology and oceanography) engineering experts are available, if requested, to assist our assets and project teams in the evaluation of physical risks.

On an ongoing basis, our assets leverage broad risk and threat management processes to identify and respond to emerging challenges to their ongoing safe, compliant and efficient operation, as required by our HSSE & SP Control Framework. We are working to deepen our understanding of this risk and to establish metrics in this area to monitor our exposure across the Group.

Our journey to net zero continued

Classifications of risks

We identify and assess three distinct categories of risk across the Group:

- strategic: we consider current and future portfolio issues, examining parameters such as country concentration or exposure to higher-risk countries. We also consider long-range developments in order to test key assumptions or beliefs in relation to energy markets.
- operational: we consider material operational exposures across Shell's entire value chain to provide a more granular assessment of key risks that the organisation is facing.
- conduct and culture: we consider alignment of our policies, practices and behaviours against our purpose and core values.

The four sub-components of risk related to climate change and GHG emissions – commercial, regulatory, societal (including litigation), and physical risks – are assessed across the above three categories to ensure we maintain strategic resilience, have robust day-to-day operational risk responses and that responses align with Shell's purpose and core values.

Shell's processes for managing climate-related risks

Our climate-related risk management process is carried out at the Group, business, function and asset level, which includes projects.

We apply the Shell Control Framework to ensure that we effectively manage our climate-related risks at all these levels. The framework includes:

- mandatory risk standards and manuals;
- project-level risk management processes;
- management and Board reviews;
- internal audits and investigations; and
- annual attestation processes.

Mandatory risk standards and manuals

We have mandatory standards and manuals which establish the requirements on how to effectively manage material risks including the operation of appropriate controls. Our standards and manuals also provide guidance on how to monitor, communicate and report changes in the risk environment. These documents aim to:

- ensure consistent management and assessment of climate risk across Shell;
- clarify expectations for risk management and reporting, including roles and responsibilities of the risk owners;
- clarify types of assurance activities that may be applicable;
- strengthen decision-making by ensuring that businesses have better awareness and understanding of climate risks (including their likelihood and potential impact) and mitigation plans; and
- enable integration of Shell's reporting.

We periodically review and, if necessary, update our standards and manuals in light of developments in risks, including those associated with climate change. Our approach continues to evolve as we increase our understanding of changing policies and the differing pace of energy transition in different regions.

Project-level risk management processes

At a project level, assessing climate-related risks is an important part of making initial investment decisions. Projects of a certain size or which carry unusual risks are required to follow Shell's Opportunity Realisation Standard, which sets out the rules for managing and delivering opportunities in the organisation. Each project is assisted by experts from our global subject matter groups during its development, implementation and operation.

Projects under development that are expected to have a material GHG impact must meet our internal carbon performance standards or industry benchmarks. Our performance standards are used for measuring a project's average lifetime GHG intensity or energy efficiency per asset type. Applying these criteria ensures that our projects can compete and prosper in the energy transition. An exception process is in place to manage specific incidental cases. Performance standards are under development for power and hydrogen projects.

The performance standards are approved by the Executive Vice President accountable for implementation in the relevant businesses, and by the Executive Vice President Safety, Environment and Asset Management.

Projects with a material GHG footprint that meet the performance standards or industry benchmarks will often set more ambitious emissions targets for themselves. GHG abatement plans help determine the nature of these targets, and we assess the effects of a project's emissions alongside economic and technical design factors.

We assess the future GHG emissions of projects against performance standards and by considering the GHG emissions from the use of the products that are to be manufactured. These assessments can lead to projects being stopped or designs being changed.

We expect the performance standards to evolve as our portfolio changes in the energy transition.

Management and Board reviews

Management, the Board and Board committees review the risk of climate change and GHG emissions to ensure awareness of emerging issues that may impact our strategy and to ensure the effectiveness of our responses in managing this risk at a more granular, operational level. For example, as part of the annual planning cycle, the Executive Committee and the Board assess how climate change and GHG emissions may affect the pace of the energy transition, business emission reduction plans and the implications for Shell's current portfolio.

Our journey to net zero continued

In addition, each business and function regularly reviews its risk profile, risk responses and assurance activities throughout the year to ensure climate-related risks are managed effectively. These insights are used to provide management with updates on the operational management of climate change and GHG emissions risks. During these updates, management considers the significance of the climate change and GHG emissions risks relative to other risks on the Group risk profile and reviews whether our risk responses are effective in addressing the four sub-components of the climate change and GHG emissions risk.

Our management reviews help us to update Shell's plans and guide our day-to-day operational decisions such as maintenance schedules and our risk response plans.

Internal audits and investigations processes

Shell's Internal Audit and Investigations (SIAI) team provides independent and objective assurance and advises management and the Board on the adequacy and effectiveness of our risk management and internal controls.

For example, SIAI conducted four GHG audits during 2022 to test whether controls are adequately designed and operating effectively to mitigate the identified risks. The controls tested covered GHG emissions measurement, reporting and forecasting and abatement projects. Additionally, SIAI conducted two audits focused on decarbonisation of industry sectors and nature based solutions.

Annual attestation processes

On an annual basis, all directors are required to provide an attestation of their business's or function's compliance with our HSSE & SP Control Framework and to report this to Shell's CEO. This includes the assessment of the effectiveness of the internal controls in managing climate-related risks.

Project-level risk management in action:

Shell Energy and Chemicals Park Singapore

We are transforming our refining business and making it fit for the future. The Pulau Bukom Manufacturing Site in Singapore transformed into the Shell Energy and Chemicals Park Singapore. We have reduced our crude processing capacity by about half and delivered a significant reduction in CO₂ emissions.

We are repurposing Bukom by making significant changes in our refinery configuration, establishing a foundation for producing low-carbon energy products like biofuels. We are also incorporating circularity, such as waste plastics for feedstock, as well as providing renewable energy.

Integration of the climate-related risk management process into Shell's overall risk management

Our climate-related risk management process follows the approach set out by the Shell Control Framework, ensuring that it is integrated into the overall risk management processes of the Group.

Climate-related risks are considered from a strategic and operational perspective to ensure we maintain a comprehensive view of the different types of climate risks we face and the different time horizons in which they may affect us.

The monitoring and review of risks is a key risk management process in Shell. The Executive Committee, the Board and Board committees review climate-related risks and their impact on the Group. This allows management to take a holistic view and to optimise risk mitigation responses, to ensure that climate-related risk responses are properly integrated into the relevant activities.

Our journey to net zero continued

Climate-related metrics and targets

Metrics used by Shell to assess climate-related risks and opportunities in line with its strategy and risk management process

This section describes our energy product and carbon emissions performance and metrics used to monitor our progress in respect of significant climate-related transition risks and opportunities, including targets reflected in remuneration of senior management and employees.

Key metrics we use to track progress against our energy transition strategy are the NCI of our portfolio and our absolute emissions. Additional metrics associated with the resilience of Shell's strategy to transition risks and opportunities are included in "Resilience of Shell's strategy to different climate-related scenarios" from page 92. This includes information on capital allocation between our business segments and the sensitivity of our assets to carbon, discount rate and commodity price assumptions.

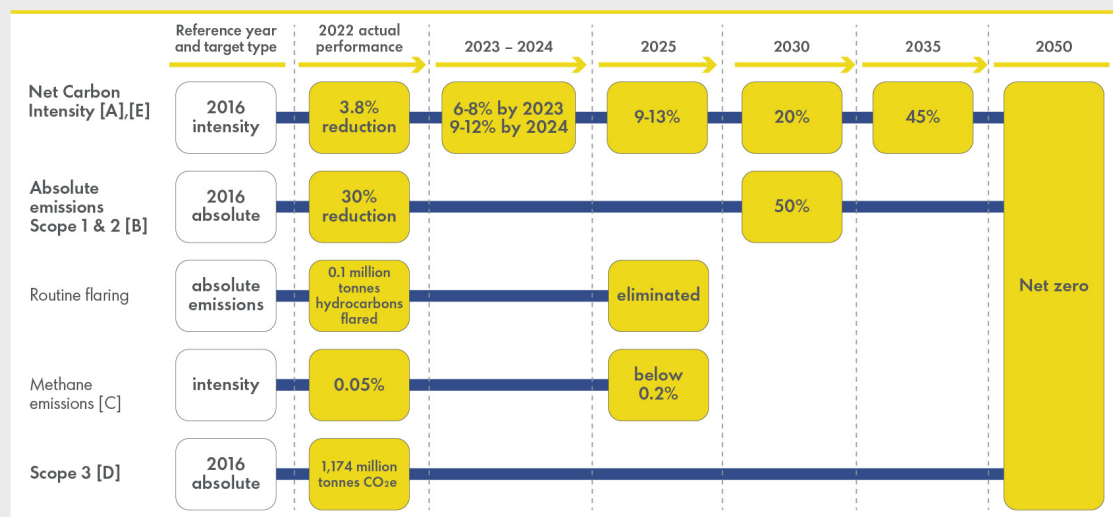
Another potentially significant climate-related risk relates to Shell's physical risk exposure at an asset level. We are working to establish metrics in this area to monitor our exposure to this risk across the Group.

Our overall climate target is to become a net-zero emissions business by 2050. It includes net-zero emissions from our operations (Scope 1 and 2 emissions), as well as net-zero emissions from the end-use of all the energy products we sell (Scope 3 emissions). We have set short-, medium- and long-term targets to track our performance against our overall climate target over time.

We believe our total absolute emissions peaked in 2018 at 1.73 gigatonnes of carbon dioxide equivalent (GtCO₂e).

In October 2021, in support of our 2050 net-zero emissions target, we set a target to reduce Scope 1 and 2 absolute emissions from assets and activities under our operational control (including divestments) by 50% by 2030 compared with 2016 levels on a net basis. We monitor our progress against these targets using the key metrics described.

Climate-related targets summary



[A] Our total absolute emissions peaked in 2018 at around 1.73 gigatonnes of carbon dioxide equivalent (GtCO₂e) per annum.

[B] Operational control boundary.

[C] Overall methane emissions intensity for facilities with marketing gas.

[D] Indirect GHG emissions (Scope 3) based on the energy product sales included in Net Carbon Intensity (NCI) using equity boundary.

[E] Our interim targets for 2035 and 2050 are based on mitigation activities undertaken by both Shell and our customers.

Our journey to net zero continued

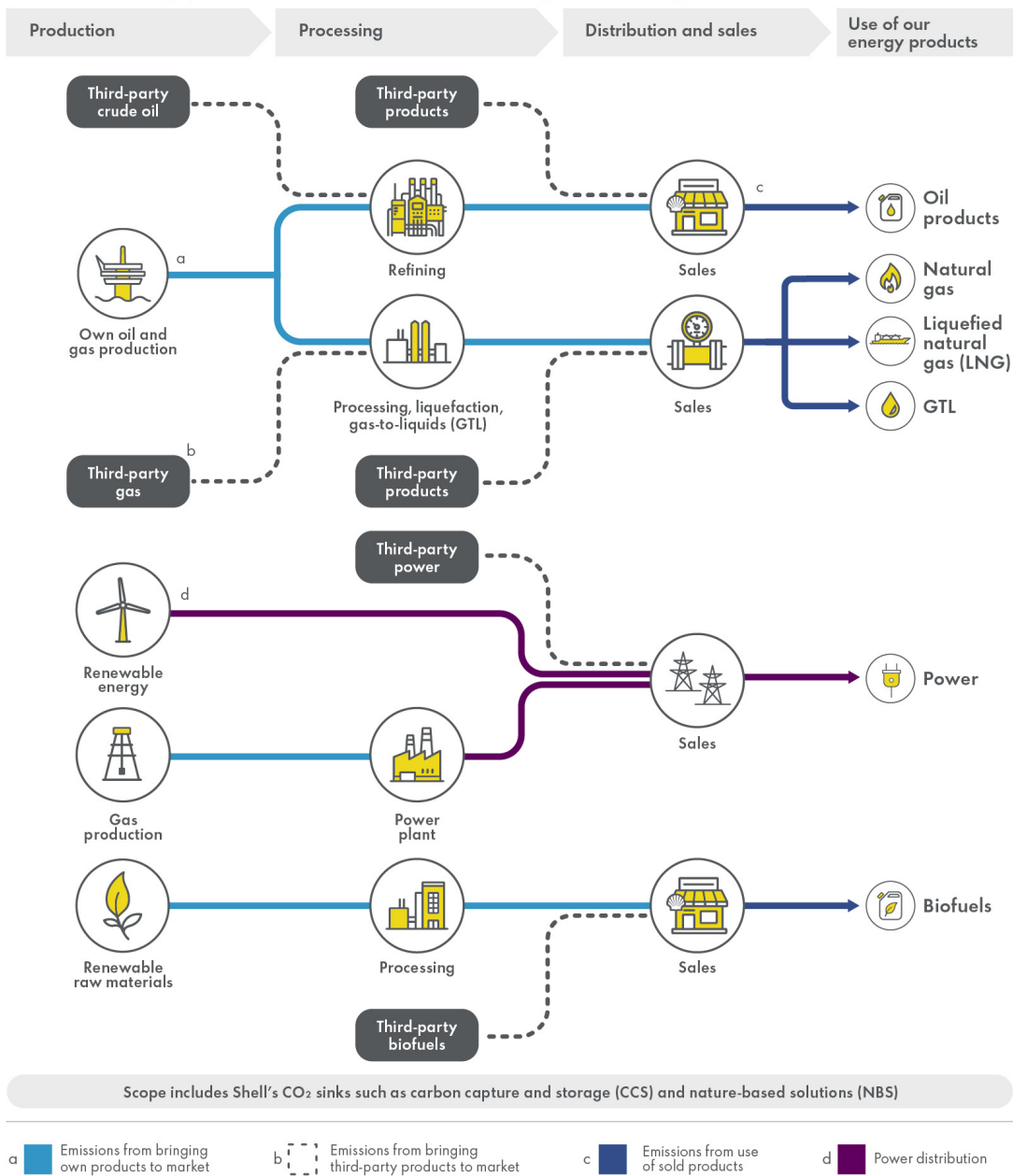
Net carbon intensity (NCI)

Shell's NCI is the average intensity, weighted by sales volumes, of the energy products sold by Shell. It is tracked, measured and reported using the Net Carbon Footprint (NCF) methodology.

We have received third-party limited assurance on our net carbon intensity for the period 2016 to 2022.

Scope of Net Carbon Intensity [A]

Emissions from energy products included within the Net Carbon Footprint methodology



[A] To be read in conjunction with Basis of preparation on page 106.

Our journey to net zero continued

Performance – NCI

In 2022, Shell's NCI was 76 grams of carbon dioxide equivalent per megajoule of energy (gCO₂e/MJ), a 1.3% decrease from the previous year and a 3.8% reduction compared with 2016, the reference year. The decrease in Shell's NCI in 2022 was primarily due to an increased proportion of renewable power and corresponding reduction in the carbon intensity of our power sales. Shell's 2022 NCI includes 4.1 million tonnes of carbon credits, compared to the 5.1 million tonnes which were included in Shell's 2021 NCI.

NCI reference year: 2016
(equity boundary)

NCI [E]	gCO ₂ e/MJ	2022	2021	2020	2016
Estimated total energy delivered by Shell [A]	trillion (10 ¹²) MJ	16.29	17.89	18.40	20.93
Estimated total GHG emissions included in NCI (net) [B]	million tonnes CO ₂ e	1,240	1,375	1,384	1,645
Carbon credits	million tonnes CO ₂ e	4.1	5.1	3.9	0.0
Estimated total GHG emissions (gross) [C][D]	million tonnes CO ₂ e	1,244	1,381	1,388	1,645

[A] The NCI calculation uses Shell's energy product sales volumes data, as disclosed in the Annual Report and Sustainability Report. This excludes certain contracts held for trading purposes and reported net rather than gross. Business-specific methodologies to net volumes have been applied in oil products and pipeline gas and power. Paper trades that do not result in physical product delivery are excluded. Retail sales volumes from markets where Shell operates under trademark licensing agreements are also excluded from the scope of Shell's net carbon intensity metric.

[B] These numbers include well-to-wheel emissions associated with energy products sold by Shell, on an equity boundary basis; they also include the well-to-tank emissions associated with the manufacturing of energy products by others that are sold by Shell. Emissions associated with the manufacturing and use of non-energy products are excluded.

[C] All figures disclosed are rounded.

[D] While the NCI is an intensity measure and not an inventory of absolute emissions, a notional estimate of the amount of GHG emissions covered by the scope of the NCI calculation can be derived from the final NCI value for any year. Similarly, a fossil-equivalent estimate of the total amount of energy sold included in the calculation can also be determined.

[E] Acquisitions and divestments are included in the actual performance tracking with the target and baseline year unchanged. Note that acquisitions and divestments could have a material impact on meeting the targets.

As we implement our Powering Progress strategy, we are increasing the share of low-carbon products in our energy product sales, which is the biggest driver for reducing our NCI.

Our ability to change the emissions intensity of each energy product varies depending on the product type:

- Hydrocarbon fuels - emissions from end-use by customers are by far the biggest contributors to the carbon intensity of the product. As a result, the emissions intensity of hydrocarbon fuels is expected to stay relatively unchanged over time. This is why we are focused on helping our customers decarbonise.
- Power - the emissions intensity of power can be highly variable depending on how it has been generated. The proportion of our renewable power sales and the generation mix in countries where we sell power to the market both affect Shell's overall power mix and its resulting emissions intensity.
- Biofuels - can vary significantly in intensity depending on the feedstock and production process used.

Scope 1, Scope 2 and Scope 3 GHG emissions and related risks

In assessing progress against our target to be a net-zero emissions energy business by 2050, we report our performance against our operational Scope 1 and 2, and Scope 3 emissions. Scope 1, 2 and 3 emissions are among the metrics we use to mitigate climate risks and seize opportunities in the energy transition.

Shell's absolute emissions in 2022

In 2022, our total combined Scope 1 and 2 absolute GHG emissions (from assets and activities under our operational control) were 58 million tonnes on a CO₂ equivalent basis, a 15% reduction compared with 2021, and a 30% reduction compared with 2016, the base year. Our Scope 3 emissions from energy products included in our net carbon intensity were 1,174 million tonnes CO₂e.

Scope	Absolute emissions [D], [F] million tonnes of CO ₂ e				Targets [E]	
	2016	2020	2021	2022	Target 2030	Target 2050
Scope 1 [A]	72	63	60	51	50% reduction compared with 2016 levels on a net basis	0
Scope 2 [B]	11	8	8	7		0
Scope 3 [C]	1,545	1,305	1,299	1,174	No target	0

[A] Total direct (Scope 1) GHG emissions from assets and activities under our operational control. It includes emissions from production of energy and non-energy products.

[B] Total indirect GHG emissions from imported energy (Scope 2) from assets and activities under our operational control using the market-based method. It includes imported energy used for production of energy and non-energy products.

[C] Indirect GHG emissions (Scope 3) based on the energy product sales included in NCI using equity boundary. The NCI calculation uses Shell's energy product sales volumes data, as disclosed in the Annual Report and Sustainability Report. This excludes certain contracts held for trading purposes and reported net rather than gross. Business-specific methodologies to net volumes have been applied in oil products and pipeline gas and power. Paper trades that do not result in physical product delivery are excluded. Retail sales volumes from markets where Shell operates under trademark licensing agreements are also excluded from the scope of Shell's net carbon intensity metric.

[D] Emissions are reported gross without the inclusion of carbon credits.

[E] Our 2030 and 2050 targets are on a net basis (i.e. including carbon credits). Acquisitions and divestments have been included in the actual performance tracking with the target unchanged. Note that acquisitions and divestments could have a material impact on meeting the targets.

[F] Oil and gas industry guidelines from IPIECA indicate that several sources of uncertainty can contribute to the overall uncertainty of a corporate emissions inventory. We have estimated the overall uncertainty for our direct GHG emissions (Scope 1) to be around 3% and for our energy indirect GHG emissions (Scope 2) to be around 7% for the market-based method and 6% for the location-based method for 2022. IPIECA also notes that due to the diversity of Scope 3 emissions, sources and the fact that these emissions occur outside the company's boundaries, the emissions estimates may be less accurate or may have high uncertainty.

Our Scope 3 emissions reported above can be categorised as follows, using the definitions from the GHG Protocol's Corporate Value Chain (Scope 3) Standard:

GHG emissions, million tonnes CO ₂ e	2022	2021
Scope 3, category 1: purchased goods and services	144	147
Scope 3, category 3: fuel and energy-related activities	115	136
Scope 3, category 9: downstream transport and distribution	5	6
Scope 3, category 11: use of sold products	910	1,010
	1,174	1,299

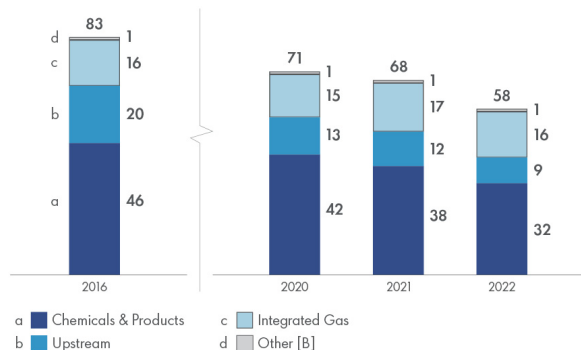
Scope 3 emissions from categories 1, 3 and 11 make up the majority of Shell's Scope 3 emissions. Shell reports Scope 3 emissions across all 15 categories annually.

For further details see: www.shell.com/ghg

Our journey to net zero continued

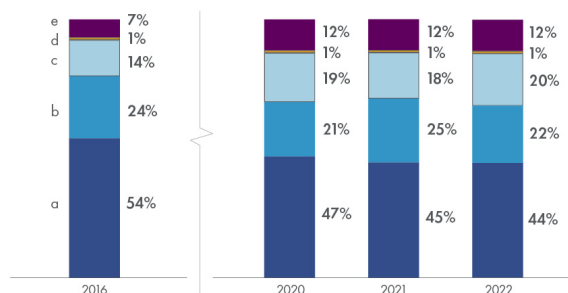
The Scope 3 emissions from the energy products we sell account for the majority of the total emissions we report. When we calculate our emissions, we include emissions not only from the products that we produce ourselves but also from the oil and gas that others produce and we sell as products to our customers. We sell more energy products than the energy we produce ourselves, therefore, to account for Shell's full effect, we include energy products sold in the measurement of our carbon emissions as shown in the chart on page 100.

Scope 1 & 2 – performance [A]
million tonnes carbon dioxide equivalent (CO₂e)



[A] Total direct (Scope 1) and energy indirect (Scope 2) GHG emissions from assets and activities under operational control boundary. It includes emissions from production of energy and non-energy products. For Scope 2, we used the market-based method.
[B] Other covers Renewables and Energy Solutions, Marketing, P&T and Real Estate.

Share of energy delivered per energy product type [A]-[F]



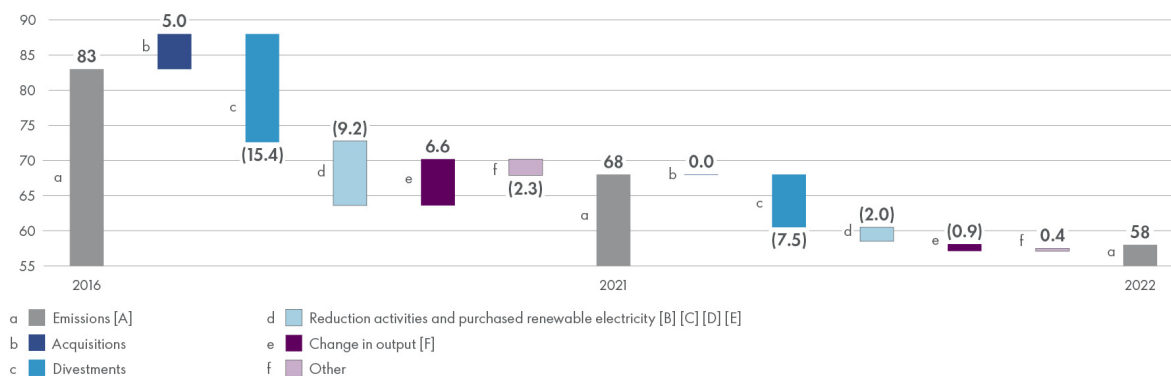
a Oil products and gas-to-liquids (GTL) (carbon intensity in 2022 was 91 gCO₂e/MJ)
b Gas (carbon intensity in 2022 was 65 gCO₂e/MJ)
c Liquefied natural gas (LNG) (carbon intensity in 2022 was 70 gCO₂e/MJ)
d Biofuels (carbon intensity in 2022 was 39 gCO₂e/MJ)
e Power (carbon intensity in 2022 was 58 gCO₂e/MJ)

[A] Percentage of delivered energy may not add up to 100% because of rounding.
[B] Total volume of energy products sold by Shell, aggregated on an energy basis, with electricity represented as fossil equivalents. This value is derived from energy product sales figures disclosed by Shell in the Annual Report and the Sustainability Report.
[C] Lower heating values are used for the energy content of the different products and a fossil-equivalence approach is used to account for electrical energy, so that it is assessed on the same basis as our other energy products.
[D] The NCI calculation uses Shell's energy product sales volumes data, as disclosed in the Annual Report and Sustainability Report. This excludes certain contracts held for trading purposes and reported net rather than gross. Business-specific methodologies to net volumes have been applied in oil products and pipeline gas and power. Paper trades that do not result in physical product delivery are excluded. Retail sales volumes from markets where Shell operates under trademark licensing agreements are also excluded from the scope of Shell's carbon intensity metric.
[E] Emissions included in the carbon intensity of power have been calculated using the market-based method.
[F] The carbon intensity of biofuels provided in the graph "Share of energy delivered per energy product type" reflects the global average for biofuels sold by Shell for 2022.

We undertake external verification of our GHG emissions annually. Our Scope 1 and 2 GHG emissions from assets and activities under our operational control and emissions associated with the use of our energy products (Scope 3) included in our NCI have been verified to a level of limited assurance by LRQA Group Limited.

Drivers of absolute Scope 1 and 2 emissions change

Scope 1 and Scope 2 GHG emissions changes from 2016 to 2021 and from 2021 to 2022
million tonnes carbon dioxide equivalent (CO₂e)



[A] Total Scope 1 and Scope 2 emissions, rounded to the closest million tonnes. Scope 2 emissions were calculated using the market-based method.
[B] In addition to reductions from GHG abatement and energy efficiency projects, this category also includes reductions from permanent shutdown of Convent and Tabangao refineries and the impact of transformational activities at our Shell Energy and Chemicals Park in Singapore.
[C] Excludes 5.80 million tonnes of CO₂ captured and sequestered by the Shell-operated Quest CCS facility in Canada in 2016-2021. Scope 1 and 2 GHG emissions from operating Quest are included in our total emissions.
[D] Excludes 0.97 million tonnes of CO₂ captured and sequestered by the Shell-operated Quest CCS facility in Canada in 2022. Scope 1 and 2 GHG emissions from operating Quest are included in our total emissions.
[E] Of the 2,010 thousand tonnes of reduction activities and purchased renewable electricity in 2022, around 80 thousand tonnes related to purchased renewable electricity.
[F] Change in output relates to changes in production levels, including those resulting from shutdowns and turnarounds as well as production from new facilities.

Our journey to net zero continued

Our direct GHG emissions (Scope 1) (consolidated using the operational control boundary) decreased from 60 million tonnes of carbon dioxide equivalent (CO₂e) in 2021 to 51 million tonnes CO₂e in 2022, driven by several factors including:

- divestments in 2021 and 2022 (e.g. the Deer Park and Puget Sound refineries in the USA) and the handover of operations in OML 11 in Nigeria in 2022;
- shutdowns or conversion of existing assets, including the shutdown of some units at the Shell Energy and Chemicals Park Singapore;
- GHG abatement projects (see examples in the list of energy efficiency projects on page 109) and purchase of renewable electricity.

These decreases were partly offset by the commissioning of Shell Polymers Monaca.

Total routine hydrocarbons flaring reduced from 0.2 to 0.1 million tonnes of hydrocarbon flared from 2021 to 2022.

Around 50% of flaring in our Upstream and Integrated Gas facilities in 2022 occurred in assets operated by the Shell Petroleum Development Company of Nigeria Limited (SPDC) and Shell Nigeria Exploration and Production Company (SNEPCo). We will continue to work in close collaboration with joint-venture partners and the Federal Government of Nigeria to make progress towards the objective of ending the continuous flaring of associated gas.

Our target to keep methane emissions intensity below 0.2% was met in 2022 with Shell's overall methane emissions intensity at 0.05% for facilities with marketing gas and 0.01% for facilities without marketing gas. We believe our methane emissions are calculated using the best methods currently available. This target covers all Shell-operated oil and gas assets in our Upstream and Integrated Gas businesses. Methane emissions include those from unintentional leaks, venting and incomplete combustion, for example in flares and turbines.

Our indirect GHG emissions associated with imported energy (Scope 2) (consolidated using the operational control boundary) decreased from 8 million tonnes CO₂e in 2021 to 7 million tonnes CO₂e in 2022 (using the market-based method), in part, due to divestments.

Drivers of absolute Scope 3 emissions change in 2022

Emissions associated with the use of energy products sold by Shell account for the majority of our reported carbon emissions. The reported Scope 3 emissions within the NCI boundary have reduced from 2021. The decrease is largely due to a reduction in oil product and gas sales, and a decrease in the intensity of power sold.

There was a decrease in 2020 from 2019 related to volumes associated with additional contracts being classified as held for trading purposes with effect from January 2020. We estimate that netting of oil products sales volumes resulted in a reduction in GHG emissions of 102 million tonnes CO₂e.

Our strategy is based on working with our customers to address the emissions from the use of our products and to help them find ways to reduce their emissions to net zero by 2050.

Targets used by Shell to manage climate-related risks and opportunities and performance against targets

Shell's material climate-related risks and opportunities are set out in the "Climate-related risks and opportunities identified by Shell over the short, medium and long term" section. Our response to the energy transition risk focuses on decarbonising our value chain. Our climate targets are focused on reducing our NCI and our absolute emissions.

Setting targets for NCI

There is no established standard for aligning an energy supplier's decarbonisation targets with the temperature limit goal of the Paris Agreement. In the absence of a broadly accepted standard, we have

developed our own approach for demonstrating Paris alignment by setting carbon intensity targets within a pathway derived from the IPCC SR 1.5 scenarios. This pathway is aligned with the more ambitious temperature goal of the Paris Agreement to limit global average temperature rise to 1.5°C above pre-industrial levels by 2100.

When constructing the pathway, we started by filtering out certain scenarios to ensure that Shell's targets are aligned with earlier action, and low-overshoot scenarios. Overshoot refers to the extent to which a scenario exceeds an emissions budget and subsequently relies on sinks to compensate for the excess emissions. Next, we calculated the carbon intensity (gCO₂e/MJ of energy) for each of the remaining scenarios by dividing net emissions by total final energy consumption, with electricity represented as a fossil fuel equivalent.

To set a starting point, we then indexed the resulting carbon intensities to a common value of 100 in 2016 to remove the impact of differences between Shell's historical net carbon intensity and the intensities calculated from the IPCC scenarios. Finally, the pathway was constructed using the range of carbon intensity reductions over time. Outlying values at the top and bottom of the range were removed, which had the effect of narrowing the final pathway.

By using the 1.5°C pathway produced by this approach to set our targets, we aligned them with the necessary reduction in carbon intensity shown in the 1.5°C scenarios. This is illustrated in the table, which shows that our targets are positioned within the range of the 1.5°C pathway. The upper and lower limits represent the upper and lower boundaries of the 1.5°C pathway derived using the approach described above.

	2023	2024	2025	2030	2035	2050
IPCC derived upper limit	-4%	-5%	-7%	-15%	-34%	-68%
IPCC derived lower limit	-10%	-13%	-17%	-36%	-64%	-104%
Shell target range	6-8%	9-12%	9-13%	20%	45%	100%

Until 2035, our calculation of the total net emissions of each scenario includes only the expected mitigation actions by Shell, such as CCS and offsetting using natural sinks including any use of offsets included in the carbon-neutral energy products we offer our customers. After that date, we included mitigation actions taken separately by our customers. This is because we expect that customers will need to take action to mitigate their emissions from the use of our products, if society is to achieve the goals of the Paris Agreement.

To account for reductions in emissions across full energy value chains, it is necessary to build new protocols to include mitigation actions by both energy suppliers and users. Energy suppliers report the Scope 3 emissions from the use of their products, which are equivalent to the Scope 1 emissions reported by the users of those products. However, when users of energy products mitigate their Scope 1 emissions by the use of CCS or offsets there is no protocol for reflecting a corresponding reduction in the Scope 3 emissions reported by the energy supplier. We will continue to engage stakeholders on these carbon protocols and will seek to align with new frameworks as they evolve.

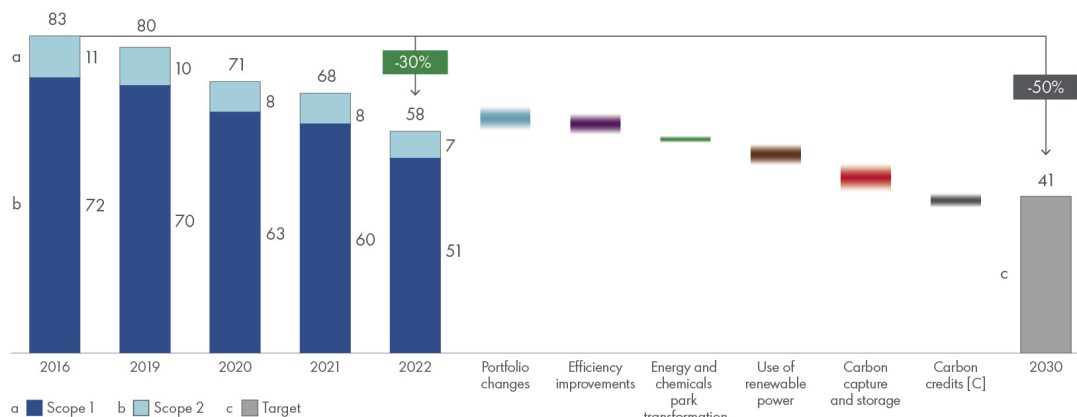
Shell has set a target to reduce the NCI of the energy products it sells by 20% by 2030. We believe this target is aligned with a 1.5°C pathway derived from the IPCC SR 1.5 scenarios. We also believe that the pace of change will vary around the world by region and by sector, taking into consideration the time needed for energy users to invest in large-scale equipment and the energy infrastructure changes needed for Shell to deliver more low- and zero-carbon energy.

Our journey to net zero continued

The chart below shows our progress since 2016 in reducing our Scope 1 and 2 emissions and gives an indication of how we expect to achieve our target in 2030. The actions we will take to achieve our target will depend on the evolution of our asset portfolio and the continued development of technologies which reduce carbon emissions. Following divestment activity in 2022, we expect that on a net portfolio basis, new investments across our portfolio will increase our Scope 1 and 2 emissions between 2023 and 2030 and that they will exceed reductions associated with planned divestments and natural decline. Our investments in producing low-carbon energy such as biofuels will increase our Scope 1 and 2 emissions, while reducing the net carbon intensity of the products we sell. Subsequent reductions in our emissions are reflected in the mechanisms outlined below and reflect an expected path to meeting our target in 2030.

Working to reduce our absolute Scope 1 and 2 emissions

Scope 1 and 2 emissions in million tonnes per annum [A],[B]

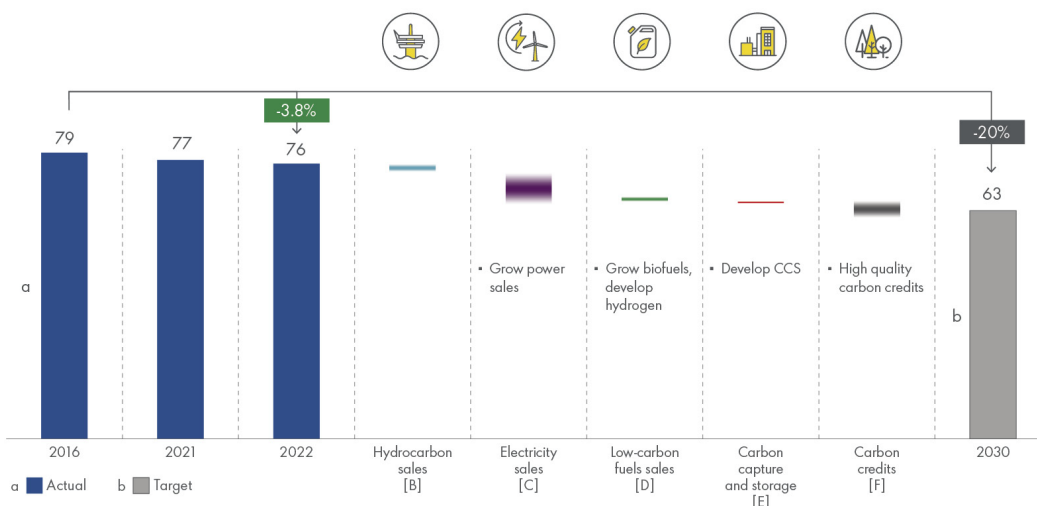


[A] The 2016 Base Year was not recalculated in 2022. The 2016 Base Year may be recalculated in future years if an acquisition or a divestment has an impact of more than 10% on the total Scope 1 and 2 emissions.
 [B] Operational control boundary.
 [C] Including nature-based solutions.

The biggest driver for reducing our NCI is increasing the sales of and demand for low-carbon energy. The chart below illustrates how changes in the volume of products and services we sell could result in NCI reductions to 2030. The change in our sales of these products and services will also reflect the development and adoption of new technologies and infrastructure, and the adoption of public policies designed to encourage the energy transition.

Working to reduce our net carbon intensity

Net carbon intensity in gCO₂e/MJ [A]



[A] Grams of carbon dioxide equivalent per megajoule.
 [B] Hydrocarbon sales reflect the effect of lower sales of oil products, and higher sales of natural gas. Emissions associated with gas are lower than those of oil products.
 [C] Electricity sales show the expected growth of our integrated power business and increasing sales of renewable electricity.
 [D] Sales of low-carbon fuels reflect higher sales of biofuels and hydrogen, which are low- and zero-carbon products.
 [E] Carbon capture and storage (CCS) reduces carbon emissions by capturing them at source.
 [F] Carbon credits such as nature-based solutions can be used to offset remaining carbon emissions, particularly in hard-to-abate sectors such as aviation and industries including cement and steel.

Our journey to net zero continued

Linking Shell's emissions targets to remuneration policies

We have established remuneration policies which are designed to support us in achieving our net-zero emissions targets:

- Our Performance Share Plan (PSP) and Long-term Incentive Plan (LTIP) are linked to net carbon intensity targets; and
- Our PSP, LTIP and annual bonus scorecard are linked to performance indicators that guide an assessment of our success in delivering our energy transition strategy.

See also "Directors' Remuneration Report" on pages 166-170.

The LTIP and PSP are designed to ensure that remuneration is clearly aligned with Shell's operating plan and longer-term strategic ambitions. The same measures apply to Executive Directors and Senior Management and to a significantly broader employee base.

The LTIP (measured over a three-year performance period) is used to make long-term share incentive awards to Executive Directors, Executive Committee members and Senior Executives.

PSPs are long-term incentives, also measured over a 3 year performance period, designed to retain key employees and ensure they have a greater investment in Shell's future.

Energy transition performance condition and the vesting of the 2020 LTIP and PSP awards

The following performance outcomes for the energy transition performance condition were considered in the assessment of the 2020 LTIP and PSP vest, covering the performance cycle 2020-2022:

	Outcome
Reduce net carbon intensity	Performance indicator met
Grow a material power business	Substantively met
Grow low-carbon products	Performance indicator met
Develop emissions sinks	Performance indicator met

In addition to the above, a number of broader indicators of Shell's progress in the energy transition were considered. Overall, it was determined that the energy transition measure (accounting for 10% of the LTIP award and 5% of the PSP award) should vest at 180%.

See also "Annual Report on Remuneration" on pages 176-180.

Energy transition performance condition in the 2022 LTIP and PSP awards

For LTIP and PSP awards granted in 2022, the energy transition performance condition had a weighting of 10% for the PSP and 20% for the LTIP. The energy transition performance condition for these awards includes a mix of leading and lagging indicators on the following strategic measures:

- Build a valuable power business: our ambition is to expand our power business through selective investments in generation and by reselling power generated by others;
- Grow new lower-carbon energy product offerings: continue to invest in low- and zero-carbon products, such as renewable electricity, hydrogen, biofuels and chemicals;
- Develop emission sinks: invest in carbon capture and storage opportunities, to reduce emissions where there are no currently scalable low-carbon alternatives, and in the development of high-quality nature-based projects, to compensate for emissions; and
- Reduce the NCI of the energy products sold by Shell.

The vesting outcome of the LTIP awards is at the discretion of the REMCO, and will be guided by performance indicators set at the outset of the scheme alongside a more holistic assessment of progress.

Proposed energy transition performance condition for 2023 LTIP awards

For 2023 LTIP awards, assessment of performance against energy transition measures will be based on NCI reduction, plus supporting strategic themes including:

- Reducing Scope 1 and 2 emissions;
- Building a renewable power business;
- Growing new lower-carbon energy offerings; and
- Developing emission sinks and offsets.

The REMCO assesses progress against the NCI target and Shell's longer-term goals for each strategic theme when making the vesting decision for each reward cycle.

See "Annual Report on Remuneration" on page 189 for more information on the proposed performance framework.

Energy transition targets in the annual bonus scorecard

Delivering on our net-zero emissions target is a part of the annual scorecard, which helps determine annual performance bonus outcomes for senior management and almost all of Shell's employees.

The energy transition progress measures in our annual scorecard have, until 2022, focused on managing and reducing our operational emissions. However, succeeding in the energy transition requires us to change what we sell. In 2022, we widened the scope of the energy transition progress measures in the annual bonus scorecard:

- Selling lower carbon products – we help customers to reduce their emissions by supplying low-carbon products. We measure our success by the earnings share of our Marketing activities from low-carbon energy products as well as non-energy products and convenience retail.
- Reducing operational emissions – our target is to achieve a 50% reduction by 2030; and this measure is based on reducing our Scope 1 and 2 operational emissions.
- Partnering to decarbonise – we seek to collaborate with our customers to help them reduce their emissions. In 2022, we measured success in this area in terms of our progress in rolling out our electric vehicle charging network.

Our journey to net zero continued

2022 Scorecard: Shell's journey in the energy transition

	2022 Target	2022 Performance	2022 Status
Selling lower-carbon products % of Marketing Adjusted Earnings from lower-carbon products	60	60	on target
Reducing operational emissions thousand tonnes of CO ₂ absolute emissions reduction	1,700	2,010	outstanding
EV charge points Number	130,000	138,610	above the target

In 2022, the score for operational emission reductions was above the top end of the range. It reflects the cumulative effects of actions taken across the portfolio, including GHG abatement projects, permanent shutdowns and conversions of some facilities such as the shutdown of some units at the Shell Energy and Chemicals Park Singapore, flaring reduction and energy efficiency projects (page 109). The above reductions do not include CO₂ reduced by CCS projects.

We have set annual targets measuring our roll-out of electric vehicle charge points, in line with Shell's target of having more than 500,000 by 2025. We outperformed the 2022 target, with a significant increase in the second half of the year.

The full year score for providing lower-carbon products was on target. We will continue to deliver decarbonisation solutions sector by sector enabled by innovation and collaboration.

See also "Annual Report on Remuneration" on page 175.

Metrics and targets in respect of climate-related environmental risks

We have set targets to reduce our consumption of fresh water in water-stressed areas by 15% by 2025, compared with 2018 levels. We also monitor the level of waste disposed of from our operations, and the amount of plastic waste generated.

See "Respecting Nature" on pages 112-113 and "How we create value" on page 17 for more information.

Basis of preparation – net carbon intensity

Shell's NCI provides an annual measure of the life-cycle emissions intensity of the portfolio of energy products sold. The intended use of the NCI metric is to track progress in reducing the overall carbon intensity of the energy products sold by Shell. The NCI is calculated on a life-cycle basis and as such includes GHG emissions – on an equity basis – from several sources, including:

- direct GHG emissions from Shell operations;
- indirect GHG emissions from generation of energy consumed by Shell; and
- indirect GHG emissions from the use of the products we sell.

Emissions from other parts of the product life cycle are also included, such as those from the extraction, transport and processing of crude oil, gas or other feedstocks and the distribution of products to our customers. Also included are emissions from parts of this life cycle not owned by Shell, such as the extraction of oil and gas processed by Shell but not produced by Shell; or from the production of oil products and electricity marketed by Shell that have not been processed or generated at a Shell facility.

We also take into account emissions mitigated through various measures, such as by creating carbon sinks by working with nature – including through protecting forests and wetlands – and by using CCS technology.

Refer to scope of NCI on page 100 for details of the supply chains and steps in the product life cycles that are included in the Net Carbon Footprint methodology.

The following GHG emissions are not included in the NCI:

- emissions from production, processing, use and end-of-life treatment of non-energy products, such as chemicals and lubricants;
- emissions from third-party processing of sold intermediate products, such as the manufacture of plastics from feedstocks sold by Shell;
- emissions associated with the construction and decommissioning of production and manufacturing facilities;
- emissions associated with the production of fuels purchased to generate energy on site at a Shell facility;
- other indirect emissions from waste generated in operations, business travel, employee commuting, transmission and distribution losses associated with imported electricity, franchises and investments; and
- emissions from capital goods, defined by the GHG Protocol as including fixed assets or property, plant and equipment (PP&E), and other goods and services not related to purchased energy feedstocks sourced from third parties or energy products manufactured by third parties and sold by Shell.

The NCI calculation uses Shell's energy product sales volume data, as disclosed in the Annual Report and Sustainability Report. This excludes certain sales volumes such as:

- certain contracts held for trading purposes reported net rather than gross. Business-specific methodologies to net volumes have been applied in oil products and pipeline gas and power. Paper trades that do not result in physical product delivery are excluded; and
- retail sales volumes from markets where Shell operates under trademark licensing agreements.

Important notes on the NCF methodology

1. The NCF is not a mathematical derivation of total emissions divided by total energy, nor is it an inventory of absolute emissions.
2. It is a weighted average of the life-cycle CO₂ intensities of different energy products, normalising them to the same point relative to their final end-use. The use of a consistent functional unit, grams of carbon dioxide equivalent per megajoule (gCO₂e/MJ), allows like-for-like comparisons and the aggregation of individual life-cycle intensities for a range of energy products including renewables.

For further information see our detailed NCF methodology documentation (www.shell.com/ghg).

Basis of preparation – absolute Scope 1, 2 and 3 emissions

We follow the GHG Protocol's Corporate Accounting and Reporting Standard, which defines three scopes of GHG emissions:

- Scope 1: direct GHG emissions from sources under Shell's operational control.
- Scope 2: indirect GHG emissions from generation of purchased energy consumed by Shell assets under operational control.
- Scope 3: other indirect GHG emissions, including emissions associated with the use of energy products sold by Shell.

GHG emissions comprise carbon dioxide (CO₂), methane (CH₄), nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and nitrogen trifluoride, with carbon dioxide and methane being the most significant contributors. Our GHG inventory was prepared in line with the requirements outlined in the ISO 14064-1:2018 Specification with Guidance at the Organisational Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals and the GHG Protocol's Corporate Accounting and Reporting Standard.

Our journey to net zero continued

In line with external standards, Shell aggregates its GHG emissions into tonnes of CO₂ equivalent by applying global warming potential (GWP) factors to each greenhouse gas. These factors are taken from the IPCC Fourth Assessment Report (AR4) over a 100-year time horizon, in line with the UK Government GHG Conversion Factors for Company Reporting.

GHG emissions are aggregated using a bottom-up approach: emission source -> asset -> operating unit -> business -> Group. GHG emissions in this Report include emissions from Upstream, Integrated Gas, Renewables and Energy Solutions, Downstream (Chemicals and Products and Marketing), and Projects & Technology, plus Shell's functions. All operated assets are included in the GHG inventory in the reporting period.

Basis of preparation – Scope 1 emissions

Sources included in Scope 1 emissions comprised:

- combustion of carbon-containing fuels in stationary equipment (e.g. boilers, gas turbines) for energy generation;
- combustion of carbon-containing fuels in mobile equipment (e.g. trucks, vessels, mobile rigs);
- flares;
- venting and emissions from industrial processes (e.g. hydrogen plants, catalytic cracking units); and
- fugitive emissions, including piping and equipment leaks and non-routine events.

Our Scope 1 emissions follow the GHG protocol guidance. As a result, the following are not included in our reported Scope 1 emissions:

- CO₂ emissions from biogenic sources (for example, biofuels, biomass). Instead, they were captured separately. Methane and nitrous oxide emissions from biogenic sources were included in our Scope 1 emissions.
- Captured CO₂ that was subsequently sold or otherwise transferred to third parties.
- CO₂ captured and sequestered using CCS technologies. However, the emissions from operating CCS were included in our Scope 1 and 2 emissions.
- Carbon credits.

All significant sources were included in the Scope 1 inventory.

Basis of preparation – Scope 2 emissions

Sources included in Scope 2 emissions comprised indirect emissions from purchased and consumed electricity, steam and heat. We did not identify any assets with imported cooling or compressed air used for energy purposes.

Scope 2 emissions were calculated using the market- and location-based methods separately as defined by the GHG Protocol Scope 2 Guidance.

All significant sources were included in our Scope 2 inventory.

Basis of preparation - Scope 3 emissions

This Report provides Scope 3 emissions included in our NCI. They were consolidated using the equity boundary approach. Under this approach, we reported the Shell share of emissions from energy products sold by Shell to end-users, including those sourced from third parties. Scope 3 categories included in the total number in this Report include the following:

Scope 3, Category 1: purchased goods and services

This category includes well-to-tank emissions from purchased third-party unfinished and finished energy products excluding electricity (which was reported separately under Category 3: Fuel and energy-related activities (not included in Scope 1 or Scope 2)).

Emissions in this category were estimated using well-to-tank emission factors for crude oil, natural gas, refined oil products (such as gasoline, and diesel), LNG and biofuels. Because the emission factors include transport, we did not estimate emissions from transport of purchased third-party products separately.

Emissions from purchased non-energy products were not included in this Report.

Scope 3, Category 3: fuel and energy-related activities (not included in Scope 1 and 2)

This category includes well-to-wire emissions from purchased third-party electricity sold by Shell, calculated using the market-based method. Emissions were not adjusted for any potential double-counting of sold natural gas that may have been used for generating this electricity.

This category does not include:

- indirect emissions from generation of imported energy (steam, heat or electricity consumed by our assets). These emissions were reported separately as Scope 2 emissions; and
- well-to-tank emissions from purchased electricity, steam and heat consumed by our assets (i.e. Scope 3 emissions from extraction, refining and transport of primary fuels before their use in the generation of electricity or steam).

Scope 3, Category 9: downstream transport and distribution

This category includes estimated emissions from transport and distribution of energy products produced or refined by Shell. It does not include the emissions associated with transporting third-party products, which are included in Scope 3, Category 1. In order to avoid double counting the emissions from transport, Scope 1 and 2 emissions from transport included in our equity emissions were subtracted from the total in this category.

Scope 3, Category 11: use of sold products

This category includes estimated emissions from the use of sold energy products, such as LNG, GTL, pipeline gas, refined oil products and biofuels. The emissions consist of two sub-categories: products manufactured and sold by Shell, and third-party products sold by Shell.

This category does not include non-energy products that may have been combusted during use (for example, lubricants).

Biogenic CO₂ emissions from combustion of sold biofuels

Biogenic CO₂ emissions from combustion of sold biofuels were estimated and reported separately outside of scopes. Methane and nitrous oxide have been included in Scope 3, Category 11 in line with the ISO 14064-1:2018 and GHG Protocol requirements.

We did not estimate biogenic CO₂ emissions in other Scope 3 categories. It is assumed that the presence of biogenic emissions in other categories is negligible at present.

Other Scope 3 categories

As noted above, this Report only covers Scope 3 GHG emissions included in the boundary of our NCI metric.

Other Scope 3 GHG emissions can be found on our website: www.shell.com/ghg.

Our journey to net zero continued

Other regulatory disclosures

GHG emissions and energy consumption data - information provided in accordance with UK regulations

Data in this section are consolidated using the operational control approach. Under this approach, we account for 100% of the GHG emissions and energy consumption in respect of activities where we are the operator, irrespective of our ownership percentage.

Reporting on this operational control basis differs from that applied for financial reporting purposes in the "Consolidated Financial Statements". We acknowledge the strong preference of the UK's Financial Reporting Council (FRC) for companies to report the

GHG emissions and energy consumption data using the financial consolidation boundary and are working on including the data and information on this boundary in our Annual Report in the future.

See "Basis of preparation – absolute emissions" on page 106.

GHG emissions in million tonnes of CO₂ equivalent

	2022	2021	2020
Total global direct (Scope 1) [A]	51	60	63
UK including offshore area [B]	1.7	1.7	2.0
Market-based			
Total global energy indirect (Scope 2) [C]	7	8	8
UK including offshore area	0	0	0
Location-based			
Total global energy indirect (Scope 2) [D]	8	9	10
UK including offshore area	0.04	0.05	0.06
Intensity ratio in tonnes per tonne			
Intensity ratio of all facilities [E]	0.27	0.27	0.25

[A] Emissions from the combustion of fuel and the operation of our facilities globally, calculated using global warming potentials from the IPCC's Fourth Assessment Report.

[B] Emissions from the combustion of fuels and the operation of our facilities in the UK and its offshore area, calculated using global warming potentials from the IPCC's Fourth Assessment Report.

[C] Emissions from the purchase of electricity, heat, steam and cooling for our own use globally, calculated using a market-based method as defined by the GHG Protocol Corporate Accounting and Reporting Standard.

[D] Emissions from the purchase of electricity, heat, steam and cooling for our own use globally, calculated using a location-based method as defined by the GHG Protocol Corporate Accounting and Reporting Standard.

[E] In tonnes of total direct and energy indirect GHG emissions per tonne of crude oil and feedstocks processed and petrochemicals produced in downstream manufacturing, oil and gas available for sale, LNG and GTL production in Integrated Gas and Upstream.
For an additional breakdown by segment, see Scope 1 and 2 GHG intensity by segment section below.

The activity data used to calculate GHG intensity ratios at a portfolio level shown in the table above are reported on an operational control basis. As a result, they are not directly comparable with the production data reported elsewhere in this Report, which are reported on a financial control basis. The table below shows the numbers used in the calculation of the intensity:

Inputs used for calculating the GHG emissions intensity ratio

		2022	2021	2020
A	8.1 Scope 1 - Direct GHG emissions [A]	51	60	63
B	8.2 Scope 2 - Energy Indirect GHG emissions [A]	7	8	8
C=A+B	Total Scope 1 and 2 GHG emissions [A]	58	68	71
D	6.5 Total oil and gas production available for sale [B]	111	128	149
E	6.6 Refinery crude and feedstock processed [B]	63	84	99
F	6.3 Chemicals total production [B]	23	25	26
G	6.4 LNG production [B]	9	10	8
H	6.6 GTL production [B]	6	6	6
I=D+E+F+G+H	Total Upstream, Integrated Gas and Downstream activity [B]	212	253	288
J=C/I	GHG intensity ratio [C]	0.27	0.27	0.25

[A] In million tonnes CO₂ equivalent.

[B] In million metric tonnes of production.

[C] In tonnes of CO₂ equivalent per tonne of production.

Energy use in our operations

The energy consumption data provided below comprise own energy, generated and consumed by our facilities, and supplied energy (electricity, steam and heat) purchased by our facilities for our use.

Energy consumption data reflect primary (thermal) energy (e.g. the energy content of fuels used to generate electricity, steam, heat, mechanical energy, etc.). This includes energy from renewable and non-renewable sources. Own energy generated was calculated by multiplying the volumes of fuels consumed for energy purposes by their respective lower heating values. Own energy generated that was exported to third-party assets or to the power grid is excluded. Thermal energy for purchased and consumed electricity was calculated using actual electricity purchased multiplied by country-specific electricity generation efficiency factors (from IEA statistics). Thermal energy for purchased and consumed steam and heat was calculated from actual steam/heat purchased multiplied by a supplier-specific conversion efficiency, or a generic efficiency factor where supplier-specific data were not available.

Our journey to net zero continued

Our energy consumption decreased from 223 billion kilowatt-hours (kWh) in 2021 to 199 billion kWh in 2022, in line with the decrease in our Scope 1 and 2 GHG emissions. Around 1% of the energy we used in 2022 for our operations came from low-carbon and renewable sources.

Energy consumption in billion kilowatt-hours

	2022	2021	2020
Own energy generated and consumed			
Total energy generated and consumed	168	189	205
UK including offshore area	6.1	6.2	7.6
Purchased and consumed energy			
Total purchased and consumed energy	31	33	36
UK including offshore area	0.2	0.2	0.2
Energy consumption			
Total energy consumed	199	223	241
UK including offshore area	6.3	6.4	7.8

In 2022, we implemented a variety of measures to reduce the energy use and increase the energy efficiency of our operations.

Examples of some of the principal measures taken in 2022 (with estimated total savings of around 1,155 million kWh in 2022):

- At our GTL asset in Qatar, we completed several projects to reduce energy use and improve efficiency, e.g. by making improvements to catalyst performance which resulted in reduced generation of off-gas leading to lower energy consumption.
- At our Gulf of Mexico operations in the USA, we have implemented a project to reduce energy use and improve efficiency by using waste heat to generate steam.
- At our Upstream operations in the UK, we have completed several projects to reduce energy use and improve efficiency, for example by implementing an online model at Shearwater to optimise fuel gas usage.
- At our Scotford site in Canada, we have implemented several projects to reduce energy use and improve efficiency, for example by using analysers to optimise fuel usage.
- At our Geismar site in the USA, we have implemented several projects to reduce energy use and improve efficiency, for example by making changes to how some equipment operates.
- At our QGC operations in Australia, we implemented several projects to reduce energy use and improve efficiency, for example by introducing a CO₂ / energy performance dashboard for control room operators, which allowed operators to see gap to potential in efficiency savings based on real time operating data.

Examples of some of the principal measures taken in 2021 are listed below (with estimated total savings of around 675 million kWh in 2021):

- At our Scotford upgrader facility in Canada, we completed several projects to minimise energy use and improve efficiency, for example by installing new equipment and making changes to how some equipment operates.
- At our Gannet asset in the UK, we completed a project to enhance the efficiency of the fuel gas compressors by fine-tuning their performance to the specific needs of the platform.
- At our Jurong Island site in Singapore, we installed a second stage flash vessel to recover the heat for reuse in other equipment, and completed a project to minimise power consumption by one of the incinerators.
- At our Rheinland site in Germany, we completed several projects to reduce energy use and improve efficiency, for example, by installing more efficient equipment and changing maintenance schedules to improve efficiency.
- At our Bukom site in Singapore, we completed a project to reduce the consumption of natural gas in flare purge.
- At our Scotford refinery and chemical site in Canada, we completed several projects to reduce energy use and improve efficiency, for example, by enabling the reduction of steam usage.
- At our QGC operations in Australia, we implemented a project to reduce power requirements for gas compression.

The targets in this "Our journey to net zero" section, including those relating to the NCI targets, are forward-looking targets based on management's current expectations and certain material assumptions and, accordingly, involve risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied herein.

EU Taxonomy Regulation

The EU Taxonomy Regulation is a classification system that translates the European Union's environmental objectives into criteria for determining when an economic activity can be considered environmentally sustainable for investment purposes. As a UK company with its registered office and headquarters in London, Shell plc is not currently subject to the Taxonomy Regulation. Nevertheless, we elect to report against the taxonomy voluntarily because we recognise the importance of increasing transparency about how companies are progressing in the energy transition, even if the regulation is evolving and not yet mature.

For further information, see "Supplementary Information - EU Taxonomy Disclosure" on pages 307-319.

Respecting nature

Our approach to sustainability

Our commitment to contribute to sustainable development has been part of the Shell General Business Principles since 1997. These principles, together with our Code of Conduct, apply to the way we do business and to our conduct with the communities where we operate. We have embedded this sustainability commitment in our Powering Progress strategy, and our business and decision-making processes.

For more information on our Powering Progress strategy, see page 12.

Sustainability reporting boundary and guidelines

Data in this section are reported on a 100% basis in respect of activities where a Shell company is the operator (unless noted otherwise). Reporting on an operational control basis differs from that applied for financial reporting purposes in the "Consolidated Financial Statements" on pages 216-287. Additional data on our 2022 environmental and social performance can be found in the Shell Sustainability Report.

Our reporting on sustainability follows certain guidelines. For example:

- As a member of the World Business Council for Sustainable Development, we support its updated criteria for membership from 2022, which include requirements for corporate transparency.
- Our reporting is informed by guidelines developed by Ipieca, the global oil and gas association for advancing environmental and social performance across the energy transition.
- We map our disclosures against the Sustainability Accounting Standards Board's Oil & Gas - Exploration & Production Standard.
- In the "Our journey to net zero" section of this Report, we set out our climate-related financial disclosures consistent with all the recommendations and recommended disclosures of the Task Force on Climate-related Financial Disclosures (TCFD).

United Nations Sustainable Development Goals

The UN's 17 Sustainable Development Goals (SDGs) seek to address the world's biggest challenges, including tackling climate change, ending poverty, improving health and education, and making cities sustainable. Governments are responsible for prioritising and implementing approaches that meet the SDGs, but achieving these tasks will require collaboration and collective action across businesses, governments and civil society. We strive to play our part in helping governments and societies to achieve the SDGs. The goals were one of the considerations in the development of our Powering Progress strategy. We believe the actions we take as part of our strategy can help directly contribute to 13 of the SDGs, while indirectly contributing to others.

See our website [shell.com](https://www.shell.com) for information on how Shell is contributing to the SDGs.

Board oversight for sustainability

We describe Shell's overall governance framework on pages 141-142 and provide information on the roles of the Board, its committees, and the Executive Committee. The Safety, Environment and Sustainability Committee (SESCO) is one of the four standing committees of the Board of Directors of Shell plc. The (SESCO) assists the Board in reviewing the policies, practices, targets and performance of Shell, primarily with respect to safety, the environment including climate change, and broader sustainability.

More information on SESCo's role and activities in 2022 is provided on pages 151-152.

The Annual Report on Remuneration (see pages 171-190) provides details of how the Shell scorecard captures key performance indicators for safety, environment and climate.

Shell General Business Principles

The Shell General Business Principles set out our responsibilities to shareholders, customers, employees, business partners and society. They set the standards for how we conduct business with integrity, care and respect for people. As part of these principles, we commit to contribute to sustainable development, balancing short- and long-term interests and integrating economic, environmental and social considerations into our decision-making. All Shell employees and contractors, and those at joint ventures we operate, are expected to behave in line with our General Business Principles.

HSSE & SP Control Framework

In Shell, health, safety, security, environment, and social performance (HSSE & SP) are vitally important to generating value. They are indispensable elements of our organisation. The Shell HSSE & SP Control Framework (CF) consists of mandatory manuals, which align with the Shell Commitment and Policy on HSSE & SP. Guidance documents, assurance protocols, and training materials support the implementation of the manuals.

The HSSE & SP CF applies to every Shell entity and Shell-operated venture. It defines requirements and accountabilities at each organisational level, setting expectations for the management of HSSE & SP risks. We aim to ensure that significant HSSE & SP risks associated with our business activities are assessed and managed to minimise them as far as reasonably practicable. Our HSSE & SP functions provide expert advice and support businesses to improve HSSE & SP performance. The applicability of specific HSSE & SP CF requirements to contract staff depends on the defined HSSE & SP risks of the material or services procured as determined by the contracting Shell entity in

the context of the HSSE & SP CF. Contractors are required through appropriate contract provisions to adhere to either Shell requirements and standards or applicable industry standards.

We aim to minimise the environmental impact of new projects and existing operations. Shell conducts an environmental, social and health impact assessment for every major project. We engage with local communities and non-governmental organisations (NGOs) in order to understand and respond to their concerns in a timely and suitable manner.

Respecting nature continued



Assurance

The Shell Internal Audit & Investigations (SIAI) team is the single independent assurance organisation within Shell. Within SIAI, the HSSE & SP and Asset Management Assurance team provides assurance to the Board on the effectiveness of the HSSE & SP Control Framework (CF) through an audit programme.

We expect joint ventures not operated by Shell to apply standards and principles substantially equivalent to our own. We support these joint ventures in implementing such standards and principles. We also offer to help them review the effectiveness of their implementation. Even if such a review is not conducted, we periodically evaluate HSSE & SP risks faced by the ventures that we do not operate. If a joint venture does not meet our HSSE & SP expectations, we seek to improve performance by working with our partners to develop and implement remedial action plans. We take care to invest responsibly in the energy transition and screen our investments against multiple criteria.

When considering divestments, we collaborate with in-house and external experts, where appropriate, to conduct checks and examine key attributes of potential buyers. These attributes may include their financial strength, operating culture, HSSE policies, and approach to ethics and compliance. We also consider risk- and people-management processes and standards, community liaison practices, and social performance programmes.

Applicable attributes are assessed against Shell's policies and the requirements of relevant local regulations. Divestments are often subject to the approval of regulatory authorities, which may in part depend on potential buyers' HSSE capacity, compliance record, and asset-stewardship capabilities.

See the section "Risk management and controls" on page 25 for more information.

Decommissioning and restoration

Decommissioning is part of the normal life cycle of every oil and gas structure. We work hard to close and dispose of installations in a safe, efficient, cost-effective and environmentally responsible manner. This includes restoring the surroundings of platforms and facilities in line with relevant legislation, while taking our own standards into account. We have decommissioning and restoration activities under way in Brazil, Brunei, India, the Netherlands, the UK and the USA. We seek to reuse, repurpose and recycle materials in decommissioning. At the end of 2022, we reported \$20 billion on our balance sheet for current and non-current decommissioning and other provisions (see Note 24 to the Consolidated Financial Statements on pages 272-273).

Shell invests in innovative technologies for decommissioning and restoration which are developed in-house or by funding third parties. For instance, our Local Expander technology is used throughout the industry to plug unused wells and stop methane and liquids from escaping over time. The expander is easy to deploy and typically reduces greenhouse gas emissions by at least half compared to the alternative method of plugging.

See the business sections on pages 42-81 for more information.

Respecting nature continued

Respecting Nature

We recognise there is a growing urgency to protect and enhance biodiversity, preserve water quality and availability, improve air quality and use resources more efficiently. Nature loss and climate change are interconnected and need to be tackled together, as recognised at COP27 and COP15.

Respecting the environment has been an integral part of the way we do business for many years, as set out in the Shell General Business Principles and Shell Commitment and Policy on HSSE & SP. Respecting Nature is one of four pillars of our Powering Progress strategy, which we launched in 2021 (see page 12). Our commitments focus on four priority areas: biodiversity (land and marine environments), water, circular economy and waste, and air quality. They set out our ambitions for 2030 and later, as well as shorter-term goals.

We have included our commitments in our performance management and reporting systems and have been working to define baselines and track progress. Our Executive Committee is accountable for delivery of the Respecting Nature goal.

We have made a commitment to include requirements in our purchasing policies that reflect our environmental framework and take the energy efficiency, material efficiency and sustainability of products into consideration in our purchases.

We will continue to seek opportunities to go further. Our environmental ambitions are underpinned by collaboration with our supply chains and transparent reporting.

Environmental standards

Shell's global environmental standards are set out in our HSSE & SP Control Framework and we seek to apply them wherever we operate. Our approach draws on external standards and guidelines, such as those developed by the World Bank and the International Finance Corporation. Our environmental standards include details of how to manage emissions of greenhouse gases (GHG); consume energy more efficiently; reduce gas flaring and monitor and improve air quality; prevent spills and leaks of hazardous materials; use less fresh water; and conserve biodiversity.

When planning new major projects, we conduct detailed environmental, social and health impact assessments. The Shell HSSE & SP Standards require that we certify our major installations against an internationally recognised independent environmental management system standard if they have significant environmental risks. Major installations are crude oil and natural gas terminals; gas plants; manned offshore and onshore production platforms or flow stations; floating production and storage vessels; refineries; chemicals manufacturing facilities; mines; or upgraders. For the purpose of this Report, we did not count each major installation in Upstream and Integrated Gas separately. They were aggregated into their respective operating unit or operating company, such as Shell Upstream UK or Nederlandse Aardolie Maatschappij (NAM), in line with the scope of their certifications. At the end of 2022, 100% of major installations within that scope and operated by Shell were certified against the ISO 14001:2015 Environmental Management System or were in compliance with equivalent environmental frameworks required by local regulations. In addition, many installations that are not classified as major, such as lubricant plants or supply terminals, are also certified against ISO 14001 but are not included in the data above.

See also "Control Framework" on page 111 and "Our journey to net zero" on page 86 for more information on how we manage our GHG emissions.

Biodiversity

We aim to minimise the impact of our onshore and offshore projects on biodiversity and ecosystems, whether life on land or life below water.

Since 2021, all projects in critical habitats and nature-based solutions projects must have measures in place to achieve a net-positive biodiversity result. If we decide to go ahead with a project that is in a critical habitat, we develop a biodiversity action plan. This includes applying the mitigation hierarchy, a decision-making framework that involves a sequence of four key actions: avoid, minimise, restore and offset. We assess the potential impact of projects on biodiversity as part of our impact assessment process. If there is an impact on biodiversity, the plan outlines the actions required to help achieve a net-positive outcome for biodiversity. For example, in our recently announced Jackdaw project in the UK, our impact assessment determined there were no significant environmental or socio-economic impacts identified after implementation of mitigation measures.

Our commitments include replanting forests, achieving net-zero deforestation from new activities, while maintaining biodiversity and conservation value. Deforestation occurs when forests are converted to non-forest uses. We use the definition of forest used by the Food and Agriculture Organization of the United Nations.

In 2022, around 145 hectares were deforested as a result of our new activities. Reforestation plans are in development which we intend to implement to help achieve biodiversity and contribute to conservation. We work with partners and stakeholders to create robust and credible plans unique to each reforestation project.

In 2003, we committed not to explore for, or develop, oil and gas resources in natural and mixed World Heritage Sites.

Circular economy and waste

We are aiming for zero waste by reducing waste generated and increasing reuse and recycling in our businesses and supply chains. In 2022, we completed 19 assessments on waste across our businesses, adding to five that were completed in 2021. These assessments determined a high number of varied waste sources. Further review is required before setting additional waste reduction, reuse and recycling goals. In 2023, we plan to take action to help address reductions across the most significant of Shell's waste streams.

In 2022, we disposed of 1,982 thousand tonnes of hazardous and non-hazardous waste, which is relatively flat compared with 1,993 thousand tonnes in 2021. We also sent 457 thousand tonnes of residual materials for reuse, recycling or beneficial use as a raw material in another process. For example, waste that might otherwise go to landfill can be incinerated to generate energy.

We continue to explore ways to reduce, reuse and recycle packaging across our supply chains, and introduce sustainable packaging. We have also set commitments to work with our suppliers and contractors to help end plastic waste in the environment:

- By 2030, we will increase the amount of recycled plastic in our Shell-branded packaging to 30% and ensure that the packaging we use for our products is reusable or recyclable.
- We will increase the amount of recycled materials used to make our products, starting with plastics. Our ambition is to use 1 million tonnes of plastic waste a year in our global chemical plants by 2025.

We are focusing on chemical recycling where we break down hard-to-recycle plastics into raw materials through a technique called pyrolysis. The technique breaks down hard-to-recycle plastics into raw materials. The pyrolysis oil can then be used as feedstock in our chemical plants, replacing traditional hydrocarbon feedstock. This contributes to our circular economy ambition and prevents waste that would otherwise have gone to landfill or incineration.

Respecting nature continued

At the Shell Chemicals Park Moerdijk in the Netherlands, we are building a new pyrolysis oil upgrader. The plant will have the capacity to process up to 50,000 tonnes of pyrolysis oil per year.

At our Shell Energy and Chemicals Park Singapore, we are also building a pyrolysis oil upgrader, with a capacity of 50,000 tonnes per year.

In 2021, we announced plans - along with our joint-venture partner BlueAlp - to build two hard-to-recycle plastic waste conversion units in the Netherlands. Since the signing, we have worked together to improve the operational set-up and process safety. The plant is expected to convert more than 30,000 tonnes of plastic waste a year into pyrolysis oil.

We are a member of Operation Clean Sweep, a voluntary programme which supports companies in the plastics value chain to put in place measures to prevent pellet loss.

Water
Managing our impacts on water and ensuring the availability of fresh water for our operations is a growing challenge in some parts of the world. Increasing demand for water resources, growing stakeholder expectations and concerns, and water-related legislation may reduce our access to water.

We manage water use carefully, and tailor our use of fresh water to local conditions and requirements. We sometimes use alternatives to fresh water in our operations. These include water that has been recycled from our operations, processed sewage water and desalinated water. We require that all Shell facilities and projects are assessed to see what risks they might pose to water availability. In places where water is scarce, we develop water-management action plans for using less fresh water, increasing water recycling and closely monitoring water use.

We aim to reduce our consumption of fresh water in water-stressed areas by 15% by 2025 compared with 2018 levels.

At the end of 2022, four of our major facilities were in areas where there is a high level of water stress, based on analysis using water stress tools, including the World Resources Institute's Aqueduct Water Risk Atlas and local assessments. These four facilities are the Pearl GTL (gas-to-liquids) plant in Qatar, the Shell Energy and Chemicals Park in Singapore, the Shell Jurong Island chemical plant, also in Singapore, and the Tabangao Import Terminal in the Philippines. In 2022, these four facilities consumed 18 million cubic metres of fresh water, compared with 22 million cubic metres in 2021 and their baseline of 25 million cubic metres in 2018.

In 2022, we continued to review our water use and stewardship. We are applying procedures across our businesses to improve water efficiency and reduce fresh-water use. This has involved detailed assessments at six Shell sites: QGC upstream and midstream, Australia; Shell MDS, Malaysia; Shell Hazira LNG Terminal, India; Shell Energy and Chemicals Park Rheinland, Germany; and Shell Chemicals Park Moerdijk. The assessments involved desktop analysis and detailed site evaluations conducted with external organisations. A key learning from the assessments was that Water Stewardship principles can be applied to Shell's onshore facilities. We expect to update our approach further in 2023.

In 2022, our overall intake of fresh water decreased to 156 million cubic metres, compared with 166 million cubic metres in 2021, mainly driven by divestments and the shutdown of some units at the Shell Energy and Chemicals Park Singapore, and at Jurong Island Singapore.

Around 85% of our intake of fresh water in 2022 was used for manufacturing oil products and chemicals, with the rest mainly used for oil and gas production. Around 30% of our fresh-water intake was from public utilities, such as municipal water supplies. The rest was taken from surface water such as rivers and lakes (around 55%) and groundwater (around 15%).

Additional information on our 2022 environmental performance is expected to be published in the Shell Sustainability Report in March 2023.

Air quality

We are helping to improve air quality by reducing emissions from our operations and providing clean ways to power transport and industry. We follow our own standards and those of local regulators to manage airborne pollutants in our oil and gas production and processing, including emissions of nitrogen oxides, sulphur oxides and volatile organic compounds.

Our sulphur oxide (SOx) emissions increased to 36 thousand tonnes in 2022, compared with 32 thousand tonnes in 2021. This increase was mainly because of turnarounds at the Shell Energy and Chemicals Park Singapore, and our Sarnia refinery in Canada.

Our nitrogen oxide (NOx) emissions decreased from 105 thousand tonnes in 2021 to 93 thousand tonnes in 2022, in part because of the handover of OML 11 operations in Nigeria, divestment of our Permian assets in the USA, and fewer ships operated by Shell.

Our emissions of volatile organic compounds (VOCs) decreased to 38 thousand tonnes in 2022 from 45 thousand tonnes in 2021. Reductions were in part due to divestment of Permian assets in the USA, the handover of OML 11 operations in Nigeria, and reduced flaring.

For more information about our approach to biodiversity, circular economy and plastic waste, and water see our website [shell.com](https://www.shell.com).

Spills

Large spills of crude oil, oil products and chemicals associated with our operations can harm the environment, and result in major clean-up costs, fines and other damages. They can also affect our licence to operate and harm our reputation. We have requirements and procedures designed to prevent spills. We design, operate and maintain our facilities with the intention of avoiding spills. To further reduce the risk of spills, Shell has routine programmes to reduce failures and maintain the reliability of facilities and pipelines. Our business units are responsible for organising and executing spill responses in line with Shell guidelines and relevant legal and regulatory requirements. Our offshore installations have spill response plans for when an incident occurs. These plans set out response strategies and techniques, available equipment, and trained personnel and contracts. We can engage specialist contracted services for oil spill response, including vessels, aircraft or other equipment and resources, if required, for large spills. We conduct regular exercises that seek to ensure these plans remain effective and fit for purpose.

We have further developed our ability to respond to spills to surface water. We have a worldwide network of trained staff to help with this. We also have a global oil spill expertise centre, which tests local capability and maintains our ability to respond to a significant spill into a marine environment.

Spills still occur for reasons such as operational failure, accidents or unusual corrosion. In 2022, there were 54 operational spills of more than 100 kilograms compared with 42 in 2021. The weight of operational spills of oil and oil products in 2022 was 0.06 thousand tonnes, compared with 0.05 thousand tonnes in 2021. In 2022, all of the spills caused by sabotage and theft were in Nigeria. The number

Respecting nature continued

of these spills decreased to 75 in 2022 from 106 in 2021, with the volume also decreasing to 0.6 thousand tonnes from 3.3 thousand tonnes in 2021.

See "Safety" section on page 125 for more information on emergency response.

Spills in Nigeria

In the Niger Delta, over the last 12 years, the total number of operational hydrocarbon spills and the volume of oil spilled from them into the environment have been significantly reduced.

Most oil spills in the Niger Delta region continue to be caused by crude oil theft, the sabotage of oil and gas production facilities, and illegal oil refining, including the distribution of illegally refined products.

In 2022, the Shell Petroleum Development Company of Nigeria Limited (SPDC), as operator of the SPDC joint venture (JV, Shell interest 30%), reported 10 operational spill incidents of more than 100 kilograms of crude oil, more than the nine reported in 2021. The volume of around 0.01 thousand tonnes was less than the 0.03 thousand tonnes recorded in 2021.

SPDC [A] has an ongoing work programme to appraise, maintain and replace key sections of pipelines and flow lines, in order to reduce the number of operational spills. In 2022, around 27 kilometres

of pipelines and flow lines have been replaced. This work is organised through a proactive pipeline and flow line integrity management system. The system installs barriers where necessary, and recommends when and where pipeline sections should be replaced to prevent failures.

[A] Unless otherwise stated, all activities reported for or as relating to Shell Petroleum Development Company Limited (SPDC) in this section should be understood as SPDC acting as the operator of the SPDC joint venture (SPDC JV). SPDC, as the corporate entity, owns 30% of the JV.

Spills caused by sabotage in 2022

In 2022, about 88% of the oil spills of more than 100 kilograms from the SPDC-operated facilities were caused by the illegal activities of third parties. In 2022, the volume of crude oil spills of more than 100 kilograms caused by sabotage was around 0.6 thousand tonnes (75 incidents), compared with around 3.3 thousand tonnes (106 incidents) in 2021. The decreased number of incidents in 2022 correlates with a shut-down of production for about six months because of an unprecedented increase of crude oil theft from the Trans Niger

Pipeline (TNP), which is operated by SPDC on behalf of the SPDC JV. SPDC continues to work with the government security agencies to maintain surveillance and address illegal activities of third parties, primarily along the SPDC JV pipeline and its operational areas.

In 2022, SPDC continued on-ground surveillance of its areas of operation, including its pipeline network, to mitigate third-party interference and ensure that spills are detected and responded to as quickly as possible.

There are daily overflights of the most vulnerable segments of the pipeline network to identify any new spills or illegal activity. SPDC has introduced anti-theft protection mechanisms for key infrastructure such as wellheads and manifolds. The programme to protect wellheads with steel cages continues to help deter theft, and drones have been introduced to inspect pipelines and monitor security of operations.

By the end of 2022, a total of 311 steel cages were installed, including 38 that had been upgraded with CCTV. This compared with a total of 283 installed cages at the end of 2021. In 2022, out of 732 registered attempts, 47 were successful.

Response and remediation

Regardless of the cause of a spill, SPDC cleans up and remediates areas affected by spills originating from its facilities. In 2022, the time that SPDC needed to complete the recovery of free-phase oil – oil that forms a separate layer and is not mixed with water or soil – remained at around one week. This is the average time it takes to safely access a damaged site, initiate containment to prevent further spread of the spill, and to start joint investigation visits with regulators, affected communities, and in some cases with NGOs, to clean up oil not mixed with water or soil.

Clean-up activities include bio-remediation which stimulates micro-organisms that naturally break down and use carbon-rich oil as a source of food and energy, effectively removing it. Once clean-up and remediation operations are completed, the work is inspected and, if satisfactory, approved and certified by the Nigerian regulators. With operational spills, SPDC also pays compensation to affected people and communities.

SPDC has been working with the International Union for Conservation of Nature (IUCN) since 2012 to enhance remediation techniques and protect biodiversity at sites affected by oil spills in its areas of operation in the Niger Delta. Based on this collaboration, SPDC has launched further initiatives to help strengthen its remediation and restoration efforts. In 2021, SPDC, IUCN, the Nigerian Conservation Foundation, and Wetlands International began working together on the Niger Delta Biodiversity Technical Advisory Group (BTAG), which continues to monitor biodiversity recovery at remediated sites.

SPDC also works with a range of stakeholders in the Niger Delta to build greater trust in spill response and clean-up processes. For example, local communities participate in remediation work for operational spills. Various NGOs have sometimes gone on joint investigation visits with SPDC, government regulators, and members of affected communities to establish the cause and volume of oil spills.

SPDC has sustained efforts to raise awareness of and counter the negative effects of crude oil theft and illegal oil refining. Examples include awareness and education programmes, community-based pipeline surveillance, and promoting alternative livelihoods through Shell's flagship youth entrepreneurship programme, Shell LiveWIRE.

Bodo clean-up process

In 2015, SPDC and the Bodo community signed a memorandum of understanding (MOU) granting SPDC access to begin cleaning up areas affected by two operational spills that occurred in 2008. The MOU also provided for the selection of two international contractors to conduct the clean-up under the oversight of an independent project director. Engagement with the Bodo community and other stakeholders began in September 2015 and was managed by the Bodo Mediation Initiative. The clean-up project was delayed in 2016 and for most of 2017 because of access challenges from the community.

In September 2017, it was possible to start the first phase of clean-up and remediation activities. The clean-up consists of three phases:

- 1) removal of oil from shoreline surfaces and mud flat beds;
- 2) remediation of soil and sediments; and
- 3) planting mangroves and monitoring.

The first phase was completed in August 2018. Phase two's contract procurement process was completed in 2019. Remediation activities in the field started in November 2019. During 2020, work paused until November because of COVID-19 restrictions.

Respecting nature continued

During 2021 and 2022, the remediation of soil and sediments continued. By the end of 2022, remediation work was completed on more than 87% (about 60% by end of 2021) of about 1,000 hectares that had been designated for clean-up. Remediation is expected to be completed by the end of the third quarter of 2023.

The planting of mangrove seedlings (phase 3) started in 2021. Around two million mangrove seedlings need to be planted and survive to 2025 to fulfil the project's goal. By the end of 2022, close to 340,000 seedlings had been planted. The National Oil Spill Detection and Response Agency (NOSDRA) had completed the certification for the planting on about a third of 722 hectares that have been remediated.

Ogoniland: commitment to the United Nations Environment Programme
SPDC remains committed to the implementation of the 2011 United Nations Environment Programme (UNEP) Report on Ogoniland which assessed contamination from oil operations in the region and recommended actions to clean it up. Over the last 11 years, SPDC has acted on all and completed most of the UNEP recommendations that were specifically addressed to it as the operator of the joint venture.

The clean-up efforts are led by the Hydrocarbon Pollution and Remediation Project (HYPREP), an agency established by the federal government. The UNEP report had recorded 67 sites, of which two were classified as waste sites without hydrocarbon pollution. This left 65 sites to be remediated, with all completed sites to be certified by NOSDRA. In 2021, for nine sites, remediation and certification was completed, work on 11 sites continued in 2022. In 2022, remediation of another nine sites and certification of four were completed. Work on two sites continues in 2023. Also, for 13 sites, NOSDRA certified that - in contrast to the original report - remediation was not needed. For the 17 sites, contracts have been awarded and field work is expected to commence in 2023. For the remaining 15 sites, remediation plans are being developed.

The UNEP report recommended creating an Ogoni Trust Fund (OTF) with \$1 billion capital, to be co-funded by the Nigerian government, SPDC and other operators in the area. SPDC remains fully committed to contributing \$900 million to the fund as its share over five years. SPDC contributed the first instalment of \$180 million for the clean-up in July 2018, and released the second instalment of \$180 million in 2019. HYPREP did not request the release of any funds in 2020. In 2021, HYPREP requested the release of funds for 2020 and 2021 (\$360 million). SPDC paid \$212 million in 2022, which brought the total contribution to the OTF to \$572 million at the end of 2022.

Although remediation works continue to make progress, challenges remain. These include re-pollution, land disputes, environmental issues such as flooding caused by excessive rainfall, and security issues in Ogoniland.

UNEP continues to monitor the progress of the clean-up through its observer status at HYPREP's Governing Council and the Ogoni Trust Fund. UN agencies such as the United Nations Development Programme and the United Nations Institute for Training and Research provide services to HYPREP in the areas of livelihood programmes, training and project services.

Hydraulic fracturing

Onshore Operating Principles

We use five aspirational operating principles which focus on safety, environmental safeguards, and engagement with nearby communities to address concerns and help develop local economies. We are working towards making all of our Shell-operated onshore projects where hydraulic fracturing is used to produce gas and oil from tight sandstone or shale consistent with these principles.

We consider each project – from the geology to the surrounding environment and communities – and design our activities using technology and innovative approaches best suited to local conditions. We also support government regulations consistent with these principles that are designed to reduce risks to the environment and keep those living near operations safe.

Seismicity

Overall, we believe it is relatively unlikely that hydraulic fracturing or well operations for disposing of produced water will induce seismicity that is felt on the surface. We would also expect any such impact to be limited to a relatively small area. The geology of some places, though, does increase the risk of inducing seismicity that can be felt on the surface. With the production from the Groningen onshore gas field in the Netherlands, seismicity was felt.

Shell assesses the risk profile of each basin before entering and manages operations accordingly, often beyond regulatory requirements. We assess the subsurface formation and surface environment around our operations and have developed appropriate mitigation plans to follow if needed.

For information about our induced seismicity management practices, such as the "Onshore Operating Principles in Action: Induced Seismicity Fact Sheet", see our website Shell.com.

For information on the Groningen onshore gas field in the Netherlands, see "Upstream" on pages 50-51.

Environmental costs

We are subject to a variety of environmental laws, regulations and reporting requirements in the countries where we operate. Infringing any of these laws, regulations and requirements could harm our reputation and ability to do business, and result in significant costs, including clean-up costs, fines, sanctions and third-party claims.

Ongoing operating expenses include the costs of preventing unauthorised discharges into the air and water, and the safe disposal and handling of waste.

For information about our environmental costs, see Note 24 "Decommissioning and other provisions" on pages 272-273.

We place a premium on developing effective technologies that are also safe for the environment. But when operating at the forefront of technology, there is always the possibility that a new technology has environmental impacts that were not assessed, foreseen or determined to be harmful when originally implemented. While we believe we take reasonable precautions to limit these risks, we could be subject to additional remedial, environmental and litigation costs as a result of unknown and unforeseen impacts of operations on the environment.

For information about risk management, see section "Risk management and controls" on page 27.

Powering lives

Contribution to society

We work to improve people's lives through our products and activities, and by contributing to local communities and championing inclusion.

Shell's businesses are part of society and contribute to it by buying and selling goods and services in many countries. Our employees, suppliers and contractors are part of the local communities where Shell operates. Our activities also generate revenues for governments through the taxes and royalties we pay and the sales taxes we collect on their behalf. This helps governments fund health care, education, transport and other essential services.

In 2022, Shell paid \$68.2 billion to governments (2021: \$58.7 billion). We paid \$13.4 billion in corporate income taxes and \$8.2 billion in government royalties, and collected \$46.6 billion in excise duties, sales taxes and similar levies on our fuel and other products on behalf of governments. In 2022, Shell spent \$41.5 billion (2021: \$37.5 billion) on goods and services from about 24,000 suppliers globally.

Social and economic impacts

We continue to assess our social and economic impact in a number of countries and regions. To do this, we have enlisted the help of Oxford Economics using its Global Sustainability Model.

In 2021, Shell had published its first report based on 2019 social and economic performance data. It detailed the impacts of our activities in five countries: the Netherlands, UK, USA, Nigeria and India.

In 2023, we are working to complete further reports, based on 2021 social and economic performance data for the 27 European Union member states. This work includes a combined report for Poland, Bulgaria, Hungary, Czech Republic, and Slovakia, as well as individual reports on these five countries.

These new reports aim to provide performance data on Shell's contribution to in-country gross domestic product, job numbers, tax payments to governments, and our spending on social and educational programmes. They also provide details of our operations and our procurement of goods and services in these regions and countries.

Supply chain engagement

Building strong relationships with our suppliers, including contractors, is essential to delivering new projects and running our operations. Suppliers often play an important part in Shell having a positive impact on local communities and achieving business success.

Shell aims to work with suppliers that behave in an economically, environmentally and socially responsible manner, as set out in our Shell General Business Principles and Shell Supplier Principles. In 2022, we spent around \$41.5 billion on goods and services from around 24,000 suppliers globally.

The way we engage with our contractors and suppliers is based on our Shell Supplier Principles, which are embedded in contracts. They require contractors and suppliers:

- to commit to protect the environment in compliance with all applicable environmental laws and regulations;
- to use energy and natural resources efficiently; and
- to continually look for ways to minimise waste, emissions and discharge from their operations, products and services.

We will include requirements in our purchasing policies to reflect our environmental framework, and take the energy efficiency, material efficiency and sustainability of products into consideration in our purchases.

We also work with our partners and industry peers to include worker welfare in industry standards, guidance, and best practice. This helps raise expectations and levels of consistency across the industry. We participate in organisations such as:

- the Building Responsibly group of engineering and construction companies working together to raise the bar in promoting the rights and welfare of workers across the industry;
- the International Association of Oil and Gas Producers (IOGP); and
- Ipieca, the global oil and gas industry association for advancing environmental and social performance across the energy transition.

We also work closely with our key contractors. As a result, by the end of 2022, 23 of our biggest contractors had signed up to the Building Responsibly principles, which cover more than 1 million workers.

Helping our suppliers decarbonise

We continually work with our suppliers to find ways to reduce greenhouse gas emissions across our supply chains. We seek to understand their energy needs and jointly identify potential low-carbon solutions that are economically sustainable.

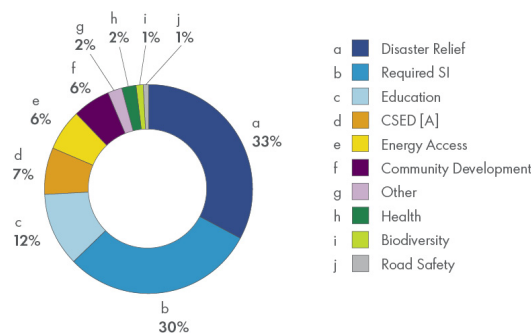
In 2021, we rolled out a new digital platform, the Shell Supplier Energy Transition Hub, free of charge to our supply chain and any other interested company. The platform enables them to set emission ambitions and track performance, share best practice and exchange emissions data with their own supply chains. By the end of 2022, 1,039 of our suppliers had joined the platform, 460 of which have already set emission reduction targets. This is more than a fourfold increase on 2021 in both instances.

See our website [shell.com](https://www.shell.com) for more information about how we engage with contractors and suppliers.

Social investment

We make social investments in areas determined by local community needs and priorities. This investment is sometimes voluntary, sometimes required by governments, or part of a contractual agreement. In 2022, we spent almost \$260 million on social investment, of which 30% was required by government regulations or contractual agreements. We spent the remaining \$182 million (70%) on voluntary social programmes.

2022 Social Investment spend by theme

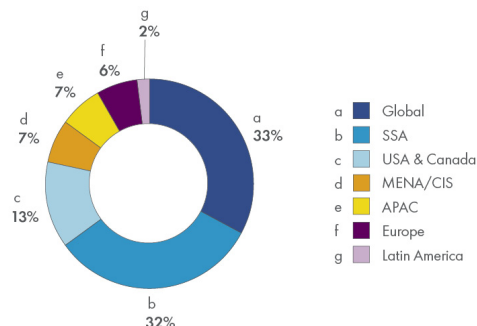


[A] CSED – Community Skills & Enterprise Development.

Powering lives continued

Around \$92 million of our total social investment spend in 2022 was in countries that, according to the UN Development Programme’s Human Development Index 2021, have a gross national income of less than \$15,000 a year per person.

2022 Social Investment spend by region



See our website shell.com for more information about our social investment.

Neighbouring communities

We engage with communities as part of our approach to managing human rights and providing access to remedy. Shell’s HSSE & SP Control Framework helps us operate responsibly and avoid or minimise potentially negative social impacts of our operations. The requirements set out in the framework also help us in our aim to be a positive presence in the communities through, for example, local employment and contractual opportunities. When we divest assets or exit areas, we apply well-established processes systematically to guide our risk assessment with the aim of leaving a positive legacy.

The requirements are supplemented by guidance that helps practitioners on the ground to engage with communities around our operations. Major projects and facilities operated by Shell have a social performance plan for managing potentially negative impacts, such as noise pollution, and maximising benefits, such as using local suppliers. These plans typically begin with defining the social environment, focusing in particular on people who may be especially vulnerable to the potential impacts of our operations. In larger facilities, we implement a community feedback mechanism for listening and responding to questions and resolving complaints in a timely manner. We have specific requirements to avoid, minimise or mitigate potential impacts on the traditional lifestyles and cultural heritage of Indigenous Peoples. We also have specific requirements to avoid, minimise or mitigate their involuntary resettlement.

We use our online community feedback tool, launched in 2020, to track and respond to questions, complaints and feedback that we receive. It allows our network of about 121 community engagement practitioners to document feedback and outcomes. They are the face of Shell in the communities and act as a bridge between communities and our activities.

We continually seek to improve our community engagement and to align with the UN Guiding Principles on Business and Human Rights. As part of this we work with selected sites to improve their community feedback mechanisms in the following areas:

- promoting public access to and transparency of the sites’ community feedback mechanisms;
- improving written procedures so they are better aligned with global good practice and more reflective of local circumstances;
- providing clear steps for recognising alternative options for communities to seek remedy; and
- respecting people’s anonymity and data privacy.

In 2022, we developed new community feedback mechanism procedures for four additional sites, bringing the total number of sites with operational feedback procedures aligned with the effectiveness criteria spelled out in the UN Guiding Principles to 16. Several more sites have procedures in place which are not specifically aligned with those criteria.

In 2022, we used the data in our online reporting tool to analyse how feedback was addressed. We found that most issues were resolved directly by the community engagement practitioners and the remainder were resolved by site management.

See our website shell.com for more information about our work with communities.

Human rights

Human rights are fundamental to Shell’s core values of honesty, integrity and respect for people. Our approach is informed by the UN Guiding Principles on Business and Human Rights. Respect for human rights is embedded in the Shell General Business Principles and our Code of Conduct.

We focus our efforts on four key areas, where respect for human rights is critical to the way we operate and where we have identified the highest risk of potential impact on human rights. These four key areas are the workplace, communities, supply chains and security. In 2022, we continued to take steps to improve our approach to human rights.

We expect joint ventures not operated by Shell to apply standards and principles substantially equivalent to our own. The Shell Supplier Principles outline how we expect our contractors and suppliers to respect the human rights of their workforce, and to manage the social impacts of their activities on Shell’s neighbouring communities.

In 2021, we published Shell’s Approach to Human Rights, which increases transparency by providing our staff and external stakeholders with important information about our approach and commitment to human rights. The publication includes Shell’s position on respecting and promoting worker welfare. It also contains information on how we provide access to remedy. In 2022, supported by an external advisor, we developed recommendations to further improve our approach to human rights. We do this, for example, by expanding the disclosure of our human rights due diligence strategy and salient issues, seeking opportunities to expand the scope of contracting and procurement human-rights-related controls in our supply chain beyond Tier 1 suppliers, and opportunities for a more integrated approach to human rights due diligence.

In 2021, we launched an updated human rights training course and by the end of 2022, about 460 Shell staff had completed the course and the roll-out is expected to continue through 2023. The course is mandatory for selected staff working in higher-risk focus areas, such as social performance, human resources, and contracting. We encourage all staff to do the course, regardless of their role, to build greater understanding of human rights across Shell.

An internal Human Rights Working Group with experts from different functions, including an external adviser, guides Shell businesses on best practice when implementing and reviewing our approach to human rights. In 2022, a committee composed of senior executives, chaired by the Director of Strategy, Sustainability and Corporate Relations, supported the work of the Human Rights Working Group.

Powering lives continued

Shell Supplier Principles

Human rights due diligence is particularly relevant when it comes to our supply chains. For example, we engage with suppliers who may be at risk of having issues with labour rights to assess their management systems before deciding whether to award a contract. If we are dissatisfied with the results of supplier assessments, we may work with suppliers to help them implement corrective actions. We may also conduct on-site audits or consider terminating contracts if serious or persistent shortcomings are found.

The most common shortcomings found during our supplier assessments typically relate to the following areas:

- freely chosen employment;
- avoiding child labour;
- working hours, wages and benefits;
- dormitory, housing and working conditions;
- equal opportunities and freedom of association; and
- supply chain and performance management.

The Shell Supplier Principles include specific labour and human rights expectations for suppliers, including contractors. Shell companies use a joint industry supplier capability assessment that is delivered in collaboration with other operators. This is intended to support the improvement of working conditions in the participating companies' supply chains.

Shell's salient human rights issues

Salient human rights are those that are most at risk from a company's operations. We focus on four areas where respect for human rights is particularly critical to the way we operate and where we have identified the highest risk of potential impacts on human rights.

In 2022, we completed a review of our salient human rights issues with the support of an external advisor, Business for Social Responsibility (BSR). As a result, we have grouped Shell's salient human rights issues into the focus areas, reflected in the table alongside.

The exercise of reassessing and identifying our current most salient issues is part of our continued effort to ensure our human rights approach is effective and fit for purpose. As our business evolves, our salient issues profile might change. We will continue to assess risks and adapt our approach as required.

Human rights focus areas	Salient issues
At the workplace	<ul style="list-style-type: none"> ▪ Health and safety ▪ Discrimination ▪ Decent living conditions in workers' accommodation ▪ Access to adequate and readily available channels to voice concerns
In supply chains	<ul style="list-style-type: none"> ▪ Labour rights in our supply chains, e.g. prevention of forced labour, access to remedy ▪ Safe and healthy working conditions ▪ Decent living conditions in worker accommodation
In communities	<ul style="list-style-type: none"> ▪ Social impact management ▪ Vulnerable persons/communities ▪ Land access, livelihoods, and cultural heritage ▪ Engagement and access to remedy
In security	<ul style="list-style-type: none"> ▪ Human rights impact on communities by private security and/or government security forces we rely on ▪ Security of employee and contract staff in high-risk environments where we work

See our website [shell.com](https://www.shell.com) for more information about our approach to human rights.

Powering lives continued

Our people

Our people play an important role in accelerating Shell's transition to a net-zero emissions business, while also helping us address the energy needs of today. We aim to develop the talent of our people within a diverse and inclusive environment where we can empower them to be their best.

All metrics throughout this section exclude the employees in portfolio companies, except for the metrics reflecting total employee numbers, actual number of employees by geography, percentage of women employees, and mandatory training courses.

Employee overview

We employed 93,000 people on a full- or part-time basis at the end of 2022. This compares with 83,000 at the end of 2021 and 88,000 at the end of 2020. The data include people working in Shell subsidiaries, Shell-operated joint ventures and those seconded to non-Shell-operated joint operations, or ventures and associates. The employee numbers for 2021 and 2020 reflect headcount in the Shell HR system and full-time equivalent numbers for portfolio companies, which maintain their own HR systems.

Changes in headcount

In Shell companies, excluding portfolio companies, headcount fell by 5,000 from 82,000 to 77,000 between 2020 and 2021.

At the end of 2022, after the implementation of our Reshape strategy which saw a reduction of more than 7,300 jobs in Shell, headcount grew by 2,000 to 79,000 people because of the recruitment of employees in Information and Digital Technology and Trading and Supply.

The Reshape job reduction includes 3,500 employees who elected to leave Shell on selective voluntary severance (SVS), thereby reducing the number of enforced redundancies. We have always sought to conduct the job reductions process in accordance with our core values of honesty, integrity, and respect for people. Throughout the Reshape process, we supported those facing job reductions by helping them to find internal and external opportunities to retrain or learn new skills.

In Shell portfolio companies which maintain their own HR system, full-time equivalent employee numbers remained constant between 2020 and 2021. At the end of 2022, the employee headcount in portfolio companies increased by 8,000 to 14,000 people driven mainly by acquisitions, growth in new activities and new disclosure in Mobility, Lubricants, Renewables and Energy Solutions as we continue to implement our Powering Progress strategy.

The table below presents the breakdown of employee numbers by geographical area.

Note 32 to the "Consolidated Financial Statements" on page 286 provides the average number of employees by business segment.

Actual number of employees by geographical area

	2022	2021	2020
Europe	30	27	28
Asia	32	30	31
Oceania	3	2	3
Africa	4	4	4
North America	23	18	20
South America	1	2	2
Total	93	83	88

Voluntary turnover is a reliable indicator of the effectiveness of Shell's people management policies. In 2022, our voluntary resignations remained low compared with a range of industries. Around 5.0% of all Shell employees voluntarily resigned in 2022. This compared with 4.4% in 2021.

In 2022



Employees

93,000
employees at December 31, 2022



Countries and territories

>70
countries in which we operate



Directors

55%
women on the Board of Directors



Executive Committee

22%
women in Executive Committee



Senior leaders

30%
women in senior leadership positions



Women employees

33%
women employees



Training

266,000
formal training days for employees,
joint-venture partners, and contractors



Experienced hires

10,076
people joined Shell (40% women, 60% men)



Graduate hires

332
people joined Shell (49% women, 51% men)

Powering lives continued

The tables below present the breakdown of employees by type of employment contract and age group.

Percentage of employees by contract types

	2022	2021	2020
Permanent Contract/employment at-will [A]	98%	98%	98%
Fixed Term Contract	2%	2%	2%

[A] Employment at-will is used in the USA to describe employment contracts.

Percentage of employees by age group

	2022	2021	2020
Under 30 years old	14%	13%	14%
Between 30-50 years old	64%	65%	64%
Above 50 years old	22%	22%	22%

Shell aims to be an attractive employer to its existing and prospective employees. Across the more than 70 countries we operate in, we provide competitive remuneration with a range of benefits, such as global minimum maternity leave of 16 weeks. From January 2023, we offer at least eight weeks paid parental leave for non-birthing parents.

People are our most important asset and we believe in developing our employees. Career progression tools, such as an internal job portal, individual development plans, coaching and formal training have been in place for many years. We offer employees the opportunity to develop their careers within Shell, including rotations across different parts of the businesses to advance their skills and progress.

In 2022, 10,300 Shell employees were promoted (40% of which were women and 60% men), compared with 10,000 promotions (44% of which were women and 56% men) in 2021.

People development is a priority in company-wide and leadership communications. We account for learning as part of annual budget planning and we aim to ensure our learning curricula are updated and accessible to all employees.

In 2022, 266,000 formal training days were delivered to employees, joint-venture partners and contractors. This compares with 271,000 in 2021 and 234,000 in 2020. We aim to build the confidence of our employees in their employability throughout the energy transition.

Shell has increased learning offerings related to new skills that may be needed. In 2022, around 4,000 Shell employees completed courses on various topics, including hydrogen production, carbon capture and storage, and energy management.

We have focused efforts on expanding access to virtual courses and on a return to in-person training workshops, which were paused due to the pandemic.

Team leadership plays a key role in driving employee engagement. We seek to develop leaders through learning programmes, domestic and international assignments, and project opportunities. In 2022, 25% of team leaders in Shell received access to a classroom learning.

Employee engagement and support

Hearing from employees provides valuable information for management and contributes to the governance of Shell. Insight into employee needs and perspectives enables Shell to continually learn and improve its policies, processes, and practices.

Management regularly engages with employees, including through internal and external elected employee representatives, and a range of local formal and informal channels. Our employee engagement forums also include webcasts and all-employee messages from our CEO and other senior leaders; town halls and team meetings; virtual coffee/chai connects; interviews with senior management, and internal social platforms. These engagements enable Shell to maintain a locally constructive employee and industrial relations environment.

In June 2022, the Chair of the Board, Sir Andrew Mackenzie, met with representatives of the Shell European Workers Council (SEWC) as part of their annual plenary meeting at Shell Centre in London. Also in 2022, various members of the Board visited sites in Singapore and the UK, where they engaged with Shell employees.

The Shell People Survey is one of the key tools we use to measure employee engagement, motivation, affiliation and commitment to Shell. It provides insights into employees' views and has had a consistently high response rate of above 80% since 2016. In 2022, the survey attained its highest ever response rate of 87% (up 3.4 percentage points from 2021). We believe that increased employee engagement can result in better business performance and safety. The Shell People Survey 2022 showed a positive, upward trajectory across all Shell businesses and functions. The average employee engagement score rose three points to 78 from the 2021 level and returned to the level seen in 2019 and 2020, our highest engagement score in the last 10 years, reflecting the resilience of our people during a time of change. Across Shell, employees also have access to senior leaders, local employee forums and employee resource groups. The Shell Global Helpline is available for employees to raise concerns or dilemmas, anonymously if they wish.

Employee well-being

Shell believes people perform at their best when they feel cared for. We operate in locations with different local regulations and we seek to comply with all applicable local laws and regulations, including on working hours. Across Shell operations, we aim to eliminate discrimination in employment, forced labour, and child labour. We also respect the right to collective bargaining and freedom of association.

We take pride in fostering an environment that provides employees with the flexibility and support to focus on their mental, social, physical, and financial well-being. Shell has implemented initiatives and programmes to raise awareness of well-being at work, such as our Be Well, Care for Self, and I'm Not OK campaigns. We aim to develop individual and team skills, mindsets, and behaviours to create a safe working environment, to nurture a culture of care, and to continuously improve the support Shell offers employees.

Flexible work

Shell's offices remain essential to business performance. Through them we seek to build a sense of community, foster affiliation, and collaboration, and create a place where employees feel welcomed and valued. Shell wants individuals and teams to perform at their best and key to this is to enable people to balance their work and personal lives. Following the pandemic, Shell launched its Future of Work guide to give employees and teams advice and greater choice in determining how, when and where they work to better meet business and their own needs.

Powering lives continued

We provide our people with what they need to work in our offices and other locations, with flexibility based on their reasonable business and personal needs. We also seek to provide what they need if they are working remotely. In 2022, we continued our home-working ergonomics programme, providing funding for proper office equipment for home use by existing employees and new joiners. We also provided tips on setting up and maintaining good ergonomics, working with others virtually and maintaining productivity. In 2022, more people chose to make use of Shell's flexible working options.

Mental well-being

At Shell we strive to reduce the stigma related to mental ill health through open conversations, planned campaigns at country and global level, communications from senior leaders, engagement with elected employee representatives, and our experience-sharing portal for employees. In 2022, we developed and piloted our Global Mental Health Strategy and Programme designed to build a culture that promotes good mental health and protects against mental ill-health. The programme includes timely access to quality mental health support through Shell's Employee Assistance Programme, which is available in most locations, and delivers professional counselling services. It also offers resources to help reduce the risk of stress and burnout.

Financial well-being

In 2022, Shell published its Fair Pay Principle, which provides transparency internally and externally on the criteria Shell uses to pay employees fairly and competitively. The Fair Pay Principle includes our pay adjustment approach, assurance processes for paying a living wage and how we seek to mitigate bias in pay-related decisions. The cost-of-living crisis in 2022 has caused concerns for many people and during the year we have sought to help our employees navigate these challenging times. One of the ways in which we have done this is by sharing pay-related information more frequently in a bid to remove as much uncertainty as possible.

Diversity, equity and inclusion

Our Powering Lives ambition is to become one of the world's most diverse and inclusive organisations, a place where everyone – including employees, customers, partners and suppliers – feels valued, respected and has a strong sense of belonging. This ambition underpins our strategy and we believe it is the right thing to aspire to, making us a stronger organisation. We have set goals for diversity, equity and inclusion (DE&I), and our CEO and Executive Committee are accountable for our progress. In 2022, we launched new external DE&I content on shell.com/DEI which includes data and proof points to show our progress against our DE&I ambitions.

Living by our values

Our core values of honesty, integrity and respect for people underpin our DE&I approach. The Shell General Business Principles, Code of Conduct and Ethics and Compliance Manual help everyone at Shell act in line with our values.

All Shell employees and contractors with access to our HR systems are required to complete two mandatory training courses on DE&I, Conscious Inclusion and Respect in the Workplace, which reinforce expected behaviours for a respectful, inclusive workplace and Shell's stance against discrimination and harassment, including bullying and sexual harassment.

Our inclusion strategy is about everyone. In 2022, our Shell People Survey showed a result of 82 points out of 100 for all questions relating to DE&I (up two points from 2021).

We also started rolling out voluntary self-identification for employees in our HR system. Employees now have the option to voluntarily declare their gender, sexual orientation, race and ethnicity, and disability, where relevant and legal. This data can enable us to better track and improve our progress.

We are focusing on removing barriers and taking targeted action to create equity of opportunity in four strategic priority areas: gender; race and ethnicity; lesbian, gay, bisexual and transgender (LGBT+); and enablement and disabilities inclusion. These focus areas are sponsored by various members of the Executive Committee.

Gender

We strive for gender equality across Shell and we have signed the World Economic Forum declaration on closing the gender gap in the oil and gas sector. We have also endorsed the Catalyst CEO Champions for Change initiative, where more than 70 chief executives seek to accelerate the advancement of women, especially those from ethnic minorities, into senior leadership and board positions.

As at December 31, 2022, 55% of the members of Shell plc's Board were women up from 50% in 2021, with one woman also being the Deputy Chair and Senior Independent Director. This exceeds the FTSE Women Leaders Review target of 40% women on boards by 2025 and is on track with our own ambition. Representation of women on the Executive Committee was 22% at the end of 2022.

At the end of 2022, the representation of women within our Senior Executive [A] positions was 25% compared with 27% in 2021. Our ambition is to improve women's representation in this group every year to achieve gender equality.

[A] Senior Executives include the Executive Committee.

By 2025, we aim to have 35% representation of women in our Senior Leadership [A] and at least 40% representation by 2030. In 2022, 30.4% of Senior Leadership were women, up from 29.5% in 2021.

[A] Senior Leadership is a Shell measure based on compensation grade levels and is distinct from the term "senior manager" in the statutory disclosures in the table below.

Gender diversity data (at December 31, 2022)

Gender diversity data	Men		Women	
Directors of the Company	5	45%	6	55%
Senior managers [A]	827	68%	381	32%
Employees (thousand)	62	67%	31	33%

[A] Senior manager is defined in section 414C(9) of the Companies Act 2006 and, accordingly, the number disclosed comprises the Executive Committee members who were not Directors of the Company, and other directors of Shell subsidiaries.

In 2022 the proportion of women amongst experienced hires was 40%, compared with 44% in 2021. Our graduate hires number has consistently been 48% or 49% women, against our 50% ambition since 2019. In 2022, 49% of our graduate hires were women and 51% were men. Our overall representation of women in Shell was 33% at the end of 2022.

Powering lives continued

A crucial element of improving gender balance is addressing any gender pay gap and we are working on this. For example, in the UK, our 2022 average differences of pay of all men and women across all in-scope [A] Shell companies in the UK narrowed to 11.7% - 20.7%, compared with 7.3% - 21.8% in 2021. In parallel, the average differences of bonuses between men and women ranged from -0.2%-54.2% in 2022. In 2021, the top of this range was 54.9%. This gap exists for several reasons, including fewer women in senior leadership positions and fewer women in higher-paid specialist roles. More information about the UK gender pay gap at Shell can be found on our website.

[A] Shell companies in the UK with 250 or more employees in line with UK government requirements on gender pay gap reporting.

We also conduct an annual global gender pay equity review using a robust statistical approach. Countries in this review include Australia, France, the UK and South Africa. We take immediate action if required.

Race and ethnicity

We are working to address racial inequity and create an inclusive work environment where everyone feels valued. In 2020, we created the Shell Global Council for Race supported by a 20-member Employee Advisory Board composed of members from a diverse mix of racial and ethnic backgrounds. The Council, which is sponsored by the CEO, aims to advance diversity in our workforce so that it better reflects communities where we work and from which we draw talent, and focuses on the USA, the UK and the Netherlands.

At December 31, 2022, Shell had one director from an minority ethnic group on its Board of Directors. At the time of publication of this report, Shell plc's Board had three members from a minority ethnic background, which exceeds the UK's Parker Review recommendation of at least one. In addition, one of our Executive Committee members identifies as being from a minority ethnic group.

In the USA:

- In 2022, 13.7% of our US employees were Asian, 8.7% Black or African American, 11.9% Hispanic Latino, 63.5% White and 2.2% from other racial and ethnic groups, as reported to the US Department of Labor.

In the UK:

- In 2022, 14.5% of our UK employees identified as Asian, 3.7% Black, 2.4% Mixed, 76.5% White and 3.0% from other ethnic minority background.

[A] As ethnicity declaration is voluntary, our ethnicity declaration rate is not 100% and all calculations are based on a declaration rate of 82.7% in the UK. The 17.3% of our workforce who have not provided data or have chosen not to declare their ethnicity were not included in our calculations.

- We have set a recruitment ambition to have 8% Black representation in our graduate and experienced hires by 2025, to increase representation in line with UK society through actions such as mentoring and outreach.
- Shell in the UK was one of the first FTSE 100 companies to voluntarily publish its ethnicity pay gap data in November 2020.

In the Netherlands, we continued to implement our first Ethnic Inclusion plan. We launched voluntary self-identification for race and ethnicity for employees in our HR system in 2022.

In addition, Shell is working with key suppliers to ensure they understand Shell's DE&I ambitions and expectations. For more information on our progress in the UK, the USA, and the Netherlands, see our website [shell.com/DEI](https://www.shell.com/DEI).

LGBT+

We are working to advance lesbian, gay, bisexual and transgender plus (LGBT+) inclusion within Shell and the communities where we work. We promote equal opportunity and aim to create an environment where people feel included, regardless of sexual orientation or gender identity. Our approach reinforces respect for people and provides psychological safety for our LGBT+ employees. Most of our work around LGBT+ inclusion happens at a country level in line with local policies, laws and regulations.

In 2022, we published our Global LGBT+ Inclusion Guidelines, which are based on best practice and are designed to help country teams develop their own plans.

We benchmark ourselves externally. In 2022, we were recognised as well advanced in our LGBT+ Workplace inclusion journey in the Workplace Pride Global 2022 Benchmark. We also received a 100% score from the Human Rights Campaign Foundation's Corporate Equality 2022 Index and have earned this 100/100 award every year since 2016.

Shell's LGBT+ forum has 15 chapters globally, with the most recent employee resource groups established in Singapore and Spain.

Disability inclusion and enABLEment

We aim to create an inclusive, psychologically safe and accessible environment where people with disabilities can excel. We provide support and make adjustments for people with disabilities during the recruitment process and throughout their careers with Shell. This includes equal access to valuable educational resources, training programmes, and emphasis on personal and professional development.

Our Global enABLEment Coalition, made up of leaders from our Employee Resource Groups, allies and key teams, helps to shape and drive the enABLEment strategy across Shell. The Coalition provides expertise and advice to Shell leaders, our businesses and our employee resource groups for accessibility, disability inclusion and enABLEment.

In 2022, we rolled out our Global enABLEment priorities which set out the actions we intend to deliver in countries around the world to support Disability Inclusion and enABLEment. We now have 15 enABLE employee resource groups around the world.

Our workplace accessibility (WPA) service covers 81 locations around the world to ensure that all employees have access to reasonable workplace adjustments so that they can work effectively. The team is supported by functions such as Shell Health, Human Resources, Real Estate and IT. During the pandemic we combined our home-working ergonomics programme with WPA to help all employees to continue to work from home.

In collaboration with Purple Space, a professional development hub for disability network leaders, we piloted a personal development course for our employees with disabilities based in the UK. We also launched a LinkedIn learning path called "Spotlight – Disability Inclusion: A Guide for Line Managers".

We are part of the Valuable500, which connects 500 of the world's most influential global businesses to create a tipping point for large-scale disability inclusion. We are also active members of the Business Disability Forum.

Powering lives continued

Code of conduct

Shell is committed to prohibiting bribery, money laundering and tax evasion, and to conducting business in line with our Shell General Business Principles and Code of Conduct. We maintain a global anti-bribery and corruption (ABC) and anti-money laundering (AML) programme designed to prevent, detect, remediate, and learn from potential violations. This is in line with the UN Global Compact Principle 10 which states that businesses should work against corruption in all its forms, including extortion and bribery.

We do not tolerate the direct or indirect offer, payment, solicitation or acceptance of bribes in any form, nor the facilitation of tax evasion. Facilitation payments are also prohibited. The Shell Code of Conduct includes specific guidance for Shell employees and contractors on requirements to avoid or declare actual, potential or perceived conflicts of interest, and on offering or accepting gifts and hospitality.

To support the Code of Conduct, we have mandatory risk-based procedures and controls that address a range of compliance risks and ensure that we focus resources, reporting and attention appropriately. By making a commitment to our core values of honesty, integrity and respect for people, and by following the Code of Conduct, employees and contractors help protect Shell's reputation.

The pandemic led to an increase in hybrid working and this has required Shell to focus even more on conduct risk. Managerial duties have increased to maintain oversight of employees more frequently working from locations outside of an office and where information must continue to be safeguarded. All employees and contractors are required to undertake mandatory training courses in the Code of Conduct and Safeguarding Information every four and two years respectively. We continue to reiterate and emphasise that adherence to Shell's compliance requirements is essential to protecting our business.

Our ethics and compliance requirements are articulated through our policies, standards and procedures and supported by the Ethical Decision-Making Framework, a tool to help employees think through and discuss, in a structured way, the potential legal, ethical and external consequences of decisions. They are communicated to Shell employees and contractors and, where necessary and appropriate, to agents and business partners. We monitor and report internally on adherence to select ethics and compliance requirements, such as mandatory training completion and due diligence screening. We pay particular attention to our due diligence procedures when dealing with third parties. We also make our requirements clear to third parties through a variety of measures, such as standard contract clauses. We offer a good practice anti-bribery and corruption e-learning course to third parties that may not have a training programme in place. We have published our Ethics and Compliance Manual on shell.com.

The Shell Ethics and Compliance Office, with assistance from Legal, helps the businesses and functions to implement the ABC/AML and other programmes, assess risks, and monitors and reports on progress. In 2022, lawyers and compliance professionals supported Shell businesses and functions in addressing the implications of the war in Ukraine. They provided legal, and ethics and compliance support, including in relation to Shell's intention to withdraw from Russian hydrocarbons. The Shell Ethics and Compliance Office regularly reviews and revises all ethics and compliance programmes to ensure they remain up to date with applicable laws, regulations and best practices. This includes incorporating results from relevant internal audits, assurance reviews and investigations, and periodically commissioning external reviews and benchmarking.

We investigate all good-faith allegations of breaches of the Code of Conduct, however they are raised. We are committed to ensuring all such incidents are investigated by specialists in accordance with our Investigation Principles. Allegations may be raised confidentially and anonymously through several channels, including a Shell Global Helpline operated by an independent provider. We align with local reporting and investigation channels where required by law.

In 2022, there were 1,790 entries to the Shell Global Helpline: 1,381 allegations and 409 enquiries. The Business Integrity Department is a specialist investigative unit within Shell Internal Audit that is responsible for managing the Shell Global Helpline and the Group level incident management procedures. The Board has delegated the oversight of the functioning of the Shell Global Helpline to the Audit Committee. The Audit Committee is authorised to establish and monitor the implementation of procedures for the receipt, retention, proportionate and independent investigation and follow-up action of reported matters.

Violation of the Code of Conduct or its policies can result in disciplinary action, up to and including contract termination or dismissal. In some cases, we may report a violation to the relevant authorities, which could lead to legal action, fines or imprisonment.

Internal investigations confirmed 183 substantiated breaches of the Code of Conduct in 2022. Disciplinary action was taken against 216 group employees and contractors, including 53 contract terminations. In 2022, most violations of our Code concerned the categories of Harassment, Conflict of Interest and Protection of Assets.

Employee share plans

We have a number of share plans designed to align employees' interests with our performance through share ownership.

For information on the share-based compensation plans for Executive Directors, see the "Directors' Remuneration Report" on pages 166-170.

Performance Share Plan, Long-term Incentive Plan and exchanged awards under the BG Long-term Incentive Plan

Under the Performance Share Plan (PSP), 50% of the award is linked to certain indicators described in "Performance indicators" on pages 31-32, averaged over the performance period. For 2019, 12.5% of the award was linked to free cash flow (FCF) and the remaining 37.5% was linked to a comparative performance condition which involves a comparison with four of our main competitors over the performance period, based on three performance measures. For 2020, 11.25% of the award was linked to the FCF measure and 5% was linked to an energy transition measure. The remaining 33.75% was linked to the comparative performance condition. From 2021 and 2022, 10% of the award is linked to the FCF measure and 10% is linked to an energy transition measure. The remaining 30% is linked to the comparative performance condition. From 2023, 12.5% of the award is linked to an organic FCF measure and 12.5% is linked to an energy transition measure. The remaining 25% is linked to the comparative performance condition, which is based on two performance measures.

Under the Long-term Incentive Plan (LTIP) awards made in 2019 and 2020, 22.5% of the award is linked to the FCF measure and 10% is linked to an energy transition measure. The remaining 67.5% is linked to the comparative performance condition mentioned above. From 2021 and 2022, 20% of the award is linked to the FCF measure and 20% is linked to an energy transition measure. The remaining 60% is linked to the comparative performance condition. From 2023, 25% of the award is linked to an organic FCF measure and 25% is linked to an energy transition measure. The remaining 50% is linked to the comparative performance condition, that is based on two performance measures.

Powering lives continued

Separately, following the BG acquisition, certain employee share awards made in 2015 under BG's Long-term Incentive Plan were automatically exchanged for equivalent awards over shares in the Company. The outstanding awards take the form of nil-cost options..

Under all plans, all shares that vest are increased by an amount equal to the notional dividends accrued on those shares during the period from the award date to the vesting date. In certain circumstances, awards may be adjusted before delivery or subject to clawback after delivery. None of the awards result in beneficial ownership until the shares vest.

See Note 27 to the "Consolidated Financial Statements" on page 280.

Restricted share plan

Under the Restricted Share Plan (and the Free Share Schedule to the Shell Share Plan 2014), free share awards are made on a highly selective basis to senior staff. Shares are awarded subject to a two- or three-year retention period. All shares that vest are increased by an amount equal to the notional dividends accrued on those shares during the period from the award date to the vesting date. In certain circumstances, awards may be adjusted before delivery or subject to clawback after delivery.

Global Employee Share Purchase Plan

Eligible employees in participating countries may participate in the Global Employee Share Purchase Plan. This plan enables them to make contributions from net pay towards the purchase of the Company's shares at a 15% discount to the market price, either at the start or at the end of an annual cycle, whichever date offers the lower market price.

UK Shell All Employee Share Ownership Plan

Eligible employees of participating Shell companies in the UK may participate in the Shell All Employee Share Ownership Plan, under which monthly contributions from gross pay are made towards the purchase of the Company's shares. For every six shares purchased by the employee, one matching share is provided at no cost to the employee.

Powering Progress Share Award

This was a one-off share award granted to all eligible employees of Shell on June 18, 2021. This award supports employee engagement in the Powering Progress strategy. These awards vested on June 20, 2022.

Safety

Our approach to safety

Shell's Powering Progress strategy is underpinned by our focus on safety. We aim to do no harm to people and to have no leaks across our operations. We call this our Goal Zero ambition.

We seek to improve safety by focusing on the three areas where the safety risks associated with our activities are highest: personal, process and transport. We strive to reduce risks and to minimise the potential impact of any incident, with a particular emphasis on the risks with the most serious consequences if something goes wrong.

In 2020, we started a multi-year process of refreshing our approach to safety for all employees and contractors. Our updated approach is rooted in a consistent focus on human performance. We aim to better understand the gap between how we anticipate work will be done safely and how the work is actually carried out. We work to prevent incidents by maintaining safety barriers and providing training. We acknowledge that people make mistakes and not all incidents may be preventable. We continue to focus more on installing adequate controls to create capacity to fail safely. With that, we believe that we will enhance our safeguards and reduce the likelihood of serious injuries.

People are key to executing complex tasks and to finding solutions to problems. We aim to apply a learner mindset, by which we mean the belief that we can always improve, enhance individual capabilities, learn from mistakes and successes, and speak up without being punished. We seek to create conditions that encourage employees and contractors to share ideas and concerns without fear of rejection or punishment.

In 2022, as part of our new approach to our safety programme, we focused on conducting detailed change impact assessments across the Group to assess the extent to which our new safety principles are being integrated. These assessments covered all change areas, including mindset and behaviours, pre-work processes, and relationships with third-party contractors. We completed 49 of 52 assessments of assets, projects, functions and businesses within Shell (the remaining assessment to be completed in 2023). In addition, seven non-operated joint ventures (NOVs) elected to embed elements of our approach to safety in their improvement plans.

We work with a large number of our contractors and suppliers so they understand our safety requirements. We strive to help improve safety throughout the energy industry by sharing our safety standards and experience with other operators, contractors and professional organisations. This helps lead to the standardisation of safety practices within the industry, such as the IOGP Life-Saving Rules, Helicopter Recommended Practices, Site Construction Safety, and programmes from the Energy Institute, e.g. Hearts and Minds for fair event handling.

On November 1, 2022, we welcomed safety leaders from BP, Chevron, ExxonMobil, IOGP, TotalEnergies and many others active in the field of capital projects and wells to participate in the first industry Safety Collaboration Forum (SCF) in Houston. Delegates declared their intent to continue to play an active role in making the industry safer and more efficient.

Personal safety

We continue to strengthen the safety culture and leadership among our employees and contractor staff. This aligns with our focus on caring for people. The set of nine industry Life-Saving Rules came into effect at Shell on January 1, 2022. By the end of 2022, around 126,000 staff and contractors had completed our mandatory e-learning on the new rules.

We expect everyone to consider two aspects when performing their tasks: the hazards that could potentially cause serious harm, and the effectiveness of the barriers in place to avoid serious harm if something goes wrong. We have ongoing safety awareness programmes, and hold an annual global Safety Day to give employees and contractors time to reflect on how to prevent incidents and how to work together to improve performance.

In 2022, our annual Safety Day explored how we are all connected to the work that we do, and how our actions can create a chain of events that can influence the decisions and actions of others, including at the frontline.

We continue to learn from safety incidents. For example, in 2021, six contractor personnel and one government security agent lost their lives after their convoy came under attack on the way to the Assa North Project site in Nigeria. After the investigation into the incident, we shared information materials across Shell to raise awareness and encourage reflection and learning.

In 2022, we completed the construction of the Pennsylvania Petrochemicals Complex in the USA with more than 67 million work hours without fatality. During the building of a floating production storage and offloading vessel for the Shell-operated Penguins field (Shell interest 50%) in the UK North Sea, the China Offshore Oil Engineering Company (COOEC) achieved 16 million hours without fatality or serious injury.

Process safety

Process safety management is about keeping hazardous substances inside pipes, tanks and vessels, and ensuring that well fluids are contained during well construction and well intervention so that they do not harm people or the environment. It starts at the design and construction stage of projects and continues throughout the life cycle of facilities to ensure they are safely operated, well maintained and regularly inspected.

Our global standards and operating procedures define our expectations for the controls and physical barriers required to reduce the risks of incidents. For example, offshore wells must be designed with at least two independent barriers in the direction of flow, in order to reduce the risk of an uncontrolled release of hydrocarbons. For the event of a loss of containment such as a spill or a leak, our standards require the use of independent recovery measures to stop the release from becoming catastrophic. We regularly inspect, test and maintain these barriers to ensure they meet our standards.

Working with industry stakeholders, customers and suppliers is critically important to achieve our process safety ambitions.

We strive to learn not only from leaks that have happened, but also from potential events that were prevented by our barriers, such as avoided leaks which might have caused significant harm to assets and people.

In 2022, there were no Level 1, or Level 2, well control incidents in Shell-operated ventures.

Emergency response

We routinely prepare and practise our emergency response to potential incidents, such as a spill or a fire. This involves working closely with local emergency services and regulatory agencies to jointly test our plans and procedures. Shell requires key operating assets to test their emergency response preparedness every three years. In 2022, we held four large-scale emergency response exercises to ensure we have the required preparedness at assets we operate in Brazil, Nigeria, the Philippines and the US Gulf of Mexico.

Safety continued

Transport safety

Transporting large numbers of people, products and equipment by road, rail, sea and air poses safety risks. We seek to reduce these risks by developing best-practice standards within Shell. We also work with specialist contractors, industry bodies, non-governmental organisations and governments to find ways of reducing transport safety risks.

Road safety

In 2022, Shell employees and contractors drove around 456 million kilometres on business in more than 50 countries, a decrease of around 3% compared with 2021.

In Pakistan, a contractor colleague died during road transport activities under operational control of Shell. The number of severe motor vehicle incidents increased from nine in 2021 to 14 in 2022.

In 2022, around 40,000 Shell employees and contractors completed some form of in-vehicle or virtual defensive driving training.

In 2022, we installed active fatigue and distraction detection (AFDD) devices in around 2,400 vehicles operated by Shell or our contractors in countries where road transport risks are highest. By end of 2024, we aim to complete the installation of AFDD devices in vehicles operated by Shell, including both contractor and Shell-owned vehicles.

Safety at sea

At the end of 2022, we managed and operated a global fleet of 25 tankers, liquefied natural gas carriers, and the world's first liquefied hydrogen carrier, the Suiso Frontier.

Air safety

In 2022, for Shell-operated ventures, our owned and contracted aircraft flew more than 35,000 hours and safely carried more than 266,000 Shell employees and contractors to destinations all over the world. In addition, remotely piloted aircraft safely completed close to 1,000 hours of survey and inspection flights.

See our website [shell.com](https://www.shell.com) for more information on transport safety.

Safety and technology

Shell has been a pioneer in the development and deployment of digital technologies for decades, including those that help keep people and our operations safe. For example, we use smart sensors, which can be fixed, robot-mounted or carried by personnel, and are inter-connected so that they can gather and share data. Sensors can scan large areas across an asset to help detect leaks. Data analytics can reveal trends, which enables real-time risk assessment and timely interventions. Data analytics can reveal trends, which enables real-time risk assessment and timely interventions.

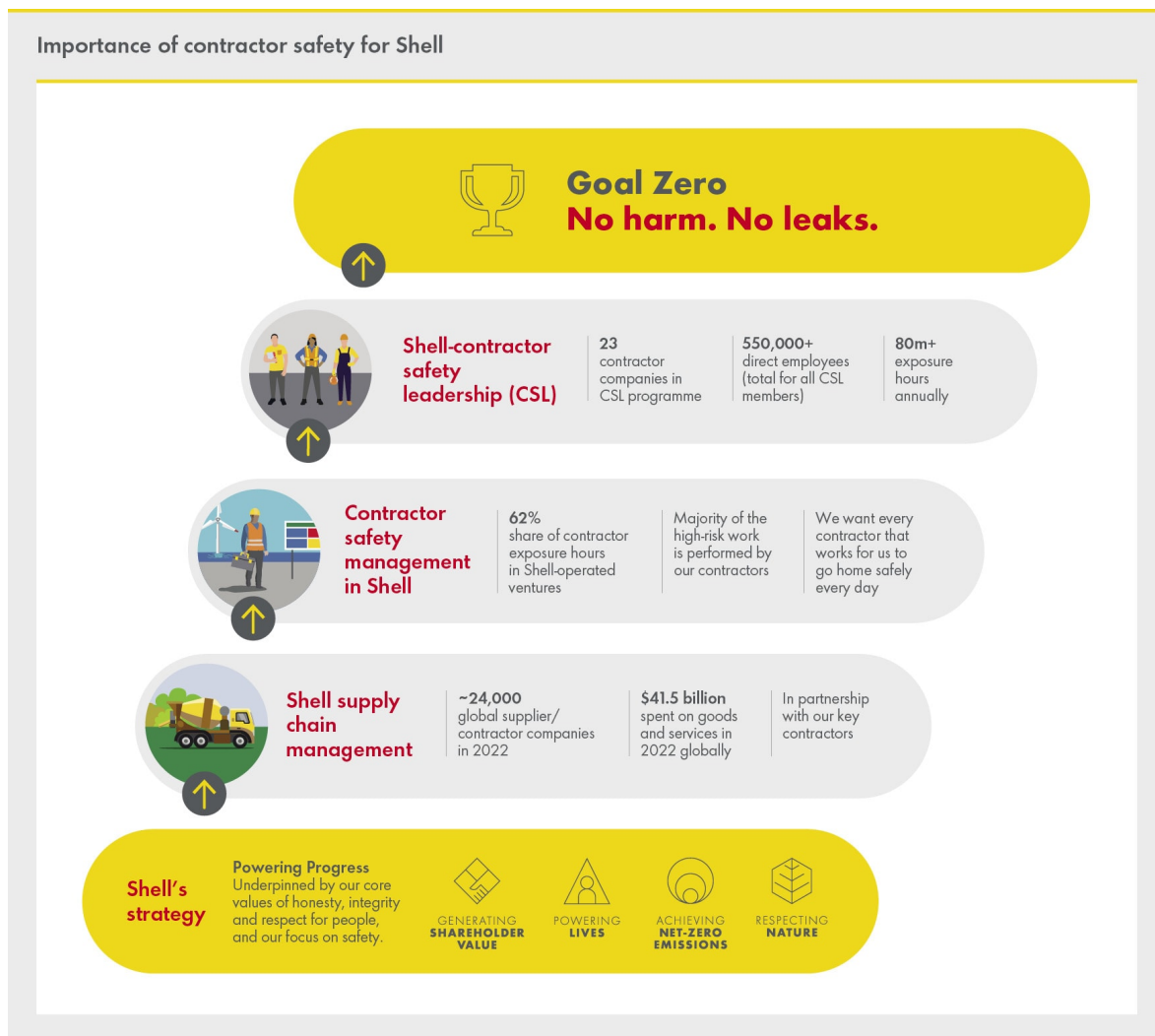


People are key to executing complex tasks and to finding solutions to problems.

Safety continued

Contractor safety

Executives from Shell and our major contractor companies have collaborated on Shell's contractor safety leadership (CSL) programme since 2014. The programme seeks to identify strategies and practical ways to improve a shared safety culture and achieve our Goal Zero ambition of no harm and no leaks.



We have worked with contractors on standardisation and simplification of safety procedures, and collaborated to develop a contractor safety leadership initiative called Declared Future. We believe these efforts have helped to align our organisations and improve frontline safety.

Our transition to the industry Life-Saving Rules also brings us closer to the standard shared by most of the main contractor companies in our contractor safety leadership programme which was something they had requested of us.

Safety continued

Safety performance

Regrettably, in 2022, two of our contractor colleagues in Shell-operated ventures lost their lives in the course of their work for Shell. One contractor colleague in Nigeria died from injuries sustained during a fire incident. In Pakistan, a contractor colleague died during road transport activities under operational control of Shell.

On March 3, 2023, in Nigeria at the site of an illegal connection used for crude theft a fire incident occurred on the Rumuekpe - Nkpoku trunk line which was not operational at the time. There are confirmed fatalities and investigations are ongoing.

The Shell organisation feels these losses deeply. We are determined to learn from these incidents and do everything possible to prevent anything similar from happening again. We continue to work closely with our contractors to help build a strong safety culture at the frontline.

Several industry safety leadership groups confirm that serious and high-potential incidents often have different root causes than most lower-consequence events. To improve insights from incident investigations and data analysis, we changed how we report incidents. Since 2021, we measure the number of serious injuries and fatalities per 100 million working hours, instead of the Total Recordable Case Frequency, which measured injuries per million working hours. The Serious Injury, Illness and Fatality Frequency (SIF-F) allows us to focus our investigations on the most serious incidents. The aim is to collect and analyse relevant, high-quality data that can help us improve our efforts to prevent serious injuries and fatalities.

In 2022, the SIF-F was 1.7 injuries and illnesses per 100 million working hours, compared with 6.9 in 2021.

The number of Tier 1 and 2 operational process safety events in 2022 decreased significantly compared with 2021. There were 66 incidents reported during the year compared with 103 in 2021.

For reporting on process safety, in this Report, we combine Tier 1 and 2 events. A Tier 1 process safety event is an unplanned or uncontrolled release of any material from a process, including non-toxic and non-flammable materials, with the greatest actual consequence resulting in harm to employees, contract staff or a neighbouring community, damage to equipment, or exceeding a defined threshold quantity. A Tier 2 process safety event is a release of lesser consequence.

As part of Shell's learner mindset approach, we investigate all serious incidents so we can understand the underlying causes, including technical, behavioural, organisational and human factors. We share what we learn widely, including with contractors. We implement mitigations at the site and in the country and business where the incident occurred. We seek to turn incident findings into improved standards or better ways of working that can be applied widely across similar facilities.

Additional information on our 2022 safety performance is expected to be published in the Shell Sustainability Report in March 2023.

Security

Our operations expose us to criminality, civil unrest, activism, terrorism, cyber-disruption and acts of war that could have a material adverse effect on our business (see "Risk factors" on page 26). We seek to obtain the best possible information to enable us to assess threats and risks. To help us understand the threats, we build strong and open relationships with government, law enforcement, armed forces, industry peers and specialist security information providers. On the basis of these threat assessments, we identify security risks to staff, assets including information technology equipment, and operations. We then seek to manage the risks so they are as low as reasonably practicable. Risk mitigation includes strengthening the security of sites, reducing our exposure to threats as appropriate, journey management, information risk management and cyber-defence operations, crisis management and business continuity measures. We conduct training and awareness campaigns for staff, and provide them with travel advice and access to 24/7 assistance while travelling. We consistently verify the identity of our employees and contract staff, we control physical access to our sites and activities, and we document access with digital tools.

We take steps to have clear and planned responses to security incidents, so that we are able to react quickly and effectively if they occur.

Shell is a member of the Voluntary Principles on Security and Human Rights initiative. This is a multi-stakeholder initiative of governments, extractive sector industries and NGOs that gives guidance on how to respect human rights while providing security for business operations. Shell implements this guidance across its companies, concentrating on countries where the risks of working with state and private security forces are greatest.

The Board's Safety, Environment and Sustainability Committee (SESCO) has oversight of Shell's security risk management activities. In the Executive Committee, accountability for security matters sits with the Chief Human Resources and Corporate Officer.

The Board of Shell plc


Sir Andrew Mackenzie
 Chair

Tenure
 Chair - One year and nine months
 (appointed May 18, 2021)
 On Board - Two years and five months
 (appointed October 1, 2020)

Board committee membership
 Chair of the Nomination and Succession Committee

Outside interests/commitments
 Fellow of the Royal Society (FRS); Chair of UK Research and Innovation (UKRI)

Age **Nationality**
 66 British

Career

Sir Andrew Mackenzie was appointed Chair of the Board of Shell plc with effect from May 18, 2021. Prior to joining Shell, Sir Andrew joined BHP in 2008, and served as Group CEO from 2013 to 2019, during which time he simplified and strengthened the business. He also made BHP the first miner to pledge to tackle emissions caused when customers use its products.

From 2004 to 2007 at Rio Tinto, he was Head of Industrial Minerals, then Head of Industrial Minerals and Diamonds. Prior to this, Sir Andrew spent 22 years with BP, joining in 1982 in research and development, followed by international operations and technology roles across most business streams and functions – principally in exploration and production, and petrochemicals, including as Chief Reservoir Engineer and Chief Technology Officer. Latterly he was Group Vice President for Chemicals in the Americas, then Olefins and Polymers globally.

From 2005 to 2013 Sir Andrew served as a Non-executive Director of Centrica. He has also served on many not-for-profit boards, including public policy think-tanks in the UK and Australia. He was knighted in 2020 for services to business, science, technology and UK-Australia relations.

Relevant skills and experience

Sir Andrew is a highly experienced leader who has managed major international FTSE 100 businesses, and has more than 30 years' experience in the oil and gas, petrochemicals and minerals industries. Following early academic distinction, Sir Andrew made important contributions to geochemistry, including groundbreaking methods for oil exploration and recovery. He was recognised as "one of the world's most influential earth scientists" and made a Fellow of the Royal Society in 2014.

Having lived and worked on five continents, Sir Andrew has applied his deep understanding of the energy business and geopolitical outlook to create public-private partnerships and advise governments around the world. As an earth scientist, Sir Andrew has consistently pursued sustainable action on climate change in the interests of access to affordable energy and global development. Sir Andrew has brought the wealth of his experience and insights to Shell, where his expertise is helping Shell navigate the energy transition. Sir Andrew is also a committed champion of gender balance, the rights of Indigenous Peoples, and of the power of large companies to support social change – all of which align closely with Shell's purpose, strategy and values.

In June 2021, Sir Andrew was appointed the chair of UK Research and Innovation. Sir Andrew has been tasked with driving forward the government's ambitious research and innovation agenda.


Euleen Goh
 Deputy Chair and Senior Independent Director

Tenure
 Eight years and six months (appointed September 1, 2014).
 Euleen was appointed Deputy Chair and Senior Independent Director on May 20, 2020.

On February 1, 2023, the Board announced that Euleen would not be seeking re-election at the 2023 AGM, and would step down from the Board of Shell plc, having reached a tenure of almost nine years.

Board committee membership
 Member of the Nomination and Succession Committee and member of the Remuneration Committee

Outside interests/commitments
 Chair of SATS Ltd; Trustee of the Singapore Institute of International Affairs Endowment Fund; Chair of the Singapore Institute of Management Pte Ltd; and Non-executive Director of Singapore Health Services Pte Ltd, both of which are not-for-profit organisations; Member of the Singapore Public Service Commission

Age **Nationality**
 67 Singaporean

Career

Euleen Goh is an Associate of the Institute of Chartered Accountants in England and Wales, a Fellow of the Singapore Institute of Chartered Accountants, and has professional qualifications in banking and taxation. Euleen has held various senior management positions within Standard Chartered Bank and was Chief Executive Officer of Standard Chartered Bank, Singapore, from 2001 until 2006. She is also a Fellow of the Singapore Institute of Directors.

She has also held non-executive appointments on various boards including Aviva plc, MediaCorp Pte Ltd, Singapore Airlines Ltd, Singapore Exchange Ltd, Standard Chartered Bank Malaysia Berhad, Standard Chartered Bank Thai plc, CapitaLand Ltd, Temasek Trustees Pte Ltd, DBS Bank Ltd and DBS Group Holdings Ltd. She was previously Non-executive Chair of the Singapore International Foundation, and Chair of International Enterprise Singapore and the Accounting Standards Council, Singapore.

Relevant skills and experience

Euleen's current roles as chair of the board of directors of various international organisations provide significant experience in the area of strategy development and international businesses. She is highly regarded both externally and within Shell as a champion of diversity. She consistently, but constructively challenges the Board and management to continue to progress in this area.

Based in Singapore and having been Chair of the Risk Committee of the largest bank in South-east Asia, Euleen is close to key emerging/growth markets for our business. Euleen's risk management expertise has elevated the Board's deep deliberations around risk governance, and her voice is regularly heard on discussions regarding appropriate risk appetite. Her extensive travel around the world through her various executive and non-executive roles has equipped her with broad geopolitical insight and significant knowledge of operating in the Asian markets.

Euleen uses her financial acumen and advocacy for diversity to pose probing and insightful questions, both in and beyond the boardroom. This contributes to well-rounded, incisive and inclusive Board discussions.

The Board of Shell plc continued

**Wael Sawan**

Chief Executive Officer

Tenure

Two months (appointed January 1, 2023)

Board committee membership

N/A

Outside interests/commitments

No external appointments

Age **Nationality**

48 Lebanese and Canadian

Career

Wael Sawan was appointed CEO at the start of 2023. He was previously Shell's Director of Integrated Gas, and Renewables and Energy Solutions, and has been a member of the Executive Committee since 2019, when he was appointed Upstream Director. Wael joined Shell in 1997.

Prior to being appointed Upstream Director, he was Executive Vice President of Deep Water, driving its transformation into a leading business for Shell, and Managing Director and Chairman of Shell Qatar, where he oversaw Shell's business in Qatar, including its liquefied natural gas (LNG) and gas-to-liquids (GTL) divisions.

Relevant skills and experience

Wael holds an MEng from McGill University in Montreal and an MBA from Harvard Business School. During his Shell career, spanning more than 25 years, he has worked in Europe, Africa, Asia and the Americas, and has held roles across all of Shell's businesses. He has led several major commercial transactions, including mergers, acquisitions and divestments as well as New Business Development projects.

His track record of commercial, operational and transformational success reflects not only his broad, deep experience and understanding of Shell and the energy sector, but also his strategic clarity. He combines these qualities with a passion for people. He has been a trustee of Shell Foundation since 2019.

**Sinead Gorman**

Chief Financial Officer

Tenure

11 months (appointed April 1, 2022)

Board committee membership

N/A

Outside interests/commitments

No external appointments

Age **Nationality**

45 British

Career

Sinead Gorman joined Shell in 1999 and has held key leadership roles in Finance. She started her Shell career in the Shell International Trading and Shipping Company (STASCO) based in London, UK, and then moved to the Coral Energy joint venture, in Houston, Texas, USA. She worked in Mergers and Acquisitions and Treasury, based in the Netherlands, before moving back to Houston as Vice President Finance for Shales.

In recent years, Sinead has held the position of Executive Vice President (EVP) Finance for Projects & Technology, and Integrated Gas and New Energies. Most recently, she was the EVP Finance for Upstream.

Sinead has an MEng in Engineering, Economics and Management from the University of Oxford, and an MSc in Finance from London Business School.

Relevant skills and experience

Sinead has more than two decades' experience of working for Shell. She has built a deep understanding of finance across the industry, spanning a wide range of businesses, and possesses a breadth of experience in trading, new business development and capital projects.

Sinead has held regional and global finance leadership roles across Europe and the USA, and latterly, in Shell's Upstream, Integrated Gas and Renewables and Energy Solutions businesses, and in Projects & Technology and Corporate.

Highly regarded for her commercial abilities and external focus, Sinead has a strong track record in cost leadership, principle-based decision making, detailed capital stewardship and paying close attention to the performance of the bottom line.

The Board of Shell plc continued



Dick Boer

Independent Non-executive Director

Tenure

Two years and nine months
(appointed May 20, 2020).

On February 1, 2023, the Board announced that Dick would be appointed Deputy Chair and Senior Independent Director from the conclusion of the 2023 AGM.

Board committee membership

Member of the Audit Committee and member of the Nomination and Succession Committee. Dick will also become a member of the Remuneration Committee from the conclusion of the 2023 AGM.

Outside interests/commitments

Non-executive Director of Nestlé, and SHV Holdings; Chair of the Supervisory Board of Royal Concertgebouw; Chair of Rijksmuseum Fonds and Chair of the Supervisory Board of Just Eat Takeaway.com

Age **Nationality**
65 Dutch

Career

Dick Boer was President and Chief Executive Officer of Ahold Delhaize from 2016 to 2018. Prior to the merger between Ahold and Delhaize, he served as President and CEO of Royal Ahold from 2011 to 2016. From 2006 to 2011 he was a member of the Executive Board of Ahold and served as Chief Operating Officer of Ahold Europe from 2006 to 2011.

Dick joined Ahold in 1998 as CEO of Ahold Czech Republic and was appointed President and CEO of Albert Heijn in 2000. In 2003, he also became President and CEO of Ahold's Dutch businesses.

Prior to joining Ahold, Dick spent more than 17 years in various retail positions, for SHV Holdings N.V. in the Netherlands and abroad, and for Unigro N.V.

Relevant skills and experience

Dick is a highly regarded, retired chief executive, who has a deep understanding of brands and consumers, and extensive knowledge of the US and European markets, from his time leading one of the world's largest food retail groups. He brings a career's worth of experience at the forefront of retailing and customer service, which extended in more recent years to e-commerce and the digital arena. This experience is most timely as Shell focuses on the growth of our marketing activities and increasing consumer choices in energy products.

Dick is a balanced leader with sound business judgement and a proven track record in strategic delivery, evidenced by the combination of Ahold and Delhaize. He also has a passion for sustainability and is well aware of the importance of the various stakeholder interests in this area.



Neil Carson OBE

Independent Non-executive Director

Tenure

Three years and nine months
(appointed June 1, 2019)

Board committee membership

Chair of the Remuneration Committee and member of the Safety, Environment and Sustainability Committee

Outside interests/commitments

Non-executive Chair of Oxford Instruments plc

Age **Nationality**
65 British

Career

Neil Carson is a former FTSE 100 chief executive. After completing an engineering degree, Neil joined Johnson Matthey in 1980 where he held several senior management positions in the UK and the USA, before being appointed Chief Executive Officer in 2004. Since retiring from Johnson Matthey in 2014, Neil has focused his time on his non-executive roles. He was Chair of TT Electronics plc from 2015 until May 2020.

Relevant skills and experience

Neil is highly experienced, and has a broad industrial outlook and a thorough commercial approach combined with a practical perspective on businesses. He brings a track record of strong operational exposure, familiarity with capital-intensive business and a first-class international perspective on driving value in complex environments. Neil was awarded an OBE for services to the chemical industry in 2016.

Neil uses his current and past experience in non-executive positions to bring fresh insight and industry understanding to Board discussions. He has also provided valuable insight based on his former executive position and operational experience. Neil was appointed Chair of the Remuneration Committee in May 2020.

The Board of Shell plc continued

**Ann Godbehere**

Independent Non-executive Director

TenureFour years and nine months
(appointed May 23, 2018)**Board committee membership**

Chair of the Audit Committee and member of the Nomination and Succession Committee

Outside interests/commitments

Non-executive Director and Audit Committee Chair of Stellantis; Fellow of the Institute of Chartered Professional Accountants and a Fellow of the Certified General Accountants Association of Canada.

Age **Nationality**

67 Canadian and British

Career

Ann Godbehere started her career with Sun Life of Canada in 1976 in Montreal, Canada. She joined M&G Group in 1981, where she served as Senior Vice President and Controller for both life and health, and property and casualty businesses throughout North America. She joined Swiss Re in 1996, after it acquired the M&G Group, and served as Chief Financial Officer from 2003 to 2007. From 2008 to 2009, she was interim Chief Financial Officer and an Executive Director of Northern Rock bank in the initial period following its nationalisation.

Ann has also held several Non-executive Director positions at Prudential plc, British American Tobacco plc, UBS AG, and UBS Group AG. Ann served as a Non-executive Director of Rio Tinto plc and Rio Tinto Limited until May 2019, and she was also Senior Independent Director of Rio Tinto plc. In January 2021, Ann joined the Board of the newly formed Stellantis N.V., and she chairs its Audit Committee.

Relevant skills and experience

Ann is a former CFO, a Fellow of the Institute of Chartered Professional Accountants, and has more than 25 years of experience in the financial services sector. She has worked her entire career in international business and has lived in or served on boards in nine countries. Ann makes significant contributions and adds exceptional value by bringing both her extensive experience and a global perspective to Board discussions.

Ann's long and varied international business career powered by her financial acumen is reflected in the insights and constructive challenges she brings to the boardroom. As Audit Committee Chair, Ann leverages her background to ensure robust discussions are consistently held as the Audit Committee delivers its remit.

**Jane Holl Lute**

Independent Non-executive Director

TenureOne year and nine months
(appointed May 19, 2021)**Board committee membership**

Member of the Safety, Environment and Sustainability Committee. Jane will become a member of the Remuneration Committee with effect from the close of the 2023 AGM.

Outside interests/commitments

Non-executive Director of Marsh & McLennan and the Union Pacific Corporation; Strategic Director of Sicpa Securink Corp.

Age **Nationality**

66 US Citizen

Career

Jane Holl Lute was President and Chief Executive Officer of the North American operations of SICPA security inks from 2017 to 2021, when she assumed the role of Non-executive Strategic Director. From 2018 to 2021, Jane was a Non-executive Director of Atlas Air Worldwide Holdings Inc. In 2013 Jane established and led the Council on CyberSecurity, an independent, expert not-for-profit organisation with a global scope, committed to the security of an open internet. From 2015 to 2016, Jane held the role of Chief Executive Officer of the Center for Internet Security, an independent not-for-profit organisation that works to improve cyber security worldwide.

Before this, from 2009 to 2013 Jane served as Deputy Secretary of the US Department of Homeland Security, functioning as the Chief Operating Officer for the third-largest US Federal department. From 2003 to 2009 she held various roles at the United Nations, including Acting Under-Secretary and Assistant Secretary-General for Peacekeeping, Field Support and Peacebuilding. She also served as Executive Vice President and Chief Operating Officer of the United Nations Foundation and Better World Fund. In recent years, Jane has returned to working with the United Nations, serving as a Special Adviser to the Secretary-General.

Jane started her career in the US Army in 1978, serving in Berlin during the Cold War, on the US Central Command Staff during Operation Desert Storm, and on the National Security Council Staff under Presidents George H.W. Bush and William J. Clinton. After retiring from the Army in 1994, she joined the Carnegie Corporation as an Executive Director of its Commission on Preventing Deadly Conflict.

Relevant skills and experience

Jane is a proven and effective leader, who has held significant leadership roles in public service, the military and the private sector. She brings a wealth of expertise in matters of public policy, cyber security and risk management to our Board. She has also made significant contributions to strategic discussions and overseeing the day-to-day business and management of a significant public security department.

Jane is an experienced board director, having served on the boards of large-market-capitalisation companies since 2016. These appointments have provided her with wide experience and given her business perspectives across different sectors and geographical regions. She has also served on various committees including those which focus on audit, environmental and sustainability, nomination and governance issues.

The Board of Shell plc continued

**Catherine J. Hughes**

Independent Non-executive Director

TenureFive years and nine months
(appointed June 1, 2017)**Board committee membership**

Chair of the Safety, Environment and Sustainability Committee and member of the Remuneration Committee. Catherine will become a member of the Audit Committee from the conclusion of the 2023 AGM, and stand down from the Remuneration Committee on the same date.

Outside interests/commitments

Non-executive Director of Valaris Limited

Age **Nationality**

60 Canadian and French

Career

Catherine Hughes was Executive Vice President International at Nexen Inc. from January 2012 until her retirement in April 2013, where she was responsible for all oil and gas activities including exploration, production, development and project activities outside Canada. She joined Nexen in 2009 as Vice President Operational Services, Technology and Human Resources.

Prior to joining Nexen Inc., she was Vice President Oil Sands at Husky Oil from 2007 to 2009 and Vice President Exploration & Production Services, from 2005 to 2007. She started her career with Schlumberger in 1986 and held key positions in various countries, including France, Italy, Nigeria, the UK and the USA, and was President of Schlumberger Canada Ltd for five years.

Catherine has also held several Non-executive Director positions at SNC-Lavalin Group Inc, Statoil ASA and Precision Drilling Inc.

Relevant skills and experience

Catherine contributes through her knowledge of industry and the ease with which she engages with other Directors and managers in the boardroom. With over 30 years of oil and gas sector experience, she brings a geopolitical outlook and deep understanding of the industry. An engineer by training, she has also spent a significant part of her career working in senior human resources roles. The Board highly regards her perspectives on our industry and our most important asset, our people.

Catherine has a strong track record of executing operational discipline with a focus on performance metrics and a continual drive for excellence. Her knowledge of the technology underpinning oil and gas operations, logistics, procurement and supply chains benefits the Board greatly as it considers various projects and investment or divestment proposals.

She also uses her industry knowledge – combined with her commitment to the highest standards of corporate governance and safety, ethics and compliance – in her role as Chair of our Safety, Environment and Sustainability Committee, while using her human resources experience in her membership of the Remuneration Committee.

**Martina Hund-Mejean**

Independent Non-executive Director

TenureTwo years and nine months
(appointed May 20, 2020)

On February 1, 2023, the Board announced that Martina had decided to not seek re-election at the 2023 AGM, and would step down from the Board of Shell plc.

Board committee membership

Member of the Audit Committee

Outside interests/commitments

Non-executive Director of Prudential Financial Inc.; Colgate-Palmolive Company, and Truata Ltd

Age **Nationality**

62 German and US Citizen

Career

Martina Hund-Mejean was Chief Financial Officer of Mastercard Inc. from 2007 to 2019. From 2002 to 2007 she was Senior Vice President, Corporate Treasurer at Tyco International Ltd. and from 2000 to 2002 she was Senior Vice President, Treasurer at Lucent Technologies.

Prior to this, Martina spent 12 years with General Motors, undertaking a number of senior roles within their finance operations.

Relevant skills and experience

Originally from Germany, Martina has spent more than 30 years in the USA and is an experienced global executive. Her financial and operational leadership of technology-focused companies is extremely relevant as Shell explores new technology-enabled business models. Martina also brings diverse sector experience to the Board, most recently from operating at a large global organisation in the highly regulated finance industry.

Martina is known for her straightforward and direct approach. She maintains the highest standards of leadership, strategic thinking and financial stewardship. She also has a strong track record as a mentor and in promoting diversity.

Martina's deep financial knowledge and unique perspective also enable her to make robust, demanding and constructive challenges to our investment considerations to help ensure that our projects are aligned with our strategic intent.

The Board of Shell plc continued

**Abraham Schot**

Independent Non-executive Director

TenureTwo years and five months
(appointed October 1, 2020)**Board committee membership**

Member of the Safety, Environment and Sustainability Committee and member of the Remuneration Committee

Outside interests/commitments

Non-executive Director of Signify.

Age **Nationality**

61 Dutch

Career

Abraham ("Bram") Schot has been a member of the group Board of Volkswagen AG, responsible for the Premium Car Group, CEO of Audi AG, Chair of Lamborghini and Ducati, responsible for the VW group Commercial Operations and Vice-Chair of Porsche Holding Salzburg.

From 2011 to 2016, he was a Member of the Board of Volkswagen CV, Executive Vice President responsible for Global Marketing, Sales & Services, New Business Models. In 2017 he became a member of the Board of Audi AG. From 2006 to 2011, Bram was President & CEO of Daimler/Mercedes-Benz Italia & Holding S.p.A. From 2003 to 2006, he was President & CEO of DaimlerChrysler in the Netherlands.

Prior to this, Bram held a number of Director and senior leadership roles within Mercedes-Benz in the Netherlands, having joined the business in 1987 on an executive management programme.

Relevant skills and experience

Bram has over 30 years' experience working in the automotive industry at all levels of the business.

He gained a wealth of knowledge on far-reaching cost optimisation programmes at Audi AG. These helped transform the car company into a provider of electric vehicles that could offer sustainable mobility and succeed in the energy transition. He is well placed to leverage this knowledge in the Shell boardroom as Shell navigates its own transformation and pathway through the energy transition.

Bram has strong principles and regards integrity and compliance as the basis for doing business.

His studies have encompassed innovation and organisational effectiveness, geopolitical environments, shareholder value, corporate social responsibility and risk management, in several countries, which are all highly valued management tools and are evident in the questions he raises in the boardroom.

**Cyrus Taraporevala**

Independent Non-executive Director

Tenure

Appointed March 2, 2023

Board committee membership

Member of the Audit Committee

Outside interests/commitments

Board member of Bridgepoint Group plc.

Board member of The Trustees of Reservations

Age **Nationality**

56 US Citizen

Career

Cyrus Taraporevala was President and Chief Executive Officer of State Street Global Advisors from 2017 to 2022. Prior to his joining State Street, Cyrus held numerous leadership roles in asset management including at Fidelity, BNY Mellon, Legg Mason, and Citigroup. Earlier in his career Cyrus was a partner at McKinsey & Company, based in New York and Copenhagen.

Cyrus was a founding member of the New York Stock Exchange Board Advisory Council, which proactively addresses the critical need for inclusive leadership on corporate boards by connecting diverse candidates with companies seeking new directors. He serves as a Board member of The Trustees of Reservations, a Massachusetts-based non-profit conservation organisation, and chaired the investment committee of the trustees for seven years. Cyrus previously served as a trustee on the WK Kellogg Foundation Trust, one of the world's largest endowments and foundations.

Relevant skills and experience

Cyrus is a highly regarded, recently retired chief executive, with a unique mix of strategic perspectives and execution skills. He has deep experience in driving organic and inorganic growth, transformations, and turnarounds. He is one of the most senior professionals in the asset management industry and has successfully led and grown global businesses of scale. He played a critical role in affirming State Street's reputation as both a stalwart and pioneer within the sector, and, at times, was implementing changes in the context of market uncertainty caused by geopolitical friction and an evolving regulatory environment.

Cyrus also possesses a unique vantage point on core board-related issues impacting public companies including ESG, and has spoken and published multiple articles on climate risk and other aspects of ESG. He is credited with strengthening the ESG credentials of State Street Global Advisors and is highly credible in providing perspectives on these topics. A true citizen of the world, over the course of his career Cyrus has worked and lived on three continents.

The Board of Shell plc continued

**Caroline J.M. Omloo**

Company Secretary

Tenure

Seven months (appointed August 1, 2022)

Age	Nationality
53	Dutch

Career

Caroline Omloo worked in private practice with law firm Nauta Dutilh before joining Shell in 1999. She has held various positions in Shell, including Secretary to the Audit Committee, Associate General Counsel Corporate Finance NL, Chief Privacy Officer and Head of Legal and management team member of the Downstream Operating Company in the Netherlands. She has also been a member of the board of Stichting Shell Pensioenfond, one of Shell's Dutch pension funds.

Caroline took up her previous role as Head of Legal and Compliance of Shell Asset Management Company in 2017 and was a board member of this company from 2018 to 2022. From 2009- 2019, Caroline sat on the board of Stichting Beroepsopleiding Bedrijfsjuristen, the foundation providing education for in-house lawyers in the Netherlands. She also served as a board member of Missie Verkeersmiddelen Actie, a Dutch charitable organisation, from 2007 to 2017.

Relevant skills and experience

Caroline is Shell's Company Secretary and also plays an important role overseeing the Corporate Secretariat and the Group Securities Counsel in the UK, USA and the Netherlands.

The various roles Caroline has undertaken have provided her with a strong understanding of our global operations and people. Her experience of engaging with the Board in previous roles, coupled with her broad understanding and engagement across Shell's businesses, functions and her legal background, helps to ensure that the right matters come to the Board at the right time.

Attendance

The Board met eight times during 2022. Seven of the eight meetings were held physically, one meeting in Singapore and six in London, United Kingdom. One meeting was held via videoconference. Attendance during 2022 for all Board meetings is given in the table [A].

[A] For attendance at Committee meetings during the year, please refer to individual Committee Reports.

[B] Sinead Gorman was appointed as Chief Financial Officer (CFO) with effect from April 1, 2022.

[C] Jessica Uhl retired from her role as Chief Financial Officer (CFO) with effect from March 31, 2022.

[D] Gerrit Zalm retired from the Board following the conclusion of the AGM in May 2022.

Board member	Meetings attended
Ben van Beurden	8/8
Dick Boer	8/8
Neil Carson	8/8
Ann Godbehere	8/8
Euleen Goh	8/8
Sinead Gorman [B]	6/6
Jane Holl Lute	7/8
Catherine J. Hughes	8/8
Martina Hund-Mejean	8/8
Sir Andrew Mackenzie	8/8
Bram Schot	7/8
Jessica Uhl [C]	2/2
Gerrit Zalm [D]	2/2

Director independence

All the Non-executive Directors are considered by the Board to be independent in character and judgement. The Chair is not subject to the Code's independence test other than on appointment.

The Board of Shell plc continued

Directors joining the Board

On February 1, 2023 the Board announced that the following Directors will be joining the Board on March 13, 2023.



Sir Charles Roxburgh

Independent Non-executive Director

Tenure

Appointment effective March 13, 2023

Board committee membership

Member of the Audit Committee

Outside interests/commitments

Board member of Folger Shakespeare Library

Age Nationality

63 British

Career

Sir Charles has most recently held the position of Second Permanent Secretary, one of the most senior positions within His Majesty's Treasury (HMT). As Second Permanent Secretary at HMT he was responsible for all issues relating to growth, productivity, infrastructure, financial services and financial stability.

Prior to his career at HMT, Sir Charles spent over 25 years at McKinsey & Company, and holds an MBA from Harvard Business School. Whilst at McKinsey, he held positions including but not limited to a Director of the McKinsey Global Institute, the Head of the UK Financial Institutions Group and the Co-Head of McKinsey's Global Investment Banking Practice. Sir Charles has serviced large banks, insurance companies, hedge funds and private-equity investors in strategy, risk management, and organisation. Sir Charles also led a number of major research efforts at McKinsey and authored a number of articles on strategy and scenario planning.

On leaving the private sector, Sir Charles became Director General, Financial Services at HMT and led the legislative process for the biggest reforms in the UK banking sector in a generation, before being appointed Second Permanent Secretary. During his time as Second Permanent Secretary, Sir Charles was responsible for policy and oversight across a range of functions within HMT including financial services, financial stability, infrastructure, energy, science/R&D, business investment, venture and growth capital, transport, and culture/creative industries and was Chair of the HMT Operating Committee.

Relevant skills and experience

Sir Charles' succession of roles placed him at the nexus between industry and government, and most recently included his active participation in forging and delivering energy policies. He was an influential figure within the HMT in pioneering energy policy, including for COP26, and providing funding for innovative organisations to support the energy transition.

A former executive board member for one of the world's pre-eminent consultancies, Sir Charles continued to drive innovation whilst deftly navigating the intricate stakeholder landscape of UK government.



Leena Srivastava

Independent Non-executive Director

Tenure

Appointment effective March 13, 2023

Board committee membership

Member of the Safety, Environment and Sustainability Committee

Outside interests/commitments

Board member of Climate-KIC

Age Nationality

62 Indian

Career

Leena Srivastava has devoted a significant part of her career to research and policy matters in sustainability and has already sat on several boards of scale.

Until recently, Leena was the Deputy Director General for Science of the International Institute for Applied Systems Analysis (IIASA). Prior to this, she was an Executive Director, then the Vice Chancellor of the School of Advanced Studies, at The Energy and Resources Institute (TERI), a not-for-profit policy research organisation working in energy, environment and sustainable development. Leena has also previously served on the sustainability advisory boards of various multinational companies such as The Coca Cola Company, Caterpillar Inc and Suez Environment and as a non-executive director of companies, including those involved in manufacturing and infrastructure.

Leena has served various committees and organisations both at the international and national levels, with prior roles including energy and climate advisor for the United Nations and the Co-Chair of the Advisory Committee at Future Earth.

Relevant skills and experience

Leena recognises the challenges large organisations face in managing different stakeholder priorities and in particular the challenges in balancing business, government and societal needs, while pursuing a sustainability agenda.

Leena was a research associate at TERI during a time when the first serious discussions on climate change were emerging. Later, as a member of the Cement Sustainability Initiative of World Business Council for Sustainable Development, she provided a pragmatic perspective on how to support the sector through its decarbonisation journey. With a strong network of relationships in multiple global institutions focused on sustainability and an understanding of the issues the energy sector faces in pursuing decarbonisation while serving the energy needs of the society, Leena believes she can contribute to the organisation during this period of transformation.

Senior management

The Senior management of the Company comprises the Executive Directors, Wael Sawan and Sinead Gorman, and those listed below. All are members of the Executive Committee (see "Governance Framework" on page 141).



Harry Brekelmans
Projects & Technology Director

Tenure
Eight years and five months
(appointed October 2014)

Age Nationality
57 Dutch

Career

Harry was previously Executive Vice President Upstream International Operated, based in the Netherlands. He joined Shell in 1990 and has held various management positions in Exploration and Production, Internal Audit, and Group Strategy and Planning. From 2011 to 2013, he was Country Chair Russia and Executive Vice President for Russia and the Caspian region.



Donny Ching
Legal Director

Tenure
Nine years and one month
(appointed February 2014)

Age Nationality
58 Malaysian

Career

Donny was previously General Counsel for Projects & Technology, based in the Netherlands. He joined Shell in 1988 based in Australia and then moved to Hong Kong and later to London. In 2008, he was appointed Head of Legal at Shell Singapore, having served as Associate General Counsel for Gas & Power in Asia-Pacific.



Ronan Cassidy
Chief Human Resources and Corporate Officer

Tenure
Seven years and two months
(appointed January 2016)

Age Nationality
56 British

Career

Ronan previously served as EVP HR for both the Downstream and Upstream International businesses in turn. He joined Shell in 1988 and has held various HR positions across the Shell value chain, including regional roles in Europe and NE Asia/China, and global roles in HR Strategy & Regional Coordination, Retail and LPG.



Ed Daniels
Strategy, Sustainability and Corporate Relations Director

Tenure
One year and one month
(appointed February 2022)

Age Nationality
57 British

Career

Ed was previously Executive Vice President Strategy, Portfolio & Sustainability. He joined Shell in 1988 and has held roles in Shell's Upstream, Integrated Gas, and Downstream businesses and our Projects & Technology organisation. He previously served as Shell's UK Country Chair.

Senior Management continued

**Huibert Vigeveno**

Downstream Director

TenureThree years and two months
(appointed January 2020)**Age Nationality**

53 Dutch

Career

Huibert was previously Executive Vice President Global Commercial. He joined Shell in 1995 as a business analyst and led many Downstream businesses across Shell in Europe, Africa, North and South America as well as Asia. In 2009, Huibert was appointed Vice President Supply & Distribution, Europe and Africa. In 2012 he became Executive Chair of Shell in China, and in 2016 led the integration of BG Group.

**Zoë Yujnovich**

Upstream Director

TenureOne year and five months
(appointed October 2021)**Age Nationality**

47 Australian

Career

Zoë has held various management positions in Downstream, Integrated Gas and Upstream. Most recently, she served as Executive Vice President Conventional Oil & Gas and was previously Chair and Executive Vice President Shell Australia Pty Ltd. She joined Shell from Rio Tinto in 2014 to lead Shell's Oil Sands business in Canada.

Changes to the Executive Committee (Senior Management)

As announced on January 30, 2023, Shell is to reduce the size of its Executive Committee from nine to seven members in a decisive move designed to simplify the organisation further and improve performance as we continue to deliver our Powering Progress strategy.

Under the changes, which are expected to take effect on July 1, 2023, Shell's Integrated Gas and Upstream businesses will be combined to form a new Integrated Gas and Upstream Directorate led by current Upstream Director, Zoe Yujnovich. The Downstream business will be combined with Renewables and Energy Solutions to form a new Downstream and Renewables Directorate led by current Downstream Director, Huibert Vigeveno.

Separately, the Strategy, Sustainability and Corporate Relations (SSCR) Directorate will be discontinued and its Director, Ed Daniels, will step down from the Executive Committee (effective July 1, 2023), and leave Group service thereafter. Strategy will be brought together with New Business Development and, alongside Sustainability, will report directly to Sinead Gorman, Chief Financial Officer, enabling more streamlined planning and better capital allocation decisions. Corporate Relations will report directly to Wael Sawan, Chief Executive Officer. We thank Ed for his distinguished service over more than 34 years and wish him well for the future.

Board Activities

Management and Directors

The Company has a single-tier Board of Directors headed by a Chair, with management led by a CEO. See "The Board of Shell plc" on pages 129-136 and Senior Management on page 137-138.

Executive Committee

The current composition of the Executive Committee is as follows:

Executive Committee [A]

Wael Sawan	CEO [B]
Sinead Gorman	CFO [B]
Harry Brekelmans	Projects & Technology Director
Ronan Cassidy	Chief Human Resources & Corporate Officer
Donny Ching	Legal Director
Ed Daniels	Strategy, Sustainability and Corporate Relations Director [C]
Huibert Vigeveno	Downstream Director [D]
Zoë Yujnovich	Upstream Director [D]

[A] Designated an Executive Officer pursuant to US Exchange Act Rule 3b-7. Beneficially owns less than 1% of outstanding classes of securities.

[B] Director of the Company.

[C] Ed Daniels will step down from the Executive Committee effective July 1, 2023, and leave Group service thereafter.

[D] See details of changes to the Executive Committee as announced on January 30, 2023 in Senior Management on pages 137-138.

Corporate governance requirements outside the UK

In addition to complying with applicable corporate governance requirements in the UK, the Company complies with the rules of Euronext Amsterdam as well as Dutch securities laws because of its listing on that exchange. The Company likewise adheres to US securities laws and the New York Stock Exchange (NYSE) rules and regulations because its securities are registered in the USA and listed on the NYSE.

Board activities

The Board is responsible for establishing the Group's purpose, values and strategy and ensuring that these and Group culture are aligned. Accordingly, the Board works to a yearly meeting plan with corresponding agendas and pre-read papers, provided digitally. Agenda items include reports from the Chief Executive Officer, the Chief Financial Officer and each Board committee. Other updates throughout the year came from various businesses and key functions, including Investor Relations; Health and Safety, Security and Environment; Information Technology; Human Resources; and Legal, as well as the Company Secretary. The Board also considers and approves the quarterly, half-year and full-year financial results, shareholder distributions and the associated announcements, and, at most meetings, considers investment, divestment and/or financing proposals, as well as conducting post-investment reviews and performance tracking, as and when required. Additionally, the Board reviews the Group's annual operating plan, including activities to ensure the Group's carbon reduction targets are met. To enable purposeful debates and focus on particular aspects of agenda topics, including the impact on key stakeholders, Directors have an opportunity to specify information they require to be provided in advance of Board meetings.

During the year, where possible, certain Non-executive Directors conducted site visits. The visits were designed to provide Directors with a deeper insight into certain business operations.

Board Strategy Days

In contrast to 2021's virtual June Strategy Days, for 2022, in-person meetings were held in Singapore over the course of three days. This was the first time both the Board and Executive Committee were able to spend time together in person since the COVID-19 pandemic started in early 2020. The programme for the event aimed at having engaging and interactive sessions (with deep dives and break-outs), with both internal and external stakeholders (including staff, customer, supplier, regional country chairs and other key stakeholders).

The event, under the headline "Onwards Together", focused on Shell's role in energy transition in country and how this is implemented, by tying together not only individual pieces of the portfolio but connecting Shell's heritage with its future. Around this theme, the event provided for the following key discussion and engagement opportunities:

- An in-depth discussion on strategy and business implementation, with an emphasis on the added value of Shell's integrated portfolio in accelerating energy transition in country;
- Review of the role of Upstream in driving the energy transition;
- Review of the continuing demand for gas, and its decarbonisation journey;
- Review of Financial Framework;
- Review of safe operations and digitalisation as an enabler;
- Deep dives on low-carbon fuels, Aviation, Chemicals, Renewables and Energy Solutions, and carbon capture and storage;
- An Asian perspective on the energy transition and its geopolitical context, including engagement with Shell leaders from across the region;
- Review of growing our sustainable future safely and competitively where presenters included a cross-section of business and site staff;
- A visit to Shell operations, notably the Shell Energy and Chemicals Park on Pulau Bukom focusing on readying the site for growth;
- Engagements with a cross-section of Shell's approximately 3,000 staff in Singapore who work across six work sites in a range of key businesses and functions;
- Consistent with the customer back strategy, discussions with key customers and stakeholders in the region; and
- Discussion of core elements of the Powering Progress strategy.

Director induction and training

After being appointed to the Board, Directors receive a comprehensive induction tailored to their individual needs. This normally includes site visits and meetings with Senior Management to enable them to build up a detailed understanding of Shell's business and strategy, and the key risks and issues that Shell faces. Existing Directors are also able to join these visits to keep abreast of business developments and progress. With the abnormal COVID-19 circumstances in 2020 and 2021, the induction programme was quickly adapted to a completely virtual induction. In 2022, as society moved to better understand and live with COVID-19, we saw restrictions ease in many countries. More travel became possible, allowing directors to visit some of Shell's operations. For new directors joining the Board in 2023, our induction programme will build on the learnings from 2020 through 2022 and adopt a more hybrid format, making the best use of the directors time through virtual and physical engagements. Onboarding will continue to be phased and prioritised based on forthcoming Board agenda items to help ensure the new Non-executive Directors hit the ground running.

A digital onboarding book is provided to each new Non-executive Director. These onboarding books complement the existing digital Directors' Handbook and feature:

- Overviews of scheduled briefing meetings customised to the Non-executive Directors' needs and linked to upcoming Board agenda items;
- Hyperlinks to key Shell publications (external and internal);
- Lists of common Shell acronyms;
- Key current materials on:
 - Shell's safety and core values;
 - Board governance;
 - Group strategy and portfolio;
 - Key businesses and functions; and
 - Climate change and energy transition;
- Biographies of key executives.
- Other elements of the onboarding programme for Non-executive Directors include:
 - Briefing meetings with key executives (both business and functional) customised to Non-executive Directors' needs and phased based on forthcoming Board agenda items;
 - Pairing up new Non-executive Directors in onboarding briefings to optimise learning while also providing opportunities for collegial relationship-building and increasing efficiencies for the executives; and
 - Virtual and physical site visits (either specifically for onboarding or by inviting the new Directors to committees' site visits).

Board of Directors

The Company has a single-tier Board of Directors headed by a Chair, with executive management led by the Chief Executive Officer. The names of the Directors who held office during the year can be found on pages 129-136. Information on the Directors who are seeking appointment or reappointment is included in the Notice of Annual General Meeting.

There is no fixed amount of times that the Board may meet in one year. During 2022, the Board met eight times (12 times during 2021). Further information on the Board's work and assessments in relation to strategy, culture, engagement with stakeholders, and its workforce can be found as follows:

The Board's responsibilities are governed by a formal schedule of matters reserved to it and include:

- Approval of overall strategy and oversight of management;
- Changes to the corporate and capital structure;
- Approval of financial reporting and controls (including approval of the Annual Report and Accounts, approval of the Annual Report on Form 20-F, and interim dividends);
- Oversight of risk management and internal control;
- Approval of significant contracts;
- Determining succession planning and new Board appointments;
- Remuneration for the Chair and Executive Directors; and
- Corporate governance matters.

Board Committees

Audit Committee

- Carries out certain oversight functions on behalf of the Board; and
- Assists the Board in fulfilling its responsibilities in relation to internal control and financial reporting.

Safety, Environment and Sustainability Committee

- Carries out certain oversight functions on behalf of the Board; and
- Assists the Board on safety, the environment including climate change, and Shell's overall sustainability performance.

Nomination and Succession Committee

- Leads the process for appointments to the Board;
- Recommends Board appointments and re-appointments;
- Provides oversight on the diversity and inclusion strategy;
- Reviews and makes recommendations on succession planning; and
- Reviews and makes recommendations on corporate governance guidelines.

Remuneration Committee

- Determines and agrees with the Board the remuneration policy for the Chair, Executive Directors and Senior Management of the Company;
- Within the terms of such agreed policy, determines individual remuneration packages for the Chair, and Executive Directors; and
- Monitors and makes recommendations regarding the level and structure of remuneration for senior executives, if appropriate.

More information on the composition of each of the Board Committees, their roles and activities during the year is provided on the following pages:

Audit Committee	153-165	Safety, Environment and Sustainability Committee	151-152
Nomination and Succession Committee	147-150	Remuneration Committee	166-170

Governance framework continued

Board of Directors continued

Division of responsibilities

The roles of the Chair, a non-executive role, and the CEO are separate and clearly defined. The Board has agreed on their respective responsibilities and set these out in writing. These documents are available on request from the Company Secretary.

Chair

- Responsible for ensuring that the Board and its Committees function effectively. One way in which this is achieved is by ensuring Directors receive accurate, timely and clear information; and
- Responsible for making sure that there is an adequate induction and training programme followed by all Directors (see page 140), with assistance from the Company Secretary.

Deputy Chair/Senior Independent Director

- Sounding board for the Chair;
- Serves as an intermediary for the other Directors and shareholders; and
- Leads the annual appraisal of the Chair's performance.

Non-executive Directors

- Appointed by the Board or by shareholders at general meetings and, in accordance with the Code, seek re-election by shareholders on an annual basis;
- Letters of appointment refer to a specific term of office, the provisions of the Code and the Company's Articles of Association;
- Upon appointment, Non-executive Directors confirm they are able to allocate sufficient time to meet the expectations of the role. Appointments are subject to a minimum of three months' notice of termination, and there is no compensation provision for early termination;
- The Non-executive Directors bring a wide range and balance of skills and international business experience. Through their contribution to the Board and Board Committee meetings, respectively, they are expected to challenge and help develop proposals on strategy and bring independent judgement on issues of performance and risk; and
- At every Board meeting, time is set aside for the Chair and Non-executive Directors to meet without the Executive Directors being present. The Non-executive Directors discuss, among other matters, the performance of individual Executive Directors. A number of Non-executive Directors also meet major shareholders over the course of the year.

Executive Management

Chief Executive Officer

- Has overall responsibility for the implementation of the strategy approved by the Board, the operational management of the Company and the business enterprise connected with it; and
- Is supported in this by the Executive Committee that he chairs.

Executive Committee

- Operates under the direction of the Chief Executive Officer (CEO) in support of his responsibility for the overall management of Shell's business. The CEO has final authority in all matters of management that are not within the duties and authorities of the Board or of the shareholders' general meeting; and
- Executive Committee members are listed in the Senior Management biographies on pages 137-138.

Governance documents available on www.shell.com/investor:

- Articles of Association
- Matters Reserved for the Board
- Board Committee Terms of Reference
- Modern Slavery Act Statement
- Shell General Business Principles
- Shell Code of Conduct
- Code of Ethics for Executive Directors and Senior Financial Officers

Governance framework continued

Senior Succession and Resourcing Review

The annual Senior Succession and Resourcing Review focused on the strength of senior leadership and plans for its development and succession, while highlighting the breadth, depth and diversity of its pipeline, the developing profile of the leadership cadre, and recruitment and attrition levels.

The Nomination and Succession Committee noted the effectiveness of succession planning, the impact of its associated execution, and the professional, data-driven, integrated approach to leadership and leadership development. It welcomed the continued focus on performance management, proactive management of Shell's talent pipeline, and the focus on advancing Shell's diversity agenda with increased attention on gender, race, LGBT+ and disabilities.

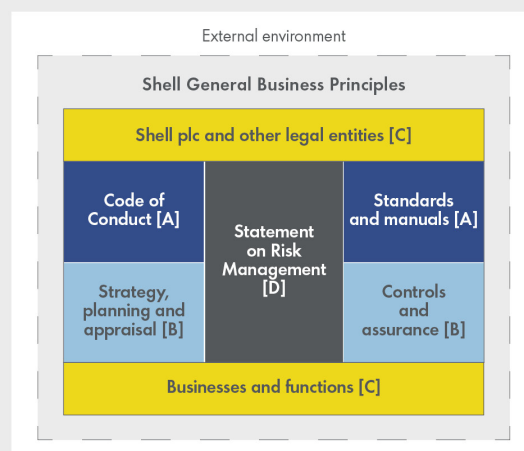
Risk management and controls

The Board is responsible for maintaining a sound system of risk management and internal control, and for regularly reviewing its effectiveness.

A single overall control framework exists for the Company and its subsidiaries. This is designed to manage rather than eliminate the risk of failure to achieve our business objectives. It provides reasonable, but not absolute assurance against material misstatement or loss.

The Control Framework (see diagram on the next page) encompasses the key components – "foundation elements", "management processes" and "structural" – that together establish the structure and context within which Shell companies operate. "Foundation elements" consist of the principles and rules that underpin and establish boundaries for Shell activities. "Management processes" define our critical processes. These include how strategy, planning and appraisal are used to improve performance and how risks are to be managed, such as through the application of effective controls and assurance. The "structural" component defines the organisational structures and key governance principles that are applied to facilitate the achievement of the Shell Group's overall business objectives.

Control framework



[A] ■ The **foundation** elements of the Shell Control Framework define the principles that underpin the Shell Group's activities.

[B] ■ The **management processes** define activities critical to an effective control framework.

[C] ■ The **structural** component defines how businesses and functions facilitate achievement of the Shell Group's overall business objectives, while respecting the separate legal identity of the individual Shell companies that implement them.

[D] ■ A **foundation** element of the Shell Control Framework and a key enabler of many of its **management processes**.

Governance framework continued

Risk management

The "Statement on Risk Management" is a foundation element of the Shell Control Framework and a key enabler of many of its management processes.

Risk identification

We identify and define risks across the Shell Group from three distinct perspectives:

- **Strategic risks:** we consider current and future portfolio issues, examining parameters such as country concentration or exposure to higher-risk countries. We also consider long-range developments in order to test key assumptions or beliefs in relation to energy markets.
- **Operational risks:** we consider material operational exposures across Shell's entire value chain which provide a more granular assessment of key risks facing the organisation.
- **Conduct and culture risks:** we consider how our policies and practices align with our purpose, core values and desired mindset and behaviours.

These perspectives help us to maintain a comprehensive view of the different types of risks we face and the different time horizons in which they may affect us.

Shell's risk factors are described on pages 21-30.

Risk assessment

To further understand the risks we face, we evaluate the impact and likelihood of each risk.

When assessing the potential impact of a risk, we consider the possible financial consequences. We also look at the impacts on our reputation, our ability to comply with external regulations and impacts on health, safety and the environment.

When assessing the likelihood of a risk occurring, we consider several factors, such as the level of risk exposure, our ability to prevent the risk happening and whether the risk has materialised in the past.

To support risk assessments, we also seek to establish and articulate our risk appetite, which is the level of risk that we are willing to accept in pursuit of Shell's strategy and objectives. There are risks that Shell accepts, or does not seek to fully mitigate. The financial framework sets an overarching boundary condition for risk appetite. This is because Shell's financial resilience informs the aggregate level of risk appetite that could be sustained.

The impact and likelihood assessment, combined with risk appetite, determine the type of risk responses, such as controls and assurance activities, that may be required to manage each risk. The impact and likelihood assessments also help us to prioritise risks.

Risk response

Two key foundations of the Shell Control Framework are Shell's standards and manuals, and the Code of Conduct. These establish requirements and guidance that help management design and develop processes, systems and controls to manage risks consistently across the Group.

During the year, management, the Board and Committees on behalf of the Board review the principal risks and associated risk responses, and implement further remedial actions as appropriate. They frame them in terms of strategic, operational or conduct and culture risks, and assess them alongside the relevant control mechanisms and risk responses. These reviews are supplemented by dedicated reviews of specific risks, as needed.

Throughout 2022, the Russian invasion of Ukraine, and its varied impact on our people and our business operations, including sanctions

and export controls, received notable attention from the Board, the Executive Committee and the Group Crisis Management Team.

See the risk factor "Russia's invasion of Ukraine" on page 23.

Examples of how some principal risks are managed

We operate in more than 70 countries that have differing degrees of political, legal and economic stability. This exposes us to a wide range of political developments that could cause changes to contractual terms, laws and regulations. We and our joint arrangements and associates also face the risk of litigation and disputes worldwide (see "Risk Factors" on page 23). We continually monitor geopolitical developments and societal issues relevant to our interests. Our Legal and Tax functions are organised globally and support our business lines in seeking to ensure compliance with local laws and fiscal regulations. Our Corporate Relations department liaises with governments in countries where we operate to understand and engage on local policies and to advocate Shell's position on topics relevant to our industry. We are prepared to exit a country if we believe we can no longer operate there in accordance with our standards and applicable law, and we have done so in the past.

Many of our major projects and operations are conducted in joint arrangements or with associates, which may reduce our level of control and ability to identify and manage risks (see "Risk Factors" on page 28). In each case, Shell appoints a representative to manage its interests. This representative seeks to ensure that the projects operate under standards that are equivalent to Shell's for certain critical areas.

Climate change and risks resulting from greenhouse gas emissions are significant risk factors for Shell. Shell has a climate change risk management approach which is supported by standards, policies and controls (see "Risk factors" on page 22 and "Our journey to net zero" on pages 82-109).

The system of risk management and internal control over financial reporting is an integral part of the Shell Control Framework. Regular reviews are performed to identify the significant risks to financial reporting and the key controls designed to address them. These controls are documented, responsibility is assigned, and they are monitored for design and operating effectiveness. Controls found to be ineffective are remediated.

Emerging risks

Management and the Board also consider emerging risks, defined as risks where the scope, impact and likelihood are still uncertain, but which could have a significant effect on achieving Shell's strategy and objectives in the future. These risks are identified through the monitoring of external developments, the status of risk indicators, learnings from incidents and assurance findings, and the appraisal of Shell's forward-looking plans. Once identified, we undertake activities to monitor, prepare for and reduce the future impact, where possible, should such emerging risks materialise.

Board review of principal and emerging risks

The Board confirms it has carried out a robust assessment of Shell's principal risks, including a robust process for identifying, evaluating and managing Shell's principal risks. The Board also confirms it has carried out a robust assessment of Shell's emerging risks. These assessments have been in place throughout 2022 and up to the date of this Report, are reviewed by the Board and accord with the Financial Reporting Council guidance on risk management, internal control and related financial and business reporting.

Governance framework continued

Review of the effectiveness of the system of risk management and internal control
The Board has delegated authority to the Audit Committee to assist it in fulfilling its responsibilities in relation to the effectiveness of the risk management and internal control system, the integrity of financial reporting, and consideration of compliance matters.

See "Audit Committee Report" on pages 153-165.

The Audit Committee receives regular reports from the Chief Internal Auditor on notable internal audits and those with a significant impact on the effectiveness of controls. The Committee reviews significant incidents involving financial, business and compliance controls and receives regular reports on business integrity issues. The Audit Committee also requests updates on specific financial, operational and compliance control issues throughout the year. The Audit Committee Chair provides an update to the Board after every Audit Committee meeting.

The Chair of the Safety, Environment and Sustainability Committee (SESCo) provides regular updates to the Board after each of its meetings. These updates cover, among other matters, the respective aspects of controls that it monitors in accordance with its Terms of Reference. The Board receives the approved minutes of the Audit Committee and SESCO minutes. During and after such sessions, the Board has the opportunity to request further information and ask clarifying questions. They are incorporated into the Board minutes so all Directors can read and review them. This helps the Board with its ongoing monitoring and annual review of material controls. The Board is also helped with its monitoring and review responsibilities by the reports of:

- the Executive Vice President Controller [A];
- the Chief Internal Auditor;
- the External Auditors;
- the Chairs of the Disclosure Committee and the Financial Reporting Control Committee;
- the Chief Ethics and Compliance Officer;
- as well as summaries of the Annual Proved Reserves Disclosure.

[A] As of October 1, 2023, the role of the Executive Vice President (EVP) Taxation and Controller was divided into two roles: EVP Taxation and EVP Controller.

The Executive Committee and the Audit Committee conduct an annual review of the effectiveness of the system of risk management and internal control. This is based on their own insights and experience during the year and the outcomes of the Group-level risk reviews and the Group Assurance Letter process. In the Group Assurance Letter process, each Executive Director conducts a structured internal assessment of compliance with legal and ethical requirements and the Shell Control Framework.

As part of their annual review, the Executive Committee and Audit Committee also consider input from the Chief Internal Auditor, Chief Ethics and Compliance Officer and the External Auditor. The Board reviews and discusses the insights and conclusions from this annual assessment.

The Board confirms that it has conducted its annual review of the effectiveness of Shell's system of risk management and internal control in respect of 2022, and that this review covered all material controls, including financial, operational and compliance controls.

The Shell Performance Framework

Following the launch of the Powering Progress strategy and subsequent organisational changes, management are proposing to enhance the control framework in which Shell operates. Work has therefore been ongoing throughout 2022 to develop an updated model, called the Shell Performance Framework, considering industry and other external best practices, where appropriate. The intention is to retain the core strengths of the Shell Control Framework, including the Shell General Business Principles, Code of Conduct and risk management focus. The updated model will emphasise the value of using a holistic or 'whole systems' approach to business activities, including our mindset and behaviours, as well as focus on the concept of the 'Improvement Cycle' to ensure appropriate integration of activities such as performance management, risk management, controls and assurance, learning and continuous improvement.

Progress on developing the updated framework is being regularly reviewed by Executive Committee members. The Audit Committee has also been briefed on the Shell Performance Framework and will be asked to support its introduction prior to seeking final approval from the Board. Subject to this Board approval, the Shell Performance Framework is anticipated to be effective later in 2023.

Risks

The Board (also via the Audit Committee and the Safety, Environment and Sustainability Committee) reviews strategic, operational and conduct/culture risks during the year to assess current business activities against risk appetite.

Chief Ethics and Compliance Officer Report

Data and insights include information from the Global Helpline, the Shell Ethics and Compliance organisation and the Shell People Survey. The Safety, Environment and Sustainability Committee continues to strongly support the work of the Chief Ethics and Compliance Officer, including the efforts to ensure a safe working environment where staff feel confident to raise any concerns in good faith.

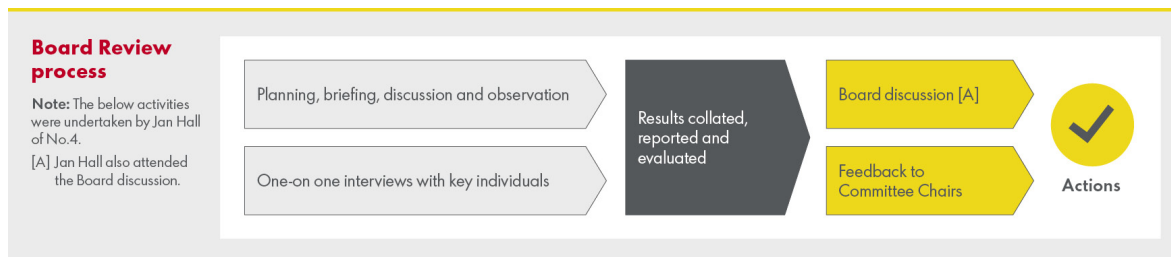
The Audit Committee is kept updated when matters highlighted through the Global Helpline are investigated. The Audit Committee is also informed about the associated remediation. For more information see page 162 of the Audit Committee Report.

Assurance activities

Assurance activities, including items raised by businesses and functions (through the Group Assurance Letters process) and assurance (from Internal Audit, HSSE, Ethics and Compliance, Reserves Assurance and Reporting), provide additional evidence to the Board of the commitment to high standards of risk management and internal control. The assurance activities ensure that work can be done safely, within regulatory frameworks.

The information provided within these reports further supports the Board's annual review of the effectiveness of the Group's system of risk management and internal control and feeds into the Group scorecard, against which staff bonuses are calculated.

Governance framework continued



Board Review Process

The 2022 Board evaluation looked to support the discussion on the way ahead as Shell faces its biggest challenge, managing the business through the energy transition.

As required by the Code every three years, the 2022 evaluation was conducted differently from that in 2021 and 2020. First, the evaluation was an externally facilitated self-evaluation by an external provider, Jan Hall of No 4, through one-on-one interviews with the Board and key individuals, as opposed to a questionnaire approach for 2020 and 2021. Second, the 2022 evaluation process guided a more strategic review of the Board and its operation to consider not merely how the Board might make improvements to an already well-functioning Board but also how to be the most effective Board it can be for Shell over the next 3-5 years. The evaluation was conducted according to the guidance in the Code. Jan Hall and No 4 have no connection or relationship to the Company or to any Director.

Selecting the facilitator

The tender process to select the individual/company that would facilitate the 2022 Board Evaluation was led by Euleen Goh, Deputy Chair and Senior Independent Director, supported by Caroline Omloo, Company Secretary. Euleen Goh presented a short list of providers to the Nomination and Succession Committee for discussion and selection of the provider.

Planning for the evaluation

The process started with briefing meetings where Jan Hall met the Chair, CEO, Deputy Chair/Senior Independent Director, Company Secretary and previous Company Secretary. These meetings helped Jan Hall understand the Board, how it operates, the strategic priorities for Shell and she then formulated a comprehensive brief for the evaluation process. Jan Hall then prepared a discussion guideline which formed the basis of her one-on-one meetings. The discussion guideline was sent to the individuals who participated in the Board evaluation ahead of her meetings with them.

Discussion and Observation (Stage 1)

In October and November 2022, detailed interviews were conducted with every Board member, the Company Secretary and prior Company Secretary, the External Audit partner, all members of the Executive Committee, the Committee Secretaries and the Chief Internal Auditor. All participants were interviewed by Jan Hall who facilitated an open, confidential, unattributed conversation with each person. She observed the Board and Committee meetings in October and a Committee meeting in December. In addition, she reviewed the materials presented to Directors ahead of these meetings.

Analysis (Stage 2)

A report synthesising and summarising feedback from all of the input, and making recommendations was prepared and shared with the Chair and CEO for comment.

Outcomes (Stage 3)

Draft conclusions were discussed with the Chair and subsequently discussed with the whole Board at a dedicated meeting held in January

2023, which was also attended by Jan Hall. This format provided a freer and unconstrained discussion. She highlighted key findings from the evaluation, facilitated discussion and answered any questions. Jan Hall separately discussed the report on the Chair's performance with Euleen Goh, the Senior Independent Director. A separate discussion in relation to the performance of the Chair was led by Euleen Goh (in the absence of the Chair). Individual feedback was provided to each director by the Chair.

Overall the Board was found to be functioning well, with a high level of commitment from both the Non-executive and Executive Directors. Improvements identified were merely to fine-tune an already effective Board. There is a collegiate spirit and good personal relationships with a high degree of mutual respect, with people able to speak up and feel that they are listened to. The agenda has been broad ranging and the Committees have complemented the Board agenda to ensure that the Board has covered the areas viewed to be key.

At the time of the evaluation process, the Nomination and Succession Committee was undertaking a recruitment process for new Non-executive Directors in preparation of anticipated departures in 2023. Therefore, no changes were found to be necessary to the Board composition as a result of the evaluation.

Feedback on the themes from the Board discussion

The Board intends to continue to focus on being a well functioning Board, spending additional time on strategic matters, and placing an even greater focus on Shell's key stakeholders around the world. In line with this the Board will refresh its agendas to better support its priorities on strategy and utilise its time as effectively as possible. Further, the Board confirmed its continued support to help the CEO deliver Shell's goals in the short, medium and long term, with specific focus on driving greater accountability throughout the organisation; evolving Shell's culture to become more agile and to move at greater pace; building on his newly announced changes to the Executive Committee, to focus on developing the leadership across Shell and optimising people development and talent management.

Feedback themes for the Committees

The Committees were considered to be well chaired and well operated. It was agreed that the Board would undertake a more strategic review of the Committees' agendas and remit to ensure alignment with the Board's future priorities and longer term aspirations. In addition, there was wide recognition of the value of greater involvement of all Board members in matters of Board and Executive succession, as had been facilitated for the appointment of the new CEO and recent changes to the Executive Committee. It is therefore anticipated that this format will also be adopted going forward.

Chair evaluation

The Chair was considered to have the respect of his Board colleagues who all feel he had led the Board very well through a year of change, and is leading the Board to focus on the right areas and issues. His accessibility and support were highly valued and he was considered to bring a wealth of relevant knowledge which he is able to deploy in a strategic way in the context of the challenges Shell is facing.

Nomination and Succession Committee

Focus areas for 2022

- Non-executive Director and Executive Committee succession;
- Continued talent engagements with key staff and succession candidates; and
- Maintain proactive oversight over Shell's ambition to become one of the most diverse and inclusive organisations in the world.

Priorities for 2023

- Support the changes proposed from the 2022 Board/Committee evaluation;
- Non-executive Director and Executive Committee succession;
- Continued talent engagements with key staff and succession candidates; and
- Support an increased level of disclosure with regard to Shell's diversity targets and maintain proactive oversight over Shell's ambition to become one of the most diverse and inclusive organisations in the world.

Committee membership and attendance for 2022



Sir Andrew Mackenzie



Dick Boer



Euleen Goh



Ann Godbehere

Committee member	Member since	Maximum possible meetings	Number of meetings attended	% of meetings attended
Sir Andrew Mackenzie (Chair of the Committee)	October 1, 2020	5	5	100%
Dick Boer	May 19, 2021	5	5	100%
Ann Godbehere	October 27, 2021	5	5	100%
Euleen Goh	July 1, 2019	5	5	100%

Purpose

The Nomination and Succession Committee (the "Committee") leads the process for appointments to the Board and Senior Management [A] positions, ensures plans are in place for orderly, well-planned succession, and oversees the development of a diverse succession pipeline of candidates. It also reviews the Company's policy and strategy on diversity, equity and inclusion (DE&I), and monitors the effectiveness of these initiatives. It makes recommendations to the Board on corporate governance guidelines.

[A] "Senior Management" refers to the Executive Committee and the Company Secretary.

Talent management and succession

The Committee is fully engaged with the end-to-end talent management and senior succession planning approach that is deployed within Shell. It plays a key role in senior succession and resourcing. Retaining in-depth knowledge of the individuals within the talent pipeline is a Committee priority. The Committee makes time to personally meet and engage with numerous individuals within the pipeline. The Committee's oversight and input extend from recruitment to leadership identification and from leadership development to leadership appointment, all of which are underpinned by clearly articulated talent priorities and a commitment to advancing diversity, equity and inclusion across Shell.

The Committee manages Board and Senior Management succession under a structured, proactive methodology. The processes have clear and agreed selection principles for short-, medium- and long-term succession and are aligned with Shell's strategic priorities.

For Non-executive Director succession, the Committee continues to follow its Principles for the Strategic Composition of the Board, adding factors as they evolve. These principles function much like a policy and include both quantitative and qualitative principles, considering:

- the overall aspired Board composition and diversity of gender, race and ethnicity, nationality, background, experience and desired skill sets that align with the Company's strategy and purpose; and
- the values, attitudes, and behaviours expected of Directors.



Sir Andrew Mackenzie
Chair of the Nomination and Succession Committee

Nomination and Succession Committee continued

Over the coming year the Principles for the Strategic Composition of the Board will be reviewed and the Committee will support the business in aligning with its Powering Progress diversity ambition, of becoming one of the most diverse and inclusive organisations in the world, into firmer targets for the Board and Senior Management. In addition, Shell's external reporting against these targets will be enhanced. Shell's Board and Senior Management diversity metrics are already well positioned against the new UK Listing Rules requirements.

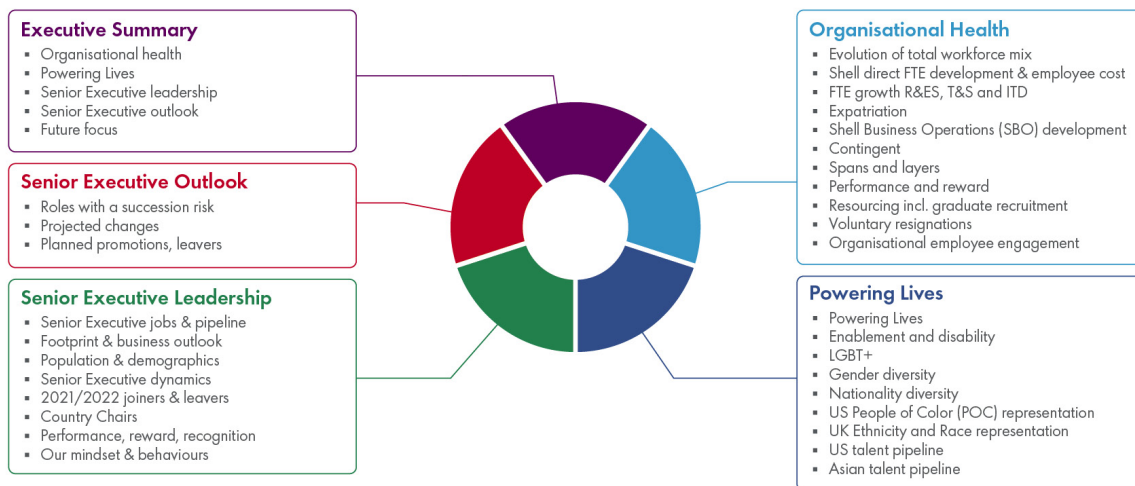
For Senior Management succession, the selection principles include process-specific elements, such as a clear and proactive approach to identifying and developing succession candidates. The principles also outline the long-term structured nature of the succession planning process. There is also great focus on ensuring that the principles reflect the leadership qualities required for future business success and that they advance the progress of diversity in all its forms.

Senior Management principles feature in the Committee's review of the succession plans which occurs in every Committee meeting. Using the

principles, the Committee implements any changes through a well-defined and diligent process with overall Board engagement. The Committee agrees on candidate profiles and meets prospective candidates well ahead of any selection decision being necessary. It also engages the Board early in the process to ensure all Directors have an opportunity to meet and assess prospective candidates. Consequently, some of the leaders whom the Committee and Board have engaged with extensively in the past are now members of the Board or the Executive Committee.

In 2022, the Committee undertook its annual in-depth look at the status and succession plans for Senior Management within Shell and reviewed the talent pipeline in line with the business outlook. The engagement focused on the organisational health of our workforce; Powering Lives (covering areas such as enablement and disability and LGBT+ inclusion, gender diversity in leadership roles, nationality and ethnicity and race representation), the depth and breadth of the senior executive leadership pipeline including progress in enhancing diversity, the skills, behaviours and development support required for future success, and an evolving outlook on senior executive roles. Following the Committee's review, the findings were reported to the Board.

Senior Succession and Resourcing Review



Diversity of leadership

The Committee recognises that continuing to improve all types of diversity at each level of the Shell Group is crucial. Shell aims to be an inclusive workplace where everyone feels valued and respected and has a strong sense of belonging. The Committee's review of diversity objectives and strategies for the Shell Group as a whole also monitors the impact of diversity and inclusion initiatives.

In February 2021, Shell published its aspirations for diversity, equity and inclusion under the "Powering Lives" goal, with a focus on four areas of gender, race and ethnicity, LGBT+ and disability inclusion. When looking at our progress against our ambitions, female representation has steadily improved in recent years. Among experienced recruitment in 2022, Shell companies recruited 40% females, and among graduates 49%. Female representation in the

top 1,250 roles ("Senior Leadership" positions) has strengthened by 1% during 2022 to 30.4%, and we continue to progress towards our aim of achieving 35% female senior leadership representation by 2025. Nationality diversity, such as Asian and American talent, continues to be managed in accordance with the business outlook and we have a strong focus on progressing race and ethnic minority representation, beginning in the UK and the USA and followed by the Netherlands. The representation of people of colour among Shell's senior leaders in the USA has been actively tracked for many years. It stood at 26% at the end of 2022, compared with 17.3% in 2016. In the UK, race and ethnic minority representation among senior leaders was 18.2% [A].

[A] As ethnicity declaration is voluntary, our ethnicity declaration rate is not 100% and all calculations are based on a declaration rate of 71.5%. The 28.5% of our workforce who have not provided data or chosen not to declare their ethnicity were not included in our calculations.

Nomination and Succession Committee continued

Senior Leadership is a Shell-specific measure and different from that which we are required to report under the Code, being female representation in Senior Management and their direct reports, where the percentage is 28%.

Although the Committee monitors Shell's organisational diversity, equity and inclusion strategies and initiatives, it also holds itself accountable for the Board's own diversity and inclusion. By the end of 2020, the Board's diverse composition met the Hampton Alexander and Parker Reviews' objectives by reflecting 38.5% female representation with one person meeting BAME criteria. Following the 2021 AGM, 50% of the Board were women. However, in October 2022 we announced the appointment of Cyrus Taraporevala effective March 2, 2023 and in February 2023 we announced further changes to the Board, with the retirement of Euleen Goh and Martina Hund-Mejean and the appointments of Leena Srivastava and Sir Charles Roxburgh effective March 13, 2023. Therefore, following the 2023 AGM, scheduled for May 2023, if all directors proposed for appointment/reappointment are approved by shareholders, female representation will be 42%, and the Board will exceed the BAME criteria, with three members from an ethnic minority background.

More information on diversity, equity and inclusion in Shell is provided in the Powering lives section on pages 0.

The People Strategy and diversity, equity and inclusion
During the year, the Committee continued an in-depth examination into our approach on diversity, equity and inclusion building on the deep dive held on LGBT+ inclusion and extending this into disability and enablement inclusion, with participation from both employee representatives and Human Resources professionals. This followed the format of the examination of the Shell People Strategy that the Committee undertook in 2020, which placed particular emphasis on our Mindset and behaviours. The Committee will be conducting further engagements in 2023 to maintain proactive oversight over Shell's ambition to become one of the most diverse and inclusive organisations in the world, where everyone feels valued and respected, with a focus on race and ethnicity and gender representation.

Committee activity

In addition to its considerations regarding succession (some of which were in the early part of 2023), the Committee made recommendations on corporate governance guidelines, monitored compliance with corporate governance requirements and made recommendations on corporate governance-related disclosures.

The Committee continues to monitor and review this area, considering whether and how current Company governance matters should be strengthened. Further insight on some of the Committee's areas of consideration in 2022 is provided below.

	Topic of discussion/example of Board activity
Succession [A]	
Recommendation	<ul style="list-style-type: none"> Appointment of Sinead Gorman (CFO), Wael Sawan (CEO), Cyrus Taraporevala (NED), Sir Charles Roxburgh (NED) and Leena Srivastava (NED). Appointment of Dick Boer as Deputy Chair/Senior Independent Director. Changes to the composition of the Board Committees.
Review and oversight	<ul style="list-style-type: none"> Shell Senior Succession and Resourcing Review and ongoing succession planning. Supported the appointment of Ed Daniels to the Executive Committee as Strategy, Sustainability and Corporate Relations Director.
Oversight	<ul style="list-style-type: none"> Shell diversity, equity and inclusion.
Engagement	<ul style="list-style-type: none"> Talent engagements.

	Topic of discussion/example of Board activity
Board membership and other appointments	
Directors' tenure, external commitments, conflicts of interests and succession planning	<ul style="list-style-type: none"> Non-executive Director appointments and changes to Committee membership.

	Topic of discussion/example of Board activity
Talent overview and senior succession review	
Shell Senior Succession and Resourcing Review covering Executive Director and Executive Committee (EC) succession, EC direct reports, the senior executive group and the overall talent pipeline	<ul style="list-style-type: none"> Enhanced insight on Shell talent and future leaders. Assurance of robust succession and contingency plans.

	Topic of discussion/example of Board activity
Governance	
Governing the Board and its committees	<ul style="list-style-type: none"> Reviewed its Terms of Reference, and the Terms of Reference for other Board committees and the Matters Reserved for the Board.
Regulation, legislation and other governance-related guidance	<ul style="list-style-type: none"> Reviewed its Terms of Reference, and the Terms of Reference for other Board committees and the Matters Reserved for the Board.
Shell plc matters	<ul style="list-style-type: none"> Considered any potential conflicts of interest and the independence of the Non-executive Directors. Review of additional external appointments requested by Directors, with specific focus on the time allocated to all commitments. For Executive Directors, the benefit/relevance to the business of the Director undertaking the additional role is also a key consideration. Determined the process and the provider for the 2022 external Board Evaluation (see page 146 for an overview of the process and the outcome of the evaluation).

[A] The Committee was assisted during the year by Russell Reynolds Associates ("Russell Reynolds"), an external global search company whose main role was to propose suitable candidates. Russell Reynolds does not have any connection with the Company other than that of search consultants. The Chair does not participate in discussions regarding his own succession. Russell Reynolds is a signatory to The Voluntary Code of Conduct for Executive Search Firms, which aims to improve board diversity.

Nomination and Succession Committee continued

Board succession

During the year the Committee's robust and effective succession planning supported the appointment of a new Chief Financial Officer (Sinead Gorman), who joined the board on April 1, 2022, and a new Chief Executive Officer (Wael Sawan), who joined the Board on January 1, 2023. Some of the Committee activities in supporting these appointments are outlined below.

The Committee undertakes comprehensive engagement to understand who the candidates are for senior roles, what personally drives them and how they will ensure Shell achieves its strategic ambitions.

The Committee plans well in advance for succession and reviews plans regularly. Succession planning is a crucial, ongoing consideration and not just an area of focus when a Director is nearing the end of their tenure. The Board oversees a rigorous and sophisticated Shell succession planning process in which selection is the final step of a considered well-planned process.

For Executive Director and Executive Committee appointments, the Committee has set a structured process:

- Before any potential decision on resourcing, it explicitly describes the requirements of the role and the candidate profile.
- By working in a planned consistent manner, last-minute surprises are avoided and well-considered decisions are made in line with evolving business requirements. We saw this in action in 2022.
- It also plans for the unexpected and maintains a list of candidates capable of stepping into senior roles to provide cover if necessary.

The Committee spends time getting to know the candidates to ensure that the pipeline is robust, diverse and adaptive. The Committee ensures it has visibility of today's and tomorrow's leaders. Over the last few years, the Committee has met many leaders and had extensive engagements with each of them. Some of these leaders now sit on the EC, others were appointed to the Board (Sinead Gorman and Wael Sawan).

The Committee engages across the Executive talent pipeline to ensure it interacts with and becomes familiar with talent at different levels of the organisation; for example, on a regular basis informal engagements are held with employees from a range of businesses, functions and backgrounds prior to a Board meeting. Not only does this engagement support senior succession, it also provides a helpful element of the Committee's workforce engagement.

The Board is proud that candidates for the most senior leadership roles have primarily come from within the business, proving that the leadership development and succession process remains effective.

CEO succession

Although the process was initially led by the Nomination and Succession Committee, the Board was fully engaged throughout the process. All Non-executive Directors provided input into the candidate profile and role specification and outlined what they saw as the challenges facing the business over the next five to ten years. They helped map out leadership and personal qualities needed to be effective, ranked these in order of importance and shared their views of the current culture within the business. Throughout the process the Board was supported by Shell Human Resources executives in tandem with external professional executive assessment and search support.

Both internal and external candidates were considered for the position. The list of preferred qualities and functional focus elements included leadership experience at a large, complex global business; leadership/track record of substantial transformation/change; strong customer orientation; from an industry with a complex supply chain (industrial, engineering or technology); experience of managing substantial stakeholder pressure (with differing views); understanding of large capital projects (not necessarily oil and gas sector), along with certain character requirements.

Updates were provided to the Board and potential candidates discussed. In the final stages of the process, the potential candidates presented to, and were interviewed by, the full Board.

In Wael Sawan we believe that we have found the required qualities and more. Wael Sawan is an exceptional leader, with all the qualities needed to drive Shell safely and profitably through its next phase of transition and growth. His track record of commercial, operational and transformational success reflects not only his broad, deep experience and understanding of Shell and the energy sector, but also his strategic clarity. He combines these qualities with a passion for people, which enables him to get the best from those around him. The outcome of the Board's managed succession process resulted both in the appointment of an outstanding CEO and proved the strength and depth of Shell's leadership talent.

Safety, Environment and Sustainability Committee

Focus areas for 2022

- Safety and environmental performance;
- Assurance programme;
- Progress against energy transition targets;
- Non-financial elements of Shell's strategy; and
- Sustainability metrics for remuneration.

Priorities for 2023

- Shell's sustainability performance;
- Net Zero Emissions;
- Respecting Nature;
- Powering Lives; and
- Emerging non-financial risks.

“The SESCo focused on Shell’s safety and environmental performance and assurance programme in 2022, as well as targets for the energy transition and sustainability elements of Shell’s Powering Progress strategy.”



Catherine J. Hughes
Chair of the Safety, Environment and Sustainability Committee

Committee membership and attendance for 2022



Catherine J. Hughes



Neil Carson OBE



Bram Schot



Jane Holl Lute

Committee member	Member since	Maximum possible meetings	Number of meetings attended	% of meetings attended
Catherine J. Hughes (Chair)	November 1, 2017	5	5	100%
Neil Carson OBE	June 1, 2019	5	5	100%
Bram Schot	October 1, 2020	5	4	80%
Jane Holl Lute	May 24, 2022	3	3	100%

Purpose

The Safety, Environment and Sustainability Committee (SESCo) assists the Board in reviewing the policies, practices, targets and performance of Shell, primarily with respect to safety, environment including climate change, and broader sustainability.

Overview

The Committee meets regularly to review and discuss a wide range of important topics. These include the safe condition and responsible operation of Shell's assets and facilities, environmental protection and greenhouse gas emissions, any major incidents that impact or had the potential to impact safety and environmental performance, and progress towards meeting Shell's energy transition targets.

The Committee endorses the areas of the Shell annual assurance plan that are relevant to its Terms of Reference, which include Safety, Environment, Asset Management, and the non-financial elements of Shell's Powering Progress strategy. The Committee also reviews the execution of these areas of the assurance plan and discusses audit outcomes.

The Committee assesses Shell's overall sustainability performance and provides input to Shell's annual reporting and disclosures on sustainability. It also advises the Remuneration Committee on metrics relating to safety and energy transition that apply to the Executive Committee annual scorecard and Long-term Incentive Plan.

Safety, Environment and Sustainability Committee continued

The Committee reviews and considers external stakeholder perspectives in relation to Shell's business, as well as how Shell addresses issues of public concern that could affect its reputation and licence to operate.

In line with the strategic importance of the Committee's agenda, the Chair of the Board of Directors and the Chief Executive Officer of Shell plc regularly attend Committee meetings for discussions on specific topics.

Shell's Chief Executive Officer and the Executive Committee hold overall accountability for sustainability within Shell.

Activities

During 2022, the Committee focused on the areas of greatest operational and strategic importance to Shell, in line with its Terms of Reference. This allowed the Committee to oversee effectively and thoroughly the practices and performance of the Company with respect to safety, environment including climate change, and broader sustainability.

The topics discussed in particular depth by the Committee included personal and process safety, a range of environmental topics, Shell's energy transition targets, and remuneration metrics. The Committee also reviewed in detail Shell companies' operations and the challenges faced in Nigeria.

The Committee reviewed the progress made against the non-financial elements of Shell's Powering Progress strategy, including progress against the targets and commitments under the goals of Net-Zero Emissions, Respecting Nature, and Powering Lives. The Committee reviewed in particular the sustainability issues associated with Shell's renewable energy businesses.

The Committee believes the Powering Progress strategy demonstrates Shell's determination to play its full role in the energy transition. The Committee has conducted in-depth discussions with senior management about how Shell's energy transition targets for the near term, medium term and longer term will be met through a combination of developing low-carbon energy businesses, transforming existing assets into energy and chemicals parks, carbon abatement

programmes, portfolio actions, the use of nature-based solutions, and the development of carbon capture, utilisation, and storage. The Committee reviewed Shell's Energy Transition Progress Report in depth before its publication.

Following the Committee's review of remuneration with management, the safety and energy transition metrics and targets have been enhanced for the 2023 Executive Committee annual scorecard and the 2023-25 Long-term Incentive Plan in order to drive further performance improvements.

The Committee also reviewed wider matters of public concern during 2022 such as plastic waste, methane emissions, the flaring of natural gas, water scarcity, just transition, human rights, diversity and inclusion, and access to energy in low- and middle-income countries. The Committee engaged with external stakeholders on the topic of nature-based solutions and gained valuable insights on how Shell's approach is perceived.

The Committee continued to monitor Shell's approach to the health of its employees and contractors, in terms of mental well-being in particular. The Committee also continued to review the security risks faced by Shell and how these risks are being proactively managed.

The Committee Chair held meetings throughout the year with senior leaders to discuss specific topics, including safety performance and enhanced assurance protocols.

For further details on SESCo and how Shell manages sustainability see www.shell.com

Site visits

The Committee visited the LNG Canada joint-venture project in British Columbia, Canada, in September 2022. The visit included a site tour at Kitimat, meetings with staff, and local community engagements with the Chief of the Haisla Nation and Mayor of Kitimat. In Vancouver, the Committee held further meetings with LNG Canada management and engaged with the Premier of British Columbia and relevant Ministers.

Activities performed	Frequency
Review Shell's practices and performance relating to safety, including the safe condition and responsible operation of Shell's assets (Shell-operated ventures and non-Shell-operated ventures), with a focus on both employees and contractors.	Every meeting
Review Shell's practices and performance relating to environment, including environmental protection and greenhouse gas emissions.	Every meeting
Review any major incidents that impact, or had the potential to impact, Shell's safety and environmental performance.	As necessary
Review progress towards meeting the Powering Progress ambitions, including its energy transition targets for net carbon intensity and becoming a net-zero emissions energy business by 2050.	Most meetings
Endorse Shell's annual assurance plan for Health, Security, Safety, Environment and Social Performance (HSSE & SP) and Asset Management.	Annually
Review execution of Shell's assurance plan and discuss audit outcomes, and review relevant findings from Shell's broader internal audit and investigations programme.	Most meetings
Assess Shell's overall sustainability performance and provide input to Shell's annual reporting and disclosures regarding sustainability.	Annually
Review how Shell addresses major issues of public concern that could affect Shell's reputation and licence to operate.	Most meetings
Review and consider external stakeholder perspectives regarding Shell's business.	Periodically
Advise the Remuneration Committee on metrics relating to safety and energy transition.	Annually

Audit Committee Report

Dear Shareholders,

I am pleased to present our Audit Committee Report for 2022.

I begin this report by thanking Gerrit Zalm and Jane Holl Lute for their contributions as members of the Audit Committee (AC) since March 2017 and July 2021, respectively. I am also delighted to welcome new Committee member, Cyrus Taraporevala, who joined the AC on March 2, 2023. I also welcome Sir Charles Roxburgh, who has been appointed as a Non-executive Director of Shell plc, effective March 13, 2023 and will become a member of the AC as of the same date.

The AC's primary role is to assist the Board in fulfilling its oversight responsibilities in areas such as the integrity of financial reporting, the effectiveness of the risk management framework and system of internal controls as well as consideration of ethics and compliance matters. We are responsible for assessing the quality of the audit performed by, and the independence and objectivity of, the external auditor. The AC also makes a recommendation to the Board on the appointment or reappointment of the external auditor. In addition, we oversee the work and quality of the internal audit function.

Our work programme over the course of a year focuses on a variety of matters that involve a high degree of judgement and/or are significant to Shell's consolidated financial statements. We review with management the sources of estimation uncertainty and other key assumptions in light of economic and market uncertainty, volatility, climate risk and the energy transition and evolving stakeholder expectations. In addition, we consider the robustness of the risk and internal control framework, results of internal control testing performed throughout the year and remediation activities.



Ann Godbehere
Chair of the Audit Committee

Topics addressed in 2022 included the impact of Russia's invasion of Ukraine and Shell's announced withdrawal from Russian oil and gas activities; the potential impacts of climate change on Shell's consolidated financial statements; deferred taxes and tax exposures; the impact on tax balances and disclosures as a result of new windfall and minimum taxes around the world; significant portfolio developments; litigation; impairment trigger assessments; charges and reversals; accounting for complex contracts; dividend distribution capacity; and mark-to-market derivatives accounting, including the impact of volatile gas and power markets.

We received briefings from the Chief Internal Auditor on the effectiveness of Shell's risk management and internal control system and on the outcomes of significant audits and notable control matters.

The impacts of climate change and the energy transition continue to touch on many aspects of the AC's work. The AC's focus areas for 2022 included several discussions on the financial statement impacts of climate change and energy transition, and the increasing expectations around expanded climate-related information. In order to obtain feedback to continuously improve carbon-related disclosures, management engaged with Sarasin & Partners and Carbon Tracker during 2022. The quarterly reports reviewed by the AC from Ernst & Young LLP (EY), our external auditor, and the Chief Internal Auditor, also continued to include specific steps they have taken to incorporate climate change considerations into all facets of their work.

The AC commends Shell's financial reporting team on feedback received from the Financial Reporting Council (FRC) which carried out a limited scope review [A] of TCFD disclosures and the disclosures of climate in Shell's financial statements for the year ended December 31, 2021. The FRC confirmed that, based on their review, there were no questions or queries which they wished to raise at this stage. In its "CRR Thematic review of TCFD disclosures and climate in the financial statements" published in July 2022, the FRC referenced what they regarded as better practice disclosures with a number of examples from Shell's 2021 Annual Report.

[A] The FRC noted that their review is based solely on the annual report and accounts and does not benefit from detailed knowledge of Shell's business or an understanding of the underlying transactions entered into, but that it is, however, conducted by staff of the FRC who have an understanding of the relevant legal and accounting framework.

The AC, recognising the ever-evolving nature of climate change risks and responses, concluded that climate change has been appropriately considered by management in key judgements and estimates and agreed with the disclosure made by management.

“The primary role of the AC is to assist the Board in fulfilling its oversight responsibilities in areas such as the integrity of financial reporting, the effectiveness of the risk management framework and system of internal controls as well as consideration of ethics and compliance matters.”

Audit Committee Report continued

The AC was briefed on Shell's Carbon Management Framework and its Carbon Reporting Committee, including future priorities. The AC was also briefed in relation to the Shell Performance Framework which is scheduled to replace and enhance the current Shell Control Framework. Other focus topics for 2022 included non-operated ventures controls and governance.

As part of its oversight of compliance with applicable legal and regulatory requirements, including monitoring ethics and compliance risks, the AC discussed with the Chief Ethics and Compliance Officer activities undertaken in the ethics and compliance programme related to conduct risks stemming from Russia's invasion of Ukraine, and steps taken to manage those risks.

During the year, AC members visited Shell Recharge Fulham Road, our first UK all-electric vehicle charging hub and the AC also conducted a site visit to Shell's London trading floor. As part of Board Strategy Days, AC members also visited Singapore in June 2022 (see Board Strategy Days on page 139). During 2023, the AC plan to visit a number of operations in the USA, including Shell Polymers Monaca and Shell Convent. These site visits deepen the AC's understanding of the risks and opportunities arising as well as its understanding of how the Company's Powering Progress strategy is being implemented.

On a final note, the AC acknowledges the financial reporting team's substantial work during 2022. The AC conveys its gratitude and appreciation for their strong commitment and dedication.

Ann Godbehere

Chair of the Audit Committee
March 8, 2023

Focus areas for 2022

- Impact of Russia's invasion of Ukraine and Shell's withdrawal from Russian oil and gas activities;
- Non-operated ventures controls and governance;
- Climate change and energy transition, including impact on financial statements as well as sustainability and non-financial reporting;
- Resegmentation;
- Carbon management, including GHG reporting and assurance framework;
- Trading and Supply; and
- Introduction and implementation of windfall taxes such as the EU solidarity contribution and Energy Profits Levy in the UK.

Priorities for 2023

- Risk management, including cyber security;
- Regulatory developments, mainly those in relation to climate change and energy transition;
- Trading and Supply; and
- Shell Performance Framework.

Committee membership and attendance for 2022



**Ann
Godbehere**



Dick Boer



**Martina
Hund-Mejean**

During 2022, the members and meeting attendance of the AC were as follows:

Committee member	Member since	Maximum possible meetings	Number of meetings attended	% of meetings attended
Ann Godbehere (Chair)	May 23, 2018	6	6	100%
Dick Boer	May 20, 2020	6	6	100%
Jane Holl Lute [B]	July 28, 2021	3	3	100%
Martina Hund-Mejean	May 20, 2020	6	6	100%
Gerrit Zalm [C]	March 8, 2017	3	3	100%

[A] In addition to the six meetings, as part of its activities, the AC conducted two deep-dive sessions, a site visit to the London trading floor and members of the AC also visited Shell Recharge Fulham Road.

[B] Jane Holl Lute stepped down from the AC with effect from May 24, 2022.

[C] Gerrit Zalm retired from the Board and the AC with effect from May 24, 2022.

Audit Committee Report continued

All AC members are financially literate, independent Non-executive Directors. In respect of the year ended December 31, 2022, for the purposes of the UK Corporate Governance Code, Ann Godbehere and Martina Hund-Mejean both qualify as: a person with "recent and relevant financial experience" and competence in accounting, and, for the purposes of US securities laws, an "audit committee financial expert".

The experience of the AC members outlined on pages 129-136 demonstrates that the AC as a whole has competence relevant to the sector in which Shell operates, and the necessary commercial, regulatory, financial and audit expertise required to fulfil its responsibilities. The AC members have gained further knowledge and experience of the sector as a result of their Board membership and through various in-person and virtual site visits since their respective appointments.

The AC invites the Chief Financial Officer, the Legal Director, the Chief Internal Auditor, the Executive Vice President (EVP) Taxation and Controller (as of October 1, 2022, this role was divided into two roles: EVP Taxation and EVP Controller), the Vice President Group Reporting and the external auditor to attend each meeting. The Chief Executive Officer attends each meeting where the quarterly, half-year and year-end financial results are discussed. The Chair of the Board also regularly attends AC meetings. Other members of management attend when requested on specific topics or to provide input on more detailed technical matters that may arise. The AC regularly holds private sessions separately with the Chief Internal Auditor and the external auditor without members of management, except for the Legal Director, being present. Outside of the formal AC meetings the Chair of the AC meets regularly with each of the following: the Chief Financial Officer, EVP Taxation, EVP Controller, the Chief Internal Auditor, the external auditor, and the Chief Information Officer.

AC remit

The roles and responsibilities of the AC, as set out in its Terms of Reference, are reviewed annually taking into account relevant regulatory changes and recommended best practice. The key responsibilities of the AC include, but are not limited to:

Risk Management and Internal Control

- evaluating the effectiveness of the system of risk management and internal control;

Financial Reporting

- reviewing the integrity of the financial statements, including annual reports, half-year reports, and quarterly financial statements;
- reviewing the potential impacts on the consolidated financial statements of the implementation of the Company's strategy, climate change and the energy transition;
- advising the Board whether, in the AC's view, the Annual Report taken as a whole is fair, balanced and understandable and provides the information necessary for shareholders to assess the Company's position and performance, business model and strategy;
- reviewing and discussing with management the appropriateness of judgements involving the application of accounting principles and disclosure rules;

Compliance and Governance

- reviewing the functioning of the Shell Global Helpline and reports arising from its operation;
- overseeing compliance with applicable legal and regulatory requirements, including monitoring ethics and compliance risks;

Internal Audit

- monitoring the qualifications, expertise, resources and independence of the internal audit function;
- approving the internal audit function's remit and the annual internal audit plan to ensure alignment with the key risks of the business;
- reviewing the significant matters arising from internal audits with the Chief Internal Auditor and assessing management's response to significant internal audit findings and notable control weaknesses. This includes discussing with management potential improvements and agreed actions;
- assessing internal audit's performance and effectiveness each year;

External Audit

- reviewing and monitoring the qualifications, expertise, resources and independence and objectivity of the external auditor;
- considering the annual external audit plan and approving related remuneration, including fees for audit and non-audit services;
- assessing the performance and effectiveness of the external auditor and the audit process, including an assessment of the quality of the audit; and
- recommending to the Board for it to put to the Company's shareholders for approval at the Annual General Meeting (AGM) to appoint, reappoint, or remove the external auditor.

Audit Committee Report

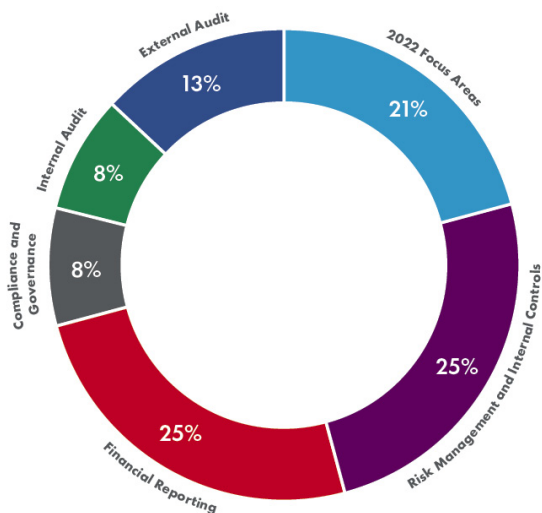
These responsibilities form the basis of the AC’s annual work plan, which is adjusted as necessary throughout the year. In addition, the AC annually identifies certain business and function areas to focus on during that year. The focus areas generally encompass aspects of risk management and internal control, financial reporting and compliance. The AC is authorised to seek any information it requires from management and external parties and to investigate issues or concerns as it deems appropriate. The AC may also obtain independent professional advice at the Company’s expense. No such independent advice was requested in 2022.

The AC keeps the Board informed of its activities and recommendations, and the Chair of the AC provides an update to the Board after every AC meeting. The AC discusses with the Board if it is not satisfied with or believes that action or improvement is required concerning any aspect of financial reporting, risk management and internal control, compliance or audit-related activities.

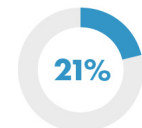
A copy of the AC’s Terms of Reference can be found at www.shell.com.

AC topic coverage in 2022

The pie chart below shows the percentage of time the AC spent on various activities during 2022.



Focus areas for 2022



of AC time and activities

The AC met with senior leaders from various business and function areas to discuss the adequacy, design and operational effectiveness of risk management and controls related to the critical activities carried out by their respective business or function. The discussions included information on any enhancements to strengthen controls and how areas identified for improvement had been addressed; the monitoring of activities around key risks; and the steps being taken to identify new or emerging areas of risk.

In addition to the significant accounting and reporting considerations discussed on page 160 the business and function areas reviewed by the AC in 2022 included the following:

- Impact of Russia’s invasion of Ukraine and Shell’s announced withdrawal from Russian oil and gas activities - Management and the AC discussed the management of the crisis including the establishment of the Group Crisis Team which was set up to assess the situation, consider potential scenarios of how events could develop and co-ordinate Shell’s responses. The AC reviewed management’s approach to impairments of Russian assets; the potential total carrying value of all exposures to Russia (including Russian assets, obligations related to Russia (e.g. taxes and/or royalties due) and credit exposures related to the Group’s Russian activities); contracts; insurance implications; and sanctions. Throughout the year, the AC and management discussed the actions taken and their impacts. The AC also reviewed disclosures in relation to the situation, including the notes to the quarterly and year-end results announcements.
- Non-operated ventures (NOVs) controls and governance - Management provided the AC with an overview of the strategic decisions for when management decides to utilise a NOV structure; the population of NOVs by size; which NOVs had adopted Shell’s control framework or implemented scalable control frameworks and the associated risks for those NOVs that have yet to adopt or implement such controls; and a self-assessment tool used to assess risks and the compliance status of NOVs. Management and the AC also discussed the pace of NOVs in progressing the energy transition and their approach to risk management.

Focus areas for 2022 continued

- Climate change and energy transition, including impacts on financial statements as well as relevant sustainability and non-financial reporting and other regulatory developments – the AC was regularly updated in relation to developments and their potential implications for Shell including in relation to sustainability-related financial reporting standards, the TCFD guidance, the UK government's response to the Department for Business, Energy & Industrial Strategy (BEIS) "Restoring trust in audit and corporate governance" consultation and the FRC consultation on minimum standards for audit committees.
- Carbon management, including GHG reporting and assurance framework – the AC was provided with an update in relation to the Carbon Management Framework (CMF) and the Carbon Reporting Committee (CRC). The role of the CMF is to ensure that targets are achievable, have assurance and that performance can be measured. The purpose of the CRC is to ensure that GHG emissions targets, including both absolute emissions and carbon intensity and associated financial metrics, comply with legal and regulatory requirements and that data is timely, complete and accurate. The CRC focuses on methodology, standards, processes and assurance. Management provided the AC with an overview of processes, systems and assurances in relation to Scope 1, 2 and 3 emissions. The AC and Management also discussed potential future regulatory assurance requirements for the financial statements.
- Resegmentation – the AC reviewed the appropriateness of the financial disclosure improvements made during the first quarter of 2022 including disclosures of the Renewables and Energy Solutions business following resegmentation and further transparency through the split of downstream businesses into Marketing and Chemicals and Products.
- Trading and Supply – the AC was provided with a number of updates in relation to Trading and Supply activities, particularly in the light of market volatility. The AC also visited the trading floor in London during which the AC members received a number of briefings, including in relation to the trading platforms used by the Trading and Supply team and an overview of gas storage management during 2022.
- Introduction and implementation of windfall taxes such as the EU solidarity contribution and the Energy Profits Levy in the UK – the AC was provided with updates in relation to this topic and also reviewed the disclosures in the financial statements.

Site visits

During the year, AC members visited Shell Recharge Fulham Road, Shell's first UK all-electric-vehicle charging hub and the AC also conducted a site visit to the London trading floor. As part of Board Strategy Days, AC members also visited Singapore in June 2022 (see Board Strategy Days on page 139). During 2023, the AC plan to visit a number of operations in the USA.

Site visits are a welcome addition to the AC's annual work plan, as they provide the opportunity for the AC to gain a deeper understanding of the various businesses and functions at each location, the local external environment within which those activities take place and how they contribute to Shell achieving its strategic ambitions. In addition to in-depth examinations of specific business areas, site visits enable the AC members to interact with a diverse group of staff and learn about their experiences, challenges they face and their opportunities for career development. The AC is also briefed on the impact of the energy transition at a local level, how risks associated with climate change are managed, and the results of the Shell People Survey.

Risk Management and Internal Control



of AC time and activities

The AC assists the Board in fulfilling its responsibilities in relation to risk management and internal control. In order to monitor the effectiveness of the procedures for internal control over financial reporting, compliance and operational matters, the AC reviews reports on risks, controls and assurance, including the annual assessment of the system of risk management and internal control. This annual assessment includes the AC's review of outcomes from the Group Assurance Letter process. The Group Assurance Letter process involves each Executive Director conducting a structured internal assessment of compliance with legal and ethical requirements and the Shell Control Framework. The AC also reviews the Company's evaluation of the internal control over financial reporting as required under Section 404 of the Sarbanes-Oxley Act (SOX 404). The AC updated the Board on compliance with internal controls across the Shell Group and on any major matters for which action or improvement was recommended.

Activities performed	Frequency
Risk Management and Internal Control	
Review the policies and practices and monitor the effectiveness relating to Shell's risk management and internal control system.	P
Receive briefings on regulatory developments.	P
Review management's SOX 404 assessment.	A
Discuss significant matters arising from completed internal audits with the Chief Internal Auditor, management and the external auditors.	Q
Assess management's responses to significant audit findings, recommendations and notable control weaknesses, including potential improvements and agreed actions.	P
Review significant legal matters with Shell's Legal Director.	Q
Review the oil and gas reserves control framework.	A
Review Shell's information risk management.	P
Review Shell's tax function, key tax risks and Shell's approach to the evolving area of tax transparency.	P

A = Annually, Q = Quarterly, P = Periodically

Throughout the year, the AC and management discuss Shell's overall approach to risk management and internal control, including compliance, tax, and information risk management matters and the adequacy of disclosure controls and procedures. The AC receives regular reports from the EVP Taxation and Controller (EVP Controller with effect from October 1, 2022) on the status of actions to address control weaknesses identified via business control incidents and the trends in other measures used to monitor the robustness of the risk management framework and internal control systems.

The AC is also briefed on litigation matters (see "Governance" on page 199 and Note 31 to the "Consolidated Financial Statements" on page 283).

The AC regularly reviews the status of management's SOX 404 testing of controls and remediation actions to address any identified weaknesses. For 2022, these reviews included consideration of how the volatile external environment, including the impacts of the Russian invasion of Ukraine, affected the controls and assurance landscape, including the financial reporting process. The AC and management discussed the steps taken to maintain an effective control environment,

to demonstrate "management in control" during the year and to address any new or emerging risks due to hybrid working. The AC was also briefed on how management was monitoring and addressing any continuing impacts on the control environment from the organisational restructuring from Reshape.

It is important that the AC monitor and learn about evolving external developments in a timely fashion. Accordingly, the AC is regularly briefed on developments in the legal, regulatory and financial reporting landscape that could affect the Company.

In 2022, the AC dedicated time to the following topics:

- Tax risks – In addition to the regular review of Shell's tax provisions, the AC and management discussed the tax implications stemming from the Simplification that took place in early 2022. Management also briefed the AC regarding developments in the external tax landscape, including the new windfall and minimum taxes and different types of taxes when entering new markets and businesses. Management outlined for the AC the steps being taken to manage tax risks and exposures arising from differing viewpoints on complex tax laws. The AC and management discussed proposed changes to Shell's "approach to tax" which were being made to align with Shell's Powering Progress strategy and Simplification.
- Information risk management – The Chief Information Officer briefed the AC on the various actions under way to strengthen Shell's IT systems and cyber-security framework in response to the changing risk landscape and diverse forms of external threats observed. The AC and management discussed the use of dashboards in monitoring assets and compliance and enabling the deployment of actions when required. The AC and management discussed tracking of projects, including the utilisation of clear milestones and value assessments as projects develop. The AC and management also considered the impact of Russia's invasion of Ukraine and Shell's announced withdrawal from Russian oil and gas activities from an information risk management perspective, including the separation of information systems from Russia and monitoring of cyber-security risk.
- Oil and gas reserves control framework – The AC annually reviews the framework that supports Shell's internal reporting and external disclosures of oil and gas reserves. The AC also reviews the processes and controls that prevent and/or mitigate the risks of non-compliance with regulatory reporting requirements. This annual review of Shell's oil and gas reserves control framework supports the AC's review of Shell's reported proved oil and gas reserves discussed later in this report.

In addition to the above, the AC also had quarterly discussions with the Chief Internal Auditor regarding the Company's risk management and internal control system, significant matters arising from the internal audit assurance programme and management's response to significant audit findings and notable control weaknesses, including planned improvements and agreed actions.

The AC similarly holds discussions with EY on a quarterly basis regarding how risks to audit quality are addressed, key accounting and audit judgements, results from audit procedures and management's response to any significant audit findings and any material communications between EY and management.

Financial Reporting



of AC time and activities

The AC receives comprehensive reports from management and the external auditor on quarterly financial reporting, accounting policies and significant judgements and reporting matters.

Activities performed	Frequency
Financial Reporting	
Review Shell's accounting policies and practices, including compliance with accounting and reporting standards.	Q
Assess the appropriateness of key judgements and the interpretation and application of accounting principles.	Q
Review the potential impact on the consolidated financial statements of the implementation of the Company's strategy, climate change and the energy transition.	Q
Consider the integrity of the year-end financial statements and recommend to the Board whether the audited financial statements should be included in the annual and statutory reports.	A
Consider the integrity of the half-year report and quarterly financial statements.	Q
Review management's assessment of going concern and longer-term viability.	Q
Review Shell's policies with respect to earnings releases; financial and non-financial performance information and earnings guidance; and significant financial reporting matters.	Q
Review Shell's policies with respect to oil and gas reserves accounting and reporting including the outcome of the oil and gas reserves booking/debooking process.	A
Review the internal controls for financial reporting.	P
Advise the Board of the AC's view on whether, taken as a whole, the Annual Report is fair, balanced and understandable and provides the information necessary for shareholders to assess Shell's position and performance, business model and strategy.	A

A = Annually, Q = Quarterly, P = Periodically

The AC reviewed the Company's 2022 quarterly unaudited interim financial statements, half-year report, Annual Report and Form 20-F with management and the external auditor.

Shell uses alternative performance measures (APMs) to provide greater insights into its financial and operating results. The AC regularly considers the APMs used in Shell's reporting, the reconciliations to IFRS financial statements and explanations for changes from the previous quarter and year. The AC reviews the overall presentation of APMs with management to ensure they are not given undue prominence. The AC discusses adjusting items with management including any changes to methodology.

The APMs disclosed by Shell are subject to the same internal control process as applied for other financial reporting.

The AC discussed the audited financial statements with management and the external auditor. The AC advised the Board that in its view the 2022 Form 20-F including the financial statements for the year ended December 31, 2022, taken as a whole, provides the information necessary for shareholders to assess Shell's position and performance, business model and strategy. The AC also advised the Board that in its view, the inclusion of the audited financial statements in the 2022 Form 20-F is appropriate. To reach this conclusion, the AC critically assessed drafts of the 2022 Form 20-F including the financial statements and reviewed with management the process for ensuring compliance with applicable requirements. This process included: verifying that the contents of the 2022 Form 20-F are consistent with the information shared with the Board during the year to support their assessment of Shell's position and performance; ensuring that consistent materiality thresholds are applied for favourable and unfavourable items; considering comments from the external auditor; and receiving assurance from the Executive Committee (EC). The AC also reviewed and considered the Directors' half-year and full-year statements with respect to the going concern basis of accounting. The AC and the external auditor also discussed matters regarding the audit and the quality of the accounting judgements employed by management.

Financial Reporting continued

Significant accounting and reporting considerations

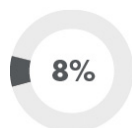
The AC assessed the following significant accounting and reporting areas, including those related to Shell's 2022 Consolidated Financial Statements. The AC was satisfied with how each of the areas below was addressed. As part of this assessment, the AC received reports, requested and received clarifications from management, and sought assurance and received input from the internal and external auditors.

Issue	AC activity and outcome
Climate change and energy transition	
<p>Risks related to climate change and energy transition are continually monitored to ensure impacts are reflected within Shell's financial statements.</p> <p>The external landscape related to non-financial disclosures continues to change at unprecedented speed. In the absence of one global standard for climate-related reporting there are growing demands from various regulatory and voluntary bodies all with their own expectations for disclosures.</p>	<p>The AC was briefed on key regulatory requirements including (but not limited to) the FRC, SEC and EU disclosure requirements and their implications for Shell's external disclosures. The AC also received an update on the outcome of management's engagement with Sarasin & Partners and Carbon Tracker.</p> <p>The AC reviewed Note 4 to the Consolidated Financial Statements summarising the key climate risks impacts on the Consolidated Financial Statements as well as the impairment sensitivity disclosures using price outlooks based on different climate change scenarios, including external scenarios.</p> <p>See Note 4 to the "Consolidated Financial Statements" on pages 230-240.</p> <p>The AC was briefed on the non-financial reporting external landscape developments and regulatory requirements. In this connection, the AC considered the potential implications required for Shell's external disclosures going forward. The AC reviewed the TCFD disclosure in the "Our journey to net zero" section and other non-financial disclosures as part of the Annual Report review and was briefed on the EU taxonomy voluntary disclosures included as supplementary information to the Annual Report.</p> <p>Updates regarding climate change and energy transition have been included in the risk factors section on page 22.</p>
Resegmentation and improved financial disclosures	
<p>In line with IFRS 8 - Operating Segments and the Powering Progress strategy, Shell's reporting segments were revised from the first quarter of 2022.</p> <p>To further improve the quality of insights provided by Shell's financial disclosures, improvements were made during the year, for example enhanced data disclosures and APMs.</p>	<p>The AC received updates on the implementation readiness, including restatement of prior period comparatives and assurance activities performed over the resegmentation prior to the publication of the first quarter 2022 quarterly results announcement.</p> <p>The AC undertook its regular monitoring and assessment in the use of APMs, for example Adjusted Earnings (including identified items during the quarters), Adjusted EBITDA, CFFO excluding working capital, and Net debt and Gearing.</p> <p>The AC reviewed the appropriateness of the financial disclosure improvements made during the first quarter 2022 including the changes to the Management Discussion & Analysis in the quarterly results announcement (QRA) and the enhanced disclosures in the Quarterly Data Book, for example the separate disclosure of the Renewables and Energy Solutions business following resegmentation and further transparency through the split of downstream businesses into Marketing and Chemicals and Products.</p>
Withdrawal from Russian oil and gas activities	
<p>Following Russia's invasion of Ukraine, Shell announced its intent to withdraw from: its ventures in Russia; service stations and lubricant operations; and involvement in all Russian hydrocarbons.</p> <p>The diverse nature of the Russian activities, including consolidated subsidiaries, proportionally consolidated ventures, equity-accounted ventures, long-term loans, vessel leases, and offtake contracts, required an in-depth review to determine the accounting and reporting implications.</p>	<p>In the first quarter of 2022, management provided the AC with a detailed analysis of the different accounting and reporting implications for each business and asset in Russia. The AC reviewed the disclosure note in the first quarter 2022 QRA which included comprehensive disclosures on individual assets and the associated pre-tax charges recognised in the first quarter results.</p> <p>In each subsequent QRA during 2022, the disclosure note was updated for changes in the respective periods and was included in the quarterly results announcements.</p> <p>The AC has continued to receive updates on the withdrawal from Russian oil and gas activities throughout 2022 including remaining assets at risk and the implications for the interim financial statements.</p> <p>See Note 6 to the "Consolidated Financial Statements" on pages 242-244.</p>
Taxation	
<p>The determination of tax assets and liabilities requires the application of judgement as to the ultimate outcome, which can change over time. In particular, uncertain tax treatments require management to assess the more likely than not outcome, and the recognition of deferred tax assets require management to make assumptions regarding future profitability. As a result, they are inherently uncertain.</p>	<p>The AC considered the uncertain tax positions and discussed management's assumptions of future taxable profits. The AC also evaluated the appropriateness of the recognition of deferred tax assets and tax liabilities. The AC recognises that assumptions regarding future taxable profits are inherently uncertain because they involve assessing factors such as the potential impacts of climate change and energy transition. The AC deemed the assessments of uncertain tax exposures and the recognition of deferred tax assets and tax liabilities to be reasonable. The AC also assessed the accounting judgements made regarding the treatment of tax provision releases relating to Nigeria.</p> <p>The AC also reviewed the impact on tax balances and disclosures as a result of new windfall and minimum taxes around the world, in particular those related to the EU solidarity contribution and the Energy Profits Levy in the UK.</p> <p>See Notes 2 and 22 to the "Consolidated Financial Statements" on pages 220-230 and 263-265.</p>

Financial Reporting continued

Issue	AC activity and outcome
<p>Gas & Power markets and derivatives accounting</p> <p>External events during the year, such as the Russian war in Ukraine and uncertainties over Russian gas supplies, have seen unprecedented movements in gas and power markets during 2022 affecting trading activities. The impacts on financial outcomes of Integrated Gas and Renewable and Energy Solutions included, for example, significant derivatives movements.</p>	<p>The AC was briefed on Trading and Supply activities and developments. The AC reviewed the impacts of volatile gas and power markets including the impact on mark-to-market valuation of derivatives, IFRS and Adjusted Earnings, as well as the resulting cash flow movements.</p> <p>See Note 25 to the "Consolidated Financial Statements" on pages 273-279.</p>
<p>Impairment and impairment reversals</p> <p>The carrying amount of an asset should be tested for impairment or impairment reversal whenever events or changes in circumstances indicate that the carrying amount for that asset may have changed, for example if there is a change in the outlook for commodity prices or refining margin assumptions, or in the event of revisions to future activity plans and developments. On classification as held for sale, the carrying amounts of property, plant and equipment (PP&E) and intangible assets must also be reviewed.</p>	<p>The AC reviewed the impairment assessments that were performed each quarter, and the methodology applied in conducting impairment assessments.</p> <p>The AC considered the updated oil and gas price outlooks against market developments and benchmarks. The 2022 commodity price outlook was reassessed and triggered an impairment reversal review in the second quarter 2022. The AC reviewed the outcomes of the review and the resulting impairment reversals which have been recognised in the 2022 Consolidated Financial Statements.</p> <p>The AC also reviewed other impairment triggers, including for exploration an evaluation assets and held-for-sale classification for asset disposals, and the impairment of goodwill, including for new acquisitions.</p> <p>The AC review of impairments covered a significant proportion of the balance sheet.</p> <p>See Notes 2, 11, 12 and 13 to the "Consolidated Financial Statements" on pages 220-230, 250-251, 251-254 and 255.</p>
<p>Portfolio activities</p> <p>In implementing the Powering Progress strategy, several portfolio developments occurred in 2022.</p>	<p>The AC discussed the accounting implications of these developments and the recognition of: (i) decommissioning and restoration provisions; (ii) deferred tax balances; (iii) impairment; and (iv) assets held for sale. The AC also considered the complex accounting treatments, including the Savion and Fulcrum acquisitions. The AC provided support for projects to develop detailed accounting guidance for these types of transaction.</p> <p>See Notes 2 and 24 to the "Consolidated Financial Statements" on pages 220-230 and 272-273.</p>
<p>Provisions</p> <p>Provisions, including decommissioning and restoration provisions, are one of the main components of the balance sheet liabilities. The quantification of these provisions requires judgements on input parameters which include, but are not limited to, discount rates and estimated future decommissioning and restoration costs.</p>	<p>The AC was briefed on provisions throughout the year, including onerous contracts and litigation. The AC also reviewed the input parameter assumptions and judgements used in arriving at the decommissioning and restoration provisions.</p> <p>The discount rate is reviewed regularly and the AC considered the change in discount rate to be applied from September 30, 2022. The impact of the change in discount rate on non-current decommissioning and other provisions was disclosed in the Q3 2022 QRA.</p>
<p>Retirement benefit obligations</p> <p>Retirement benefits are an important component of both assets and liabilities on the balance sheet. The quantification of these assets and liabilities requires judgements on input parameters which include, but are not limited to, actuarial assumptions and discount rates.</p>	<p>The AC was briefed on the management of risks in relation to retirement benefits in 2022, including financial, operational, and regulatory developments. The AC reviewed the key assumptions (including discount rates and inflation) and sensitivities as part of the Annual Report review and the enhanced disclosures made in this Report.</p> <p>See Note 23 to the "Consolidated Financial Statements" on pages 265-271.</p>
<p>Other matters</p> <p>The AC reviewed: the year-end reported proved oil and gas reserves, including management judgements and adjustments made to reflect changes in geological, technical, contractual and economic information (including yearly average price assumptions) and the effectiveness of financial controls.</p>	

Compliance and Governance



of AC time and activities

Activities performed	Frequency
Compliance and Governance	
Monitor the receipt, retention, investigation and follow-up actions of complaints received, including those from the Shell Global Helpline.	P
Review with the Chief Ethics and Compliance Officer the implementation and effectiveness of the ethics and compliance programme and function.	A
Consider compliance with applicable external legal and regulatory requirements.	P
Perform an evaluation of the AC's performance and effectiveness and report the results to the Board.	A
Review and, if required, update the AC's Terms of Reference.	A
Review the Chief Financial Officer's significant business and investment transactions for potential conflicts or related party transactions.	A
Assess the Chief Financial Officer's performance.	A

A = Annually, Q = Quarterly, P = Periodically

Ethics and compliance

In 2022, the AC received an update from the Chief Ethics and Compliance Officer on how a range of macro factors and external trends and developments, including Russia's invasion of Ukraine, were affecting conduct risk at Shell. The Chief Ethics and Compliance Officer summarised the specific emerging ethics and compliance risks, with a particular focus on trade compliance and data privacy, and management's actions to manage and mitigate them. The Chief Ethics and Compliance Officer briefed the AC on communications to staff from both senior leaders and mid-level management reinforcing the importance of adherence to and affirming Shell's commitment to the Ethics and Compliance framework and Code of Conduct throughout the year.

As part of the annual assessment of the system of risk management and internal control, the AC discussed with the Chief Ethics and Compliance Officer his annual report on compliance matters. The report included an overview of the effectiveness of the Shell ethics and compliance programme in managing ethics and compliance risk in Shell's business activities, regulatory developments and compliance activities. The AC also reviewed investigations of cases involving ethics and compliance concerns. The AC discussed management's findings in such cases to satisfy itself that a rigorous process had been followed, with appropriate disciplinary action being taken where necessary, and that management had embedded learnings into Shell's systems and controls.

Whistleblowing investigations

The AC is responsible for establishing and monitoring the implementation of procedures for the receipt, retention, investigation and follow-up actions of complaints received, including those from the Shell Global Helpline. The AC reviewed whistleblowing reports and internal audit reports and considered management's responses to the findings in these reports. In 2022, 1,790 allegations and inquiries were received through the Shell Global Helpline (2021: 1,479), of which approximately 41% were submitted anonymously (2021: 42%). In 2022, a total of 412 investigations were closed (2021: 369), of which 44% were found to have some level of substantiation (2021: 49%) and were primarily in the areas involving harassment, conflicts of interest and protection of assets.

Regulatory developments

The AC was briefed on regulatory developments in areas including sustainability and climate-related disclosures (in particular management's responses to proposals from the International Sustainability Standards Board and the US Securities Exchange Commission in this area and FRC/EU disclosure requirements); the UK government's response to the consultation on strengthening the UK's audit, corporate reporting and corporate governance systems, and potential implications for the Company, the Board and the AC; accounting and reporting; environmental liabilities; and treasury activities.

AC annual evaluation

The AC undertakes an annual evaluation of its performance and effectiveness. Consistent with the requirements of the UK Corporate Governance Code, the performance evaluation was externally facilitated in 2022, and an overview of the evaluation process and the feedback themes for the Committees can be found on page 153. It was concluded that the AC's performance in 2022 had been effective and that the AC had fulfilled its role in accordance with its Terms of Reference.

In preparing its work plan for 2023, the AC has included the following focus areas in addition to the standing items: risk management, including cyber security; regulatory developments, mainly those in relation to climate change and energy transition; Trading and Supply; and the Shell Performance Framework. As noted earlier, the AC also plans to visit a number of operations in the USA in 2023.

Internal Audit



of AC time and activities

Activities performed	Frequency
Internal Audit	
Evaluate the quality, efficiency and effectiveness of the internal audit function including the competence, qualifications, expertise, compensation and budget.	A
Review and approve the internal audit function's remit, charter and audit plan.	A
Assess the performance of the Chief Internal Auditor.	A

A = Annually, Q = Quarterly, P = Periodically

Each quarter, the AC discusses with the Chief Internal Auditor the Company's risk management and internal control system, any significant matters arising from the internal audit assurance programme and management's response to significant audit findings and notable control weaknesses including planned improvements and agreed actions. The AC also regularly holds private sessions separately with the Chief Internal Auditor without members of management, except for the Legal Director, being present. The AC's time for these activities is included in Risk Management and Internal Control described earlier in this report. Outside of the formal AC meetings, the Chair of the AC meets regularly with the Chief Internal Auditor.

Internal audit remit

The internal audit function is an independent assurance function which supports Shell's continuous efforts to improve its overall control framework. The internal audit function contributes to the maintenance of a systematic and disciplined approach to evaluate and improve the design and effectiveness of Shell's risk management, and control and governance processes. The primary role of the internal audit function's assurance and investigation activities is to safeguard value by protecting Shell's assets, reputation and sustainability in relation to the organisation's defined goals and objectives.

The AC defines the responsibility and scope of the internal audit function and approves its annual plan. The Chief Internal Auditor reports functionally to the Chair of the AC and administratively to the Chief Financial Officer. The Chair of the AC approves, in consultation with the Chief Financial Officer, all decisions regarding the performance evaluation, appointment or removal of the Chief Internal Auditor.

Annual internal audit plan and assessment of internal audit's effectiveness

The AC considered and approved the internal audit function's annual audit plan, including focus areas for 2022 consisting of:

- talent and capability (professional audit development and technical capabilities);
- quality (developing first-line staff competence and clarity on self-verification and supervisory controls);
- alignment (improved integration of risk management and alignment of assurance processes across Shell); and
- engagement (mainly in the area of keeping staff and Shell stakeholders engaged and informed on effective risk management and internal control).

Beginning August 2021, audits of the Health, Safety, Security, Environment and Social Performance (HSSE & SP) Control Framework were added to internal audit's remit, creating a unified internal audit function. The Chief Internal Auditor updated the AC quarterly on the approved 2022 internal audit plan and discussed whether the plan remained fit for purpose in addressing the most critical areas of risk in a year of transition. The AC assessed the performance of the internal audit function as effective. The AC also assessed the performance of the Chief Internal Auditor as effective.

The Chief Internal Auditor periodically assesses whether the purpose, authority and responsibilities of the internal audit function continue to enable it to accomplish its objectives. The results of this periodic assessment are communicated to the EC and AC. The Chief Internal Auditor also confirms to the AC the continued validity of the charter of the internal audit function or puts forward proposals for updates to it. The Chief Internal Auditor maintains an internal quality assurance and improvement programme, including an annual assessment of the effectiveness and efficiency of the internal audit function's activities and evaluations of conformance with the standards of the Chartered Institute of Internal Auditors (CIIA). The Chief Internal Auditor discusses the results of this annual assessment with the EC and AC. At least every five years, the effectiveness and quality of the internal audit function are independently assessed externally, and the Chief Internal Auditor reviews the report with the EC and the AC. An independent assessment of the internal audit was conducted at the end of 2022, following up on the previous review in 2018. The assessment confirmed that the internal audit conforms with the CIIA standards and the 2020 Internal Audit code of practice. Strengths were highlighted with respect to the clarity on management ownership of the actions in response to the audit findings, and the integration of learning and improvement into the scope of effective risk management and internal control. Opportunities to further improve were identified with respect to efficient quality assurance and having clarity on the internal audit strategic roadmap, how it links to Powering Progress and the plan for technology, skills and staffing. The roadmap will be discussed with the EC and AC during 2023.

External Auditor



of AC time and activities

Activities performed	Frequency
External Audit	
Review and approve the engagement letter for EY's annual audit of the Company's consolidated and parent company financial statements.	A
Approve the remuneration for audit and non-audit services, including pre-approval of permissible non-audit services.	Q
Consider the annual external audit plan and monitor the execution and results of the audit.	P
Monitor the qualifications, expertise, resources and independence of EY.	A
Review the Company's representation letter prior to signing by management.	A
Assess the performance, objectivity and effectiveness of EY, the audit process, the quality of the audit, EY's handling of key judgements, and EY's response to questions from the AC.	P
Recommend to the Board that the reappointment of the external auditor be put to the Company's shareholders for approval at the AGM.	A

A = Annually, Q = Quarterly, P = Periodically

Annual external audit plan and assessment of external audit's effectiveness
EY reviewed with the AC its audit strategy, scope and plan for the 2022 audit, highlighting any areas which would receive special consideration. In particular, the AC and EY discussed how the audit would take into consideration risks associated with:

- Trading and Supply deal complexity;
- Revenue recognition (unauthorised trading and risk of fraud or management override);
- Climate change considerations;
- Russia;
- Oil and gas reserves;
- Renewables and Energy Solutions;
- Exploration assets; and
- Compliance with laws and regulations.

EY defines significant audit risks as those areas where there is a higher likelihood of a material error and therefore require special audit attention. In EY's view, the significant audit risks are Trading and Supply complexity and the risk of unauthorised trading or management override.

The AC considered the annual audit plan, which included assessing whether the planned materiality levels and proposed resources to execute the audit plan were consistent with the scope of the audit, particularly in light of the Russian invasion of Ukraine. During the year, EY provided regular updates to the AC on the envisaged separation of its businesses into two multidisciplinary organisations. EY provided assurances that it would be able to continue to perform a high-quality audit should the split of businesses proceed.

EY regularly updated the AC on the status of its procedures and preliminary findings, providing an opportunity for the AC to monitor the execution and results of the audit. The AC and EY discussed how risks to audit quality were addressed, key accounting and audit judgements,

material communications between EY and management and any issues arising from them. At least quarterly, the AC met privately with EY representatives without management being present in order to encourage open and transparent feedback from both parties. In addition, the Chair of the AC meets separately with the external auditor on a regular basis.

As part of its oversight of the external auditor, the AC annually assesses the performance and effectiveness of the external auditor and the audit process. This includes assessing the quality of the audit, how the auditor handled key judgements, and the auditor's response to the AC's questions. The assessment also involves the AC evaluating the objectivity and independence of EY and the quality and effectiveness of the external audit process.

The AC's evaluation of the performance and effectiveness of the external auditor and the audit process includes the following key criteria:

- professionalism, competence, integrity and objectivity during the audit, including handling of areas involving judgement and estimates;
- EY's quality assurance procedures and internal quality control procedures;
- audit quality priorities and actions taken as part of maintaining a sustainable audit quality programme;
- constructive challenge of management and key judgements;
- efficiency, covering aspects such as service level and innovation in the audit process, use of data analytical and digital audit tools, and opportunities for improvement;
- quality of the audit team's leadership;
- the most recent EY Transparency Report;
- thought leadership and actions, especially in the areas of climate change; and
- compliance with relevant legislative, regulatory and professional requirements.

In addition to reflecting on its own experiences, including interactions with the external auditor throughout the year, the AC considered and discussed the results of management's internal survey relating to EY's performance over the financial year 2022, which reflected a broadly comparable performance to 2021 and the views and recommendations from management and the Chief Internal Auditor.

Taking into account the above, the AC is satisfied that EY continued to provide a high-quality and effective audit in its seventh year as auditor and maintained its objectivity, integrity and impartiality. As required under UK and US auditing standards, the AC received a letter on independence related matters from EY. EY also informed the AC in writing of any significant relationships and matters that may reasonably be thought to affect its objectivity and independence. The AC and EY discussed such relationships and matters and determined that they did not impair EY's objectivity, integrity and impartiality.

During 2022, there was no review of EY's audits of Shell's Consolidated Financial Statements by the Audit Quality Review (AQR) team of the FRC.

External Auditor continued

Reappointment

The AC is responsible for considering whether there should be a rotation of the independent registered public accounting firm in order to ensure continuing auditor quality and/or independence, including consideration of the advisability and potential impact of conducting a tender process for the appointment of a different independent public accounting firm. The AC is also responsible for recommending to the Board whether it should ask the Company's shareholders to appoint, reappoint or remove the external auditor at the AGM.

At the AGM in May 2022, the shareholders approved a resolution to reappoint EY as external auditor until the conclusion of the next AGM. EY was first appointed at the AGM in May 2016 after a competitive tender process. This means that 2022 represents EY's seventh year as the Company's external auditor. Under UK legal requirements, the Company may retain EY as its external auditor for 20 years. For the 2022 financial year, the Company has complied with The Statutory Audit Services for Large Companies Market Investigation (Mandatory Use of Competitive Tender Processes and Audit Committee Responsibilities) Order 2014.

In its oversight of the external audit, the AC considered whether it would be appropriate to conduct an audit tender at this time.

The AC took into account:

- its continued satisfaction with the quality and independence of EY's audit;
- any new external auditor would need a transition period to develop sufficient understanding of the business given Shell's size and complexity;
- frequent changes of external auditor would be inefficient and could lead to increased risk and the loss of cumulative knowledge;
- a change in auditor would be expected to have a significant impact on Shell, including on the Finance function; and
- any change in auditor should be scheduled to limit operational disruption.

The AC also considered EY's leadership and activities in the area of climate change.

After due consideration the AC determined that it would not be appropriate to re-tender for the external audit at this time. The AC has recommended to the Board that at the 2023 AGM the Board should propose that EY be reappointed as the external auditor of the Company for the year ending December 31, 2023. The AC's recommendation is free from third-party influence and there are no contractual obligations that restrict the AC's ability to make such a recommendation.

The AC acknowledges the UK legal requirements relating to mandatory audit rotation (maximum 20-year engagement) and audit tendering under which the Company will be required to tender for the audit no later than the financial year 2026. The AC regularly reviews auditor performance and may decide to conduct the tender earlier than the financial year 2026 if it considers this to be in the interests of the Company's shareholders.

Non-audit services

The AC maintains an auditor independence policy (AIP) in respect of the provision of services by the external auditor. Under the AIP, the AC will only approve services to be carried out by the external auditor or its affiliates where such services do not present a conflict of interest risk in fact or in appearance. The AC regularly reviews this policy for necessary changes in response to changes in related standards and regulatory requirements.

This policy is designed to safeguard auditor objectivity and independence. It addresses the provision of audit services, audit-related services and other non-audit services and stipulates which services require specific prior approval by the AC.

The policy also defines prohibited services in line with applicable rules and regulations. Our external auditors are not allowed to provide prohibited services due to independence concerns. For certain non-prohibited services, because of the knowledge and experience of the external auditor and/or for reasons of confidentiality, it may be more efficient or prudent for the external auditor to provide such services.

The AC reviews quarterly reports from management on the audit and non-audit services reported in accordance with the policy or for which specific prior approval from the AC is being sought. Under the AIP, no prior approval by the AC is required for any additional audit service contract not individually exceeding \$500,000. All non-audit services where the fee for an individual contract exceeds \$100,000, including audit-related services, require individual prior approval by the AC. For audit or non-audit service contracts that do not exceed the relevant threshold, the matter is approved by management by delegated authority from the AC and is subsequently presented for approval by the AC at the next quarterly AC meeting. The AC is mindful of the overall proportion of fees for audit and non-audit services in determining whether to approve such services.

Fees

After due consideration, the AC approved the auditor's remuneration, satisfying itself that the level of fees payable in respect of the audit and non-audit services provided was appropriate and that an effective, high-quality audit could be conducted for such fees.

The total auditor's remuneration of \$69 million (2021: \$63 million, 2020: \$58 million) is categorised as follows: audit \$65 million (2021: 59 million, 2020: \$56 million); audit-related \$3 million (2021: \$3 million, 2020: \$nil.); and all other fees \$1 million (2021: \$1 million, 2020: \$2 million).

The scope of audit-related services contracted with the external auditor in 2022 consisted mainly of assurance and other attest services related to financial reporting.

‘2022 has been a year full of challenge, but also of significant financial, operational and strategic achievements.’

This Report

This Directors' Remuneration Report for 2022 has been prepared in accordance with relevant UK corporate governance and legal requirements, in particular Schedule 8 of The Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 (as amended). The Board has approved this report.

This report consists of two further sections:

- the Annual Report on Remuneration (describing 2022 remuneration and the planned implementation of the Directors' Remuneration Policy (Policy) in 2023); and
- the Policy, which is subject to a binding shareholder vote at the 2023 AGM.



Neil Carson
Chair of the Remuneration Committee

Dear Shareholders,

Shell delivered a very strong set of financial results in 2022, with income of \$43 billion and record Adjusted Earnings of \$40 billion, and generated more than \$68 billion of cash flow from operations (CFFO) and \$46 billion of free cash flow (FCF). This level of financial performance undoubtedly reflects macro-environmental conditions, but is enabled by disciplined operational delivery and the ongoing work to create a resilient and profitable portfolio. From a shareholder perspective Shell has made almost \$26 billion of shareholder distributions for 2022 through dividends and share buybacks, including the increased fourth quarter 2022 dividend.

However, financial outcomes must be placed in a much wider context. Two of our contractor colleagues in Shell-operated ventures sadly died in the course of their work for Shell. We reflected on these incidents, as we always do, when we determined the final pay outcomes for 2022, as set out over the page.

Shell embraces the challenges and opportunities presented by the necessary transition of the world's energy system to a low-carbon future. We also seek to play our part in meeting today's energy needs against the backdrop of soaring energy demand as the world recovers from COVID-19 and the disruption caused by Russia's invasion of Ukraine. This has resulted in inflationary and cost-of-living pressures for many, particularly when it comes to the supply of energy, and has often had a significant impact on the most vulnerable members of society. The REMCO, therefore, has also paid close attention to the impact on a wide group of stakeholders of these events and factors, including:

- The response to the Russian invasion of Ukraine, with Shell announcing, in early March 2022, its intended withdrawal from its involvement in all Russian hydrocarbons, including crude oil, petroleum products, gas and liquefied natural gas (LNG). This is accompanied by the ongoing efforts to support our Ukrainian operations, employees and contractors;
- Shell's role in helping to ensure the security of energy supplies, as we build a resilient portfolio to address short- and long-term energy needs. In 2022, this included final investment decisions on the Jackdaw field in the UK, Rosmari-Marjoram in Sarawak, Malaysia, the Crux Field in Australia which will supply gas to Prelude (the floating LNG facility), and the North Field East expansion in Qatar. As the world's largest supplier of LNG, Shell continues to supply energy where it is needed most. Part of this was the announcement that Shell UK intends to invest £20-25 billion in the UK energy system over the next 10 years, subject to Board approval and a stable policy framework, to ensure the continuity of an energy supply that is affordable and secure. More than 75% of this is intended for low- and zero-carbon products and services, including offshore wind, hydrogen, carbon capture utilisation and storage (CCUS) and electric mobility;
- Initiatives to support customers and those in society facing fuel poverty; and
- The impact on Shell's employees, where alongside its usual evaluation of markers such as the UK diversity pay gap, the REMCO took particular note of the planned salary increases for 2023 for employees. The REMCO also noted the exceptional reward to employees in 2022, including the vesting of an extraordinary award of Shell shares made in June 2021 to the broader employee population to give them an equity stake in the delivery of the Powering Progress strategy and a one-off Special Recognition Award of 8% of salary to around 81,000 individual employees (excluding Executive Directors and the Executive Committee) globally. This was to recognise and thank them for their collective delivery through a challenging period to keep Shell running safely, reliably and profitably. The Special Recognition Award reflects management's desire to share Shell's success with employees, as well as shareholders.

Directors' Remuneration Report continued

On April 1, 2022, Sinead Gorman succeeded Jessica Uhl as CFO as part of an accelerated management succession process. This was because a long-term relocation from the Netherlands to the UK was unsustainable for Jessica Uhl on account of family circumstances. On January 1, 2023, Wael Sawan succeeded Ben van Beurden as CEO. This was a proactively managed succession that enabled Shell to appoint a new CEO with the proven acumen and experience to guide us through the next stage of our energy transition journey. See page 129 for further details of the Executive Director changes, the incoming Directors' remuneration packages, and the treatment of the outgoing Directors' remuneration.

At the May 2023 Annual General Meeting (AGM) shareholders will have the opportunity to vote on the revised Directors' Remuneration Policy (Policy). The REMCO has spent much time over the past year reviewing the Policy. Our conclusion is that, on the whole, the Policy is robust and well aligned with best governance practice. However, we are proposing a small number of changes to maintain that strong governance framework and support the delivery of our Powering Progress strategy. In this report, I share the REMCO's thinking on a number of the key proposed developments. We will also be seeking shareholder approval for a revised Long-term Incentive Plan (LTIP) at the AGM. The revised plan remains largely unchanged from before, save for minor amendments to align with market practice. Further information is provided in the Notice of AGM.

2022 remuneration outcomes

2022 annual bonus

The overall mathematical outcome of the annual bonus scorecard was above target, at 1.46. The REMCO also paid close attention to the two fatalities which occurred in 2022. One contractor colleague in Nigeria died from injuries sustained during a fire incident. In Pakistan, a contractor colleague died during road transport activities under operational control of Shell. After reflecting on Shell's overall performance in 2022, and particularly on safety performance (see below), the REMCO decided not to use any discretion in determining the final outcome for Executive Directors. This brings our 10-year average scorecard outcome to 1.04.

The complete scorecard with all targets, ranges and weightings, and a detailed discussion of performance against targets are set out on page 175.

REMCO reflections on safety

Safety is Shell's number one priority and our Powering Progress strategy is underpinned by this. It is critical that our operations run safely every day and that we strive to ensure the well-being of all our people.

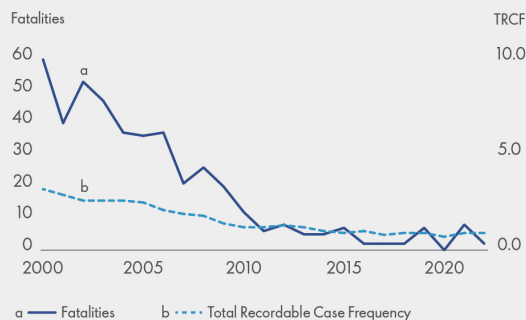
Shell uses Serious Injury and Fatality Frequency (SIF-F) as our scorecard measure for assessing personal safety performance. SIF-F tracks the frequency at which injuries with life-changing consequences occur under Shell operational control. We also assess process safety using the number of Tier 1 and 2 process safety events. This tracks the frequency of unplanned or uncontrolled releases of materials from Shell's operations.

Some shareholders have asked how we approach target-setting for the SIF-F metric. To be clear, our ultimate target is zero harm to people. As a business, we have made good progress in reducing the number of personal safety events over a long period of time, with reductions in the number of fatalities and injuries (see chart to the right).

REMCO reflections on safety continued

The REMCO believes the SIF-F metric is an important tool to help drive further improvement in safety and take us closer to our ultimate goal of zero harm. The metric focuses management and organisational attention on those incidents with the potential to cause most damage. To assess performance, the REMCO set clear performance ranges based on historic outcomes, our understanding of the industry and taking into account our planned activities for the year.

Personal safety performance 2000-2022



With both fatality incidents in 2022, the root causes have been identified as design and human factors while operating physical assets. These incidents continue to serve as a reminder of the need to always focus on safety and be aware of the gravity of impact when things do not go as planned. Notwithstanding these tragic incidents, the outcome on the safety-related performance metrics was strong in 2022.

In 2022, both the personal safety (SIF-F) and process safety (number of Tier 1 and 2 process safety events) was much better than expected. There were significant reductions in both the number of serious injuries and process safety events compared with Shell's performance in the previous year. Eight SIF events were recorded in 2022, down from 32 in 2021. There were 66 process safety events compared with 103 in the prior year. The REMCO also evaluated performance against external benchmarks, noting that performance had been strong against industry standards. For process safety, Shell reached top quartile compared to our industry peer group, in the third quarter of 2022, with lowest number of Tier 1 and 2 process safety events on record. Beyond the metrics, the REMCO also noted the ongoing work by management to embed the safety refresh in Shell assets and businesses. Shell's refreshed approach to safety, based on promoting a learner mindset through deeper understanding of human performance principles and destigmatising errors, is seen as a key contributor to improvement.

After careful consideration of Shell's holistic safety performance in 2022, including the two fatalities, the outcome of the formal metrics, Shell's long-term progress on safety, and management's work on the safety refresh, the REMCO determined not to make any adjustment to the scorecard outcome for safety.

Safety incidents that occur in 2023 will be assessed as part of the REMCO's considerations of performance outcomes for 2023.

Directors' Remuneration Report continued

Vesting of the 2020 LTIP awards

Overall, the mathematical outcome of the LTIP was 81%. For the avoidance of doubt, no LTIP targets were adjusted as a result of the COVID-19 pandemic or for any other reason. In addition, the REMCO was satisfied that no windfall gain had arisen. Further information is on page 176.

The REMCO believes the vesting outcome to be representative of Shell's performance over the period and that no adjustment was required. This brings the 10-year average vesting outcome to 87% of target. This is broadly aligned with our target grant, although there have been a number of high and low vesting outcomes over the last 10 years. The REMCO believes this illustrates the fundamental effectiveness of the LTIP and the close alignment between pay and performance that the structure has provided over time.

Full details of LTIP targets and weightings, and a discussion of performance against targets, are set out on page 176.

Finalising the 2022 pay outcomes

In finalising pay outcomes, the REMCO considered the wider performance of Shell and the broader context during 2022 and over the LTIP performance period, paying particular attention to:

- The strong financial performance in 2022, with more than \$68 billion of CFFO, including working capital, and \$46 billion of FCF generated in the year, which has enabled Shell to continue to pay down debt, and return \$26 billion to shareholders in the form of share buybacks and dividends;
- The ongoing work to transform Shell as part of the energy transition, including the completion of the simplification of the Shell Group with the assimilation of the A and B shares into a single class of shares effective as of January 29, 2022, and the ongoing work to strengthen and simplify the portfolio;

- Adjusted Earnings for 2022 was \$17 billion higher than for 2014, when the Brent price was similar, evidencing strong management performance in addition to price tailwinds;
- The shareholder experience, including total shareholder distributions over the LTIP performance period of \$44 billion, with almost \$26 billion for 2022 alone;
- Shareholders' views on remuneration, as shared with the REMCO during engagements in March and November 2022;
- The employee experience, where the REMCO noted the discretionary uplift applied to the 2021 bonus for below-Board employees, the vesting of the Powering Progress share award to all employees, the Special Recognition Award of 8% of salary made to employees below senior executive level in August in recognition of the contribution staff made to Shell's strong operational performance in a challenging period, the Group scorecard outcome of 1.46, and the Performance Share Plan, used to make discretionary share awards below senior executive level, which vested at 115% of target, and the average employee salary increases;
- The year-on-year comparison between single figure outcomes in 2021 and 2022; and
- The 10-year average outcomes of the annual bonus scorecard (1.04) and LTIP (87% of target), which demonstrate the effectiveness of the current reward structures in aligning pay outcomes with targets over the longer term.

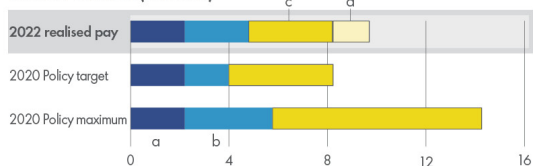
This resulted in a single figure outcome of £9.7 million for the CEO, an increase of 53% from 2021. The CFO's single figure outcome was £2.9 million, noting that this is the first single figure of remuneration disclosed for her, and that her LTIP award which has just vested was made prior to her appointment as an Executive Director. The REMCO was satisfied that the prevailing shareholder-approved Policy had operated as intended, and these outcomes were appropriate in the context of Company performance and the target pay opportunity under the Policy.

2022 pay outcomes summary

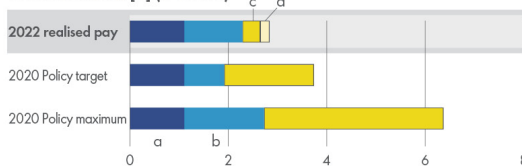
2022 pay compared with Policy [A]

a Fixed pay b Bonus c LTIP d LTIP: accrued dividends and share price change

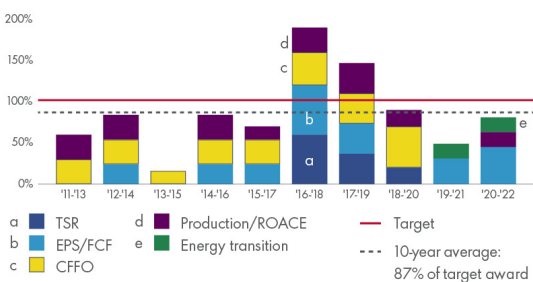
Ben van Beurden (£ million)



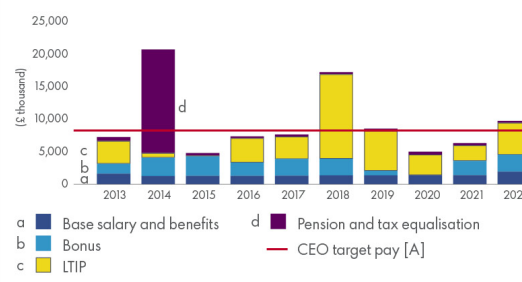
Sinead Gorman [B] (£ million)



Ten-year LTIP vesting



Ten-year CEO single figure outcomes



[A] Policy target and maximum based on the shareholder-approved 2020 Remuneration Policy in respect of the annual bonus and the LTIP. Salary, pension and benefits are based on 2022 data.
 [B] Policy target and maximum for Sinead Gorman have been pro-rated to relate to the period April 1, 2022 to December 31, 2022, to allow comparison with her 2022 realised pay.

Directors' Remuneration Report continued

2023 remuneration

2023 salaries

Wael Sawan was appointed as CEO on January 1, 2023, on a salary of £1,400,000. No increases are anticipated during 2023. Effective January 1, 2023, Sinead Gorman received an increase of 2.8% and her salary for 2023 is £925,000. In reviewing the CFO's salary, the REMCO considered carefully the external environment, and the increases provided to the general workforce in the key markets of the UK, the USA, and the Netherlands (average 5.8%). The CFO's increase for 2023 was positioned below this level and the REMCO recognised the "multiplier effect on total remuneration".

2023 LTIP performance conditions

In terms of variable pay, the REMCO reviewed alternative reward mechanisms such as restricted shares as part of the Policy review. However, we believe that the focus on pay-for-performance provided by the existing design of an annual bonus and performance-based long-term incentive remains the best mechanism to support the achievement of Shell's strategic objectives under Powering Progress.

The REMCO focused extensively on the LTIP performance metrics during the Policy review and intends a number of changes to ensure strong alignment with delivering Powering Progress and meeting the challenges of the coming years. Shell's strategy is based on generating cash from its existing businesses to fund the investment necessary to accelerate the transition of Shell's businesses to net zero, while creating shareholder value. To support this, the REMCO is proposing a simplified set of LTIP performance metrics that incentivise and reward the key priorities of:

- Financial delivery;
- Disciplined capital spending;
- Generating shareholder returns; and
- Developing Shell's business for the energy transition.

The REMCO has a strong track record of ensuring reward outcomes are appropriate (note that the 10-year average vesting outcome of the LTIP is close to target at 87% of target) and will provide a full disclosure of all factors taken into account in making the vesting decision at the conclusion of each vesting cycle.

Cash generation and disciplined capital expenditure

- Absolute organic free cash flow (OFCF) provides a marker of the cash available for financing activities, including shareholder distributions and debt servicing, after investment in maintaining and growing our business. To date, the existing FCF performance has been assessed on a total basis, including net divestment proceeds and cash flows from acquisitions. This reflects the strategic priority in delivering the divestment programme necessary since the acquisition of BG Group Plc in 2016. Under the proposed Policy, the REMCO intends to shift to a measurement of organic FCF (i.e. excluding net divestment proceeds and cash flows from acquisitions) in order to place greater emphasis on the operational outcomes. Performance will be assessed on an absolute basis to support an alignment between pay outcomes and the shareholder experience.

- Relative cash generation (defined as CFFO/average capital employed) provides a measure of Shell's ability to generate the top-line cash flows to finance investment in our business and shareholder distributions. Performance will be assessed on a relative basis, measuring how efficiently Shell generates cash relative to our peers. This is designed to ensure an ongoing tight alignment with strategy as Shell concentrates on developing a higher-value and more resilient portfolio, and replaces the existing CFFO metric which was based on relative growth.

- The REMCO also considered the overall balance of the LTIP metrics and intends to remove the current ROACE performance metric from the 2023 performance assessment framework. Capital discipline remains a key consideration, particularly as Shell enters a period which may require an investment in new forms of business models for the energy transition. It is critical that this investment is done in a disciplined manner which generates shareholder value. The REMCO believes capital discipline is adequately incentivised through the LTIP by both FCF and relative cash generation (which takes account of capital employed).

Shareholder returns

Relative total shareholder returns (TSR): there is no change to this measure, with performance measured on a relative basis against the peer group to provide an assessment of value created for shareholders relative to our closest peers.

Energy transition

Growing Shell's future business: in 2019, Shell introduced the Energy Transition performance condition to the LTIP. We were the first major energy company to introduce such a condition, which directly tied reward outcomes to Shell's success in reducing net carbon emissions from all energy products sold, measured against our Net Carbon Intensity (NCI) target, as well as the delivery of the key strategic initiatives that will get us there. For the 2023 LTIP awards, we are increasing the weighting of this condition to 25%.

As we explained when the performance condition was introduced, we expected that we had much to learn about the transition to low-carbon energy as it evolved and therefore also much to learn about how to measure progress. There is no right answer, and it was important that we got started on this journey and developed that understanding of how to best measure performance as we proceeded. In our LTIP metrics to date, we have tracked NCI reduction and rewarded participants for getting going on a range of the strategic levers for energy transition. We agreed a number of performance indicators for each strategic theme, with a target outcome range supported by strong discretionary overlay, rather than seeking to maximise output in specific remuneration periods or in precise ways that do not match non-linear business development.

Even so, in the context of a changing energy system which requires agility from Shell's businesses as they identify and capitalise on the opportunities presented by the energy transition, we have found that detailed performance indicators and targets can quickly become outdated. Assessing progress requires, in turn, agility from the REMCO as we ensure the right behaviours and actions are rewarded.

Going forward, we will continue to track progress against performance indicators for the essential strategic levers for the energy transition, with the focus of the REMCO's performance assessment shifting to an approach which emphasises a more holistic view of achievement of strategic intent, using performance indicators as guidance. This approach is intended to support experimentation and learning what will deliver net zero in a profitable way.

For the 2023 LTIP awards, an assessment of performance will continue to be based on those things that matter most: NCI reduction and supporting strategic themes of reducing Scope 1 and 2 emissions; building a renewable power business; growing new low-carbon energy offerings; and developing emission sinks and offsets.

Directors' Remuneration Report continued

The REMCO will make an assessment of progress against the NCI target and Shell's longer-term performance indicators for each strategic theme when making the vesting decision for each reward cycle. This approach will maintain a clear quantitative target through the NCI target.

We have noted strong support for a more holistic assessment of progress in our engagement with shareholders. The REMCO is also aware that some shareholders have a preference for fixed targets set upfront for all LTIP metrics. This is something the REMCO intends to evolve towards over time. However, at this time, the optimal design is to support management in delivering our strategy and capturing value from the opportunities presented by the energy transition.

Other LTIP considerations

Comparator group: the REMCO has given much consideration to the appropriate peer group for assessing relative performance as part of the Policy review. For many years, this has consisted of BP, Chevron, ExxonMobil and TotalEnergies. Changing strategies for the energy transition, including differing timeframes and level of ambition, prompt a regular reconsideration of this group. The REMCO has evaluated a number of alternative peer companies, including smaller European energy producers with similar strategic ambitions, power and pure-play renewables companies, and smaller oil and gas producers. Following this, the REMCO has determined that the existing comparator group remains the appropriate reference point for assessing relative performance for the TSR and cash generation metrics. Despite strategic differences, these companies remain Shell's closest peers in terms of scale and business model. Critically, they are also similarly tasked with reinventing legacy positions. While they have the financial capability that comes from those positions, they also have the constraints of growth from existing scale and supply responsibilities to society. The REMCO intends to keep this under review.

The REMCO also considered the threshold vesting level for the relative metrics and determined not to make any changes.

Further information is provided on page 188.

2023 Policy

The REMCO believes the 2020 Policy is robust and well aligned with reward governance best practice. But the REMCO is proposing adjustments to maintain the strong governance framework and support the delivery of the Powering Progress strategy. We consulted with shareholders on the proposed changes and have taken into account a diverse range of shareholder views in our decision-making. It is worth noting that as a result, we have not proceeded with all of our initial proposals but believe there is majority support for those changes we are choosing to take forward. The full proposed Policy is set out from page 191 onwards. To highlight some of the key changes:

Severance policy: under Wael Sawan and Sinead Gorman's service contracts, both the employee and the employer can terminate employment by giving 12 months' written notice, replacing the previous policy which accounted for Dutch statutory provisions.

Pension: Shell's long-standing policy has been to provide Executive Directors with pension benefits aligned with those for the wider workforce in their home country. To enhance transparency and ensure retirement benefits are consistent with the UK headquarters of Shell, Executive Director pensions (including for Wael Sawan and Sinead Gorman) will be aligned with defined contribution pension arrangements offered to Shell's UK employees (currently 20% of salary).

TSR underpin: the existing LTIP has the added complexity of an underpin, whereby the vesting outcome is capped at 100% should the TSR performance condition fail to rank in a vesting position. This was introduced as a mechanism to support alignment between pay outcomes and the shareholder experience at a time when the LTIP was wholly based on relative performance. However, this provision adds complexity to the plan and is not market-aligned, with the REMCO not being aware of any similar examples of a TSR-based underpin being used by any other FTSE30 company. Nor has experience proven it a necessary Policy feature as the underpin has not been invoked to date. Therefore, in the interests of simplifying the plan, the REMCO are proposing to remove the TSR underpin from the 2024 awards onwards.

Looking ahead

The year ahead brings the vote on the proposed Policy at the AGM and I look forward to ongoing dialogue with our shareholders in the coming months.

Neil Carson

Chair of the Remuneration Committee
March 8, 2023

Remuneration at a glance

2022

Fixed pay and shareholding

Base salary

Ben van Beurden (CEO)	Sinead Gorman (CFO)
£1,420,000	£900,000

Pension

Following their relocation to the UK, Ben van Beurden and Sinead Gorman's pensions were aligned to the Shell UK defined contribution pension arrangements offered to new employees, which have an employer contribution of 20% of salary.

Benefits

Following their relocation to the UK, Ben van Beurden and Sinead Gorman received support with temporary commuting costs such as travel and accommodation until their families relocated. They also received relocation support for their families' move to the UK, and housing allowances which will not extend beyond 2023.

Shareholding

	Target levels, % of base salary	Actual levels, % of base salary at December 31, 2022
CEO	700%	1433%
CFO	500%	102%

Annual bonus

2022 annual bonus

Ben van Beurden	Sinead Gorman
£2,590,000	£1,180,000 (pro rata)

2022 bonus scorecard outcome

Overall scorecard outcome: 1.46

No individual performance factor used in bonus calculation

Bonus delivery



Shares are subject to a three-year holding period which extends beyond an Executive Director's tenure.

Long-term Incentive Plan

2020 – 2022 LTIP vesting outcome

Ben van Beurden	Sinead Gorman
£4,914,397	£552,291

Vesting outcome

Measures	Outcome	Vesting
TSR	① ② ③ ④ ⑤	0%
CFFO growth	① ② ③ ④ ⑤	0%
ROACE growth	① ② ③ ④ ⑤	18%
FCF		45%
Energy transition		18%
		81% (out of a 200% maximum)

Shares are subject to a three-year holding period which extends beyond an Executive Director's tenure.

2023

Fixed pay and shareholding

Base salary

Wael Sawan (CEO)	Sinead Gorman (CFO)
£1,400,000	£925,000
	↑ 2.8%

Pension

Wael Sawan and Sinead Gorman's pensions are aligned to the Shell UK defined contribution pension arrangements offered to new employees, which have an employer contribution of 20% of salary.

Benefits

Following his relocation to the UK, Wael Sawan received relocation support for his family's move to the UK, and a housing allowance. Sinead Gorman continues to receive a housing allowance. Neither Executive Director's housing allowance will extend beyond 2023.

Shareholding

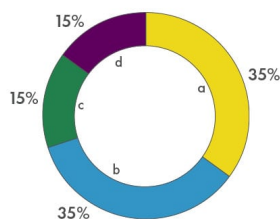
	Target levels, % of base salary	Actual levels, % of base salary at March 6, 2023
CEO	700%	389%
CFO	500%	177%

Annual bonus

Target % of base salary

	Wael Sawan	Sinead Gorman
Target	125%	120%
Maximum	250%	240%

Scorecard architecture



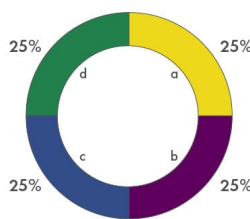
- a Cash flow from operations (weighted 35%)
- b Operational excellence (Asset management excellence 15%, project delivery excellence 10%, customer excellence 10%)
- c Shell's journey in the energy transition (Selling lower-carbon products 5%, reducing operational emissions 5%, partnering to decarbonise 5%)
- d Safety (SIF-F 7.5%, Tier 1 and 2 process safety 7.5%)

Long-term Incentive Plan

Target awards % of base salary

	Wael Sawan	Sinead Gorman
Target	300%	270%
Maximum	600%	540%

Performance conditions



- a Relative cash generation (CFFO/average capital employed) (weighted 25%)
- b Relative TSR (25%)
- c Absolute OFCF (25%)
- d Absolute energy transition (25%)

Performance against the relative metrics is assessed against other energy majors (BP, Chevron, Exxon and TotalEnergies).

Annual Report on Remuneration continued

The Annual Report on Remuneration sets out:

- remuneration at a glance, page 171;
- the REMCO's responsibilities and activities, page 172;
- Directors' remuneration for 2022, page 173; and
- the statement of the planned implementation of Policy in 2023, page 187.

The base currency in the Directors' Remuneration Report is British pound sterling (GBP), as this is the currency of the base salary of the Executive Directors to December 31, 2022. Where amounts are shown in other currencies, an average exchange rate for the relevant year is used, unless a specific date is stated, in which case the average exchange rate for the specific date is used.

Committee membership and attendance for 2022



Neil Carson
OBE



Euleen Goh



Catherine J. Hughes



Bram Schot



Gerrit Zalm

Biographies are given on pages 129-136; and the REMCO meeting attendance is set out below:

Committee member	Member since	Maximum possible meetings	Number of meetings attended	% of meetings attended
Neil Carson (Chair)	June 1, 2019	5	5	100%
Euleen Goh	May 20, 2020	5	5	100%
Catherine Hughes	July 26, 2017	5	5	100%
Bram Schot [A]	May 24, 2022	3	2	67%
Gerrit Zalm [B]	May 21, 2014	2	2	100%

[A] Bram Schot was unable to attend the December 2022 meeting due to another scheduled business commitment.

[B] Gerrit Zalm stepped down from the Committee and from the Board with effect from May 24, 2022.

The REMCO's key responsibilities include determining:

	Senior Management		
	Executive Directors	Executive Committee	Company Secretary and EVP Controller
Performance framework	P	x	x
Remuneration Policy	P	P	x
Actual remuneration and benefits	P	P	P
Annual bonus and long-term incentive measures and targets	P	P	x

The REMCO is also responsible for determining the Chair of the Board's remuneration. The REMCO monitors the level and structure of remuneration for senior executives below Senior Management and makes recommendations if appropriate to ensure consistency and alignment with Shell's remuneration objectives. When setting the Policy for Executive Director remuneration, the REMCO reviews and considers workforce remuneration and related policies, and how pay and benefits align with culture. In exercising its responsibilities, the REMCO takes into account a variety of stakeholder considerations.

The REMCO operates within its Terms of Reference, which are reviewed annually, and are available on www.shell.com. As part of the Board evaluation, it was agreed that the Board would undertake a more strategic review of the Board Committees' agendas and remit to ensure alignment with the Board's future priorities and longer-term aspirations.

Advice from within Shell was provided by:

- Chief Executive Officer (CEO);
- Chief Human Resources and Corporate Officer and Secretary to the REMCO; and
- Executive Vice President Performance and Reward.

The Chair of the Board was consulted on remuneration proposals affecting the CEO. The CEO was consulted on proposals relating to the Chief Financial Officer (CFO) and Senior Management.

The REMCO met five times in 2022 and its activities included:

- determining vesting of the 2019 LTIP award for Senior Management;
- determining 2022 target bonus opportunities and 2022 LTIP awards for Senior Management;
- setting 2022 annual bonus and LTIP performance measures and targets;
- approving the 2021 Directors' Remuneration Report, conducting a comprehensive review of the Policy and incentive structures;
- reviewing 2023 bonus and LTIP performance measures and targets;
- consulting with major shareholders and proxy bodies on the proposed 2023 Policy;
- setting exit and appointment remuneration for Executive Director changes, and changes in the Executive Committee; and
- monitoring external developments and assessing the impact on remuneration decisions.

After a competitive tender process during the year, Ellason and PWC were chosen to provide external advice on Shell's remuneration structures and developments in market practice around remuneration. The choice of Ellason and PWC was based on their ability to assess

the risk profile of policies, knowledge of investors' expectations, and familiarity with UK and international market practices. Both Ellason and PWC are members of the Remuneration Consultants Group and operate according to the group's code of conduct when advising clients. The REMCO is satisfied that the advice provided was objective and independent. The total fees in relation to the advice were £12,650 to Ellason and £75,168 to PWC (excluding value-added tax). During the year, PWC also provided other professional consulting services to Shell, including, for example, in relation to finance, payroll, tax, and sustainability projects. The REMCO also reviewed benchmarking data and analysis prepared by Shell's internal HR function on market developments in executive pay.

Annual Report on Remuneration continued

Directors' Remuneration for 2022

Single figure of total remuneration for Executive Directors (audited)

	£ thousand					
	Ben van Beurden		Sinead Gorman [A]		Jessica Uhl [B]	
	2022	2021	2022	2021	2022	2021
Salaries [C]	1,420	1,365	675	—	230	890
Taxable benefits [D]	490	15	327	—	146	278
Pension [E]	284	346	135	—	33	242
Total fixed remuneration	2,194	1,726	1,137	—	410	1,409
Annual bonus [F]	2,590	2,201	1,180	—	—	1,376
LTIP [G]	4,914	2,418	552	—	—	1,193
Total variable remuneration	7,504	4,619	1,732	—	—	2,569
Total remuneration	9,698	6,344	2,869	—	410	3,978
in US Dollars	11,995	8,728	3,549	—	507	5,473
in Euros	11,377	7,380	3,366	—	480	4,627

[A] Sinead Gorman was appointed as CFO and a Board Director effective April 1, 2022. Accordingly, her remuneration for 2022 as shown in the table relates to the period April 1 to December 31, 2022. Sinead's LTIP amount reflects the full award granted in 2020 prior to her appointment to the Board, and is shown here for transparency; the performance measures are the same as those applying to LTIP awards made to Executive Directors.

[B] Jessica Uhl stepped down from her role as CFO and from the Board on March 31, 2022, and left Group service on June 30, 2022. Accordingly, her remuneration for 2022 as shown in the table relates to her service as an Executive Director over the period January 1 to March 31, 2022. Full details of Jessica Uhl's remuneration in respect of the period April 1, 2022 to June 30, 2022 are set out in the "Payments for loss of office" and "Payments to past Directors" sections.

[C] Base salary: Ben van Beurden and Jessica Uhl's base salaries for 2022 were set at £1,420,000 (+3.5% from 2021) and £921,000 (+3% from 2021), respectively. Sinead Gorman's base salary was set at £900,000 on her appointment to the Board.

[D] Benefits: in respect of 2022, Ben van Beurden's benefits included time-limited relocation-related costs (£403,368), motoring allowance (£29,998), and grossing costs (£48,897). Sinead Gorman's benefits included time-limited relocation-related costs (£268,621), motoring allowance (£22,417), and grossing costs (£30,560). Jessica Uhl's benefits included time-limited relocation-related costs (£77,573), motoring allowance (£7,553), and grossing costs (£52,716).

[E] Pension: Ben van Beurden and Sinead Gorman received cash in lieu of pension contributions equal to 20% of base salary in 2022. Jessica Uhl was a member of the Shell US retirement benefit arrangements, as set out on page 185. The amount reported consists of a defined contribution amount of \$30,000 (£24,254) and a defined benefit pension accrual of \$10,929 (£8,836).

[F] Annual bonus: the full value of the bonus in respect of performance in 2022, comprising both the 50% delivered in cash and 50% bonus delivered in shares. For 2023, the market price of shares on February 23, 2023 for London-listed shares (£24.82) was used to determine the number of shares delivered, resulting in 27,273 ordinary shares for Ben van Beurden and 12,426 ordinary shares for Sinead Gorman, net of tax.

[G] LTIP: the amounts reported for 2022 relate to the 2020 LTIP award, which vested on March 3, 2023, at the market price of €29.37 and £28.04 for Amsterdam-listed and London-listed ordinary shares, respectively. The value in respect of the LTIP is calculated as the product of: the number of shares of the original award multiplied by the vesting percentage; plus accrued dividend shares; and the market price of ordinary shares at the vesting date. The market price of the Amsterdam-listed shares is converted into GBP using the exchange rate on the vesting date. Share price appreciation accounted for €912,309 for Ben van Beurden and £112,430 for Sinead Gorman. The amount shown for Sinead Gorman relates to an award made prior to her appointment to the Board, and is shown here for transparency.

Notes to the table: Single figure of total remuneration for Executive Directors (audited)

Pension

During the year, Ben van Beurden and Sinead Gorman were eligible to participate in the defined contribution UK Shell Pension Plan with an employer contribution rate of up to 20% of salary, or take this as a pension cash alternative. They chose the latter. The UK Shell Pension Plan or associated pension cash alternative is available to new Shell employees in the UK at the same contribution levels and currently around half of UK employees participate in these arrangements. The majority of the remainder participate in a legacy defined benefit plan, which closed to new members in March 2013. Sinead Gorman was a member of this plan prior to her appointment as CFO.

Jessica Uhl was a member of the Shell US retirement benefit arrangements, which included the Shell Pension Plan (a defined benefit plan), and a defined contribution plan where she received an employer contribution of 10% of salary. This was the same as the average

employer contribution rate for US employees. As for all other pre-2013 members of the Shell Pension Plan, she had an annual choice of two accrual formulas with different forms of benefits, one in the form of a lifetime annuity and the other allowing for a lump-sum payment. She elected to accrue benefits for 2022 under the former. Around 7,700 out of 13,000 Shell US employees have the option of choosing between the two formulas. These arrangements are the same for all employees who joined Shell US before 2013. The difference in Jessica Uhl's pension provision, compared with other employees who joined before 2013, is that because she was an Executive Director her bonus was not pensionable. For other relevant US employees the bonus is pensionable.

The REMCO believes these pension arrangements are aligned with best practice guidance in the UK which focuses on the alignment of Executive Directors' pension arrangements with those for the general employee population.

Annual Report on Remuneration continued

Annual bonus

The annual bonus is intended to reward the delivery of short-term targets derived from the operating plan. The REMCO reviewed performance against the scorecard, as follows:

Financial delivery (35% weighting): in a turbulent economic environment, robust operational performance and a resilient portfolio have enabled Shell to deliver CFFO (including working capital) of \$68 billion. This exceeded our outstanding performance threshold of \$45 billion, leading to a maximum outcome on this measure. It is worth repeating that the REMCO has long had a policy of not adjusting remuneration measures to take account of changes in energy prices and currency fluctuations, which supports alignment between pay outcomes and the shareholder experience. In engagements with our largest shareholders, many have appreciated the transparency that this brings.

Operational excellence (35%): delivery of our Powering Progress strategy is underpinned by Shell's ability to operate its assets efficiently, deliver major projects on time and on budget, and leverage its strong customer relationships to create value:

- **Asset management excellence:** Upstream controllable availability was below threshold, and Midstream availability was below target. Refining and Chemicals availability was on target against the plan.
- **Project delivery excellence:** project delivery was at target.
- **Customer excellence:** customer satisfaction was above target, as the collective effort and resilience of our teams, together with proactive customer engagements, helped reduce the impact on customers from supply chain challenges that continue to negatively impact some businesses. However, our Brand Share of Preference (BSP) was below threshold.

Overall the outcome for operational excellence was below target.

Shell's journey in the energy transition (15%): Powering Progress sets out a strategy to accelerate Shell's transition to net-zero emissions; this means changing the products we sell and reducing our emissions. For 2022, the REMCO introduced three new metrics designed to more fully reflect Shell's role in the energy transition:

- **Selling lower-carbon products:** we are evolving our business models to include lower-carbon energy products (thereby reducing emissions), as well as non-energy products and convenience retail. Performance is measured based on the proportion of earnings in the Marketing segment coming from lower-carbon energy products, as well as non-energy products (see page 175 for the list of products included in this metric). In 2022, the REMCO set a target of 60% of earnings from these products, which was met.

- **Reducing our emissions as an energy user:** performance is assessed based on GHG abatement projects that result in ongoing Scope 1 and 2 GHG reductions such as flare reduction and energy efficiency projects, site closures, decommissioning and transformations, and increasing the use of renewable electricity in our operations. This metric is about the delivery of projects which result in sustained emission reductions. It does not include the impact of divestments and acquisitions. The 2022 outcome was outstanding, with total emissions reductions of 2,010 Kt of CO₂ well ahead of our target of 1,700 Kt of CO₂.
- **Partnering to decarbonise:** we have set annual targets measuring our roll-out of electric vehicle charging points, in line with Shell's target of having more than 500,000 electric vehicle charging points by 2025. The target for 2022 was to achieve 130,000 charging points by the end of the year, and 138,610 charging points were in operation by the end of 2022, resulting in above-target performance.

Overall the score on the Shell's journey in the energy transition measure was above target.

Safety (15%): Powering Progress is underpinned by a focus on safety.

It is critical that Shell runs its day-to-day operations safely and ensures the well-being of all our people.

- **Process safety** continues to be measured through the number of Tier 1 and 2 operational safety incidents and was above maximum, with 66 events recorded compared with 103 in 2021.
- **Personal safety SIF-F** performance is assessed based on the number of serious incidents which might occur in Shell's businesses based on the work plan for the year and our knowledge of industry incident rates. Our ultimate goal is zero harm to people working for Shell. Shell has made tremendous improvements to safety performance over a long period of time. Measures such as SIF-F are important tools to give focus to those incidents with the most serious consequences and continue to drive improvement. Overall, in 2022, we had fewer serious safety incidents, recording eight incidents in 2022, down from 32 in 2021, which is testament to the ongoing focus of our employees in keeping colleagues safe.

Overall, the score on the safety measure was at maximum. As noted in the REMCO Chair's introduction, the REMCO reflected carefully on safety particularly in light of the two fatalities, and determined not to make any adjustments.

Further information is provided in the "REMCO reflections on safety" section on page 167.

Annual Report on Remuneration continued

The table below summarises the 2022 annual bonus scorecard measures including their weightings, targets and outcomes. The scorecard outcome for 2022 was 1.46.

2022 annual bonus scorecard measures and weightings

Performance Measures		Weighting	Unit	Threshold (score of 0 out of 2)	Target (score of 1 out of 2)	Outstanding (score of 2 out of 2)	Outcome	Score (out of 2)
Financial delivery (35%)	Cash flow from operations [A]	35%	\$bn	35	40	45	68	2.00
Operational excellence (35%)	Asset management excellence [B]	15%	%				See note B	0.43
	Project delivery excellence [C]	10%	%				See note C	1.04
	Customer excellence [D]	10%	Index				See note D	0.70
Shell's journey in the energy transition (15%)	Selling lower-carbon products [E]	5%	%	50	60	70	60	1.00
	Reducing operational emissions	5%	Thousand tonnes CO ₂	1,530	1,700	1,870	2,010	2.00
	Partnering to decarbonise	5%	Number of EV charge points	104,000	130,000	156,000	138,610	1.33
Safety (15%)	Personal safety	7.5%	Serious Injury & Fatality Frequency (SIF-F) cases per 100 million working hours	7.5	6.0	4.5	1.7	2.00
	Process safety	7.5%	Number of events	120	96	72	66	2.00
Overall scorecard outcome								1.46

[A] Including working capital adjustments.

[B] Upstream controllable availability: 84.7% (Threshold 85.0%, Target 87.0%, Outstanding 89.0%); Midstream availability: 89.3% (Threshold 88.7%, Target 90.7%, Outstanding 92.7%); Refinery and chemical plant availability: 95.5% (Threshold 94.5%, Target 95.5%, Outstanding 96.5%). Performance assessment is equally weighted between Upstream, Midstream, and Refining and Chemicals.

[C] Projects delivered on schedule: 69% (Threshold 30%, Target 65%, Outstanding 100%); project delivery on budget: 103% (Threshold 110%, Target 103%, Outstanding 96%). Performance assessment is equally weighted between projects delivered on schedule and on budget.

[D] Customer satisfaction: 8.3 (Threshold 7.6, Target 8.1, Outstanding 8.6); Brand Preference: 13.8% (Threshold 13.8%, Target 14.2%, Outstanding 14.6%). Performance assessment is equally weighted between customer satisfaction and brand recognition.

[E] Based on the percentage of Adjusted Earnings in the Marketing segment from lower-carbon energy products (on a life cycle basis), defined as biofuels and EV charging, as well as non-energy products, defined as lubricants, bitumen, sulphur (agriculture and forestry), and earnings from convenience retail. The name of this category has been amended from "Progress in the energy transition" (as disclosed in the 2021 Directors' Remuneration Report) to "Shell's journey in the energy transition" to more precisely reflect the nature of this metric.

Accordingly, the REMCO decided the final bonus outcome should be 146% of target and 73% of maximum. This results in a bonus of £2,590,000 for Ben van Beurden and £1,180,000 for Sinead Gorman for the period she was CFO during 2022.

2022 bonus outcome calculation

Ben van Beurden				
Target bonus: £1,420,000 (base salary) x 125% = £1,775,000	×	2022 scorecard result 1.46	=	£2,590,000 [A]
Sinead Gorman				
Target bonus: £900,000 (base salary) x 120% = £1,080,000	×	2022 scorecard result 1.46	×	Pro rata factor 9/12 th
				= £1,180,000 [A]
[A] Rounded down to the nearest £5,000. Half was delivered in shares subject to a three-year holding period which extends beyond the Executive Director's tenure.				

Annual Report on Remuneration continued

Long-term Incentive Plan vesting: 2020 LTIP

In 2020, Ben van Beurden was granted a conditional share award under the LTIP of 300% of salary. Sinead Gorman's 2020 award is also disclosed for transparency, notwithstanding that she was not an Executive Director at the time. The awards were made prior to the onset of COVID-19 in March 2020, meaning there was no possibility of windfall gains from the subsequent fall in share price. While there was a 13% reduction in share price since the 2019 award, this was below the threshold at which an adjustment would be considered, and therefore no adjustment was made to the award size.

In determining the vesting outcome, the REMCO considered Shell's performance over the three-year period January 1, 2020 to December 31, 2022:

- Relative CFO: in absolute terms, 2022 performance was strong with CFO at \$68 billion (including working capital). On a relative basis as compared against the 2019 base year when Shell also generated strong CFO of \$42 billion, Shell ranked fourth, resulting in 0% vesting for this measure.
- Relative TSR: over the performance period, Shell returned around \$44 billion to shareholders in the form of dividends and share buybacks, whilst TSR was 14.3%. Relative to the other energy majors, Shell's TSR ranked fourth, resulting in 0% vesting for this measure.

- Relative ROACE: Shell's absolute 2022 ROACE for LTIP purposes was 15.9% (note that ROACE for the LTIP calculation is based on disclosed net income and is not adjusted for the after-tax interest expense and therefore differs from disclosed ROACE). On a relative growth basis compared against 2019 when Shell's ROACE was 5.80%, Shell ranked third, resulting in a 80% of target vesting outcome.
- Absolute FCF: strong performance in 2021 and 2022 resulted in total FCF of \$107.1 billion being generated over the three years, above our maximum threshold of \$80 billion. This resulted in a 200% of target vesting outcome on this measure. Note that FCF for the first three quarters of 2022 is 3.5x higher than the equivalent in 2013, when Brent price was similar, evidencing strong management performance in addition to price tailwinds.
- Absolute energy transition: the outcome of this measure is determined holistically by the REMCO, taking account of Shell's performance against defined performance indicators and also Shell's wider performance in accelerating its transition to a net-zero emissions business. Overall, the REMCO determined the vesting outcome as 180% of target. Commentary on energy transition performance is provided below.

2020 LTIP vesting outcomes – performance measures

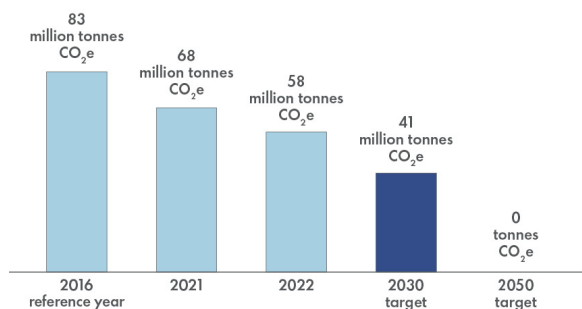
Performance Measures		Weighting	Threshold	Target	Maximum	Outcome (out of the maximum 200%)	Vesting outcome (% of target award)
Relative Performance ranked against the other energy majors: BP, Chevron, ExxonMobil and TotalEnergies	CFO	22.5%	Third		First	① ② ③ ④ ⑤	0%
	TSR	22.5%	Third		First	① ② ③ ④ ⑤	0%
	ROACE	22.5%	Third		First	① ② ③ ④ ⑤	80%
Absolute Performance assessed against internal financial and strategic targets	FCF	22.5%	\$56bn	\$65bn	\$80bn	\$107bn	200%
	Energy transition	10%		See below			180%
							81%

The 2020 LTIP energy transition metrics focused on those elements that we understood at the time would make the most impact in achieving our goals over the three-year performance period relating to net carbon intensity, the growth of our power business, the growth of lower-carbon products, and the development of systems to absorb, capture and store carbon. The approach to the LTIP allows us to experiment and learn what is effective and which behaviours and actions will deliver net zero in a profitable way. Accordingly, the REMCO uses the performance indicators as guidance, rather than applying a formulaic vesting outcome, when making its decisions.

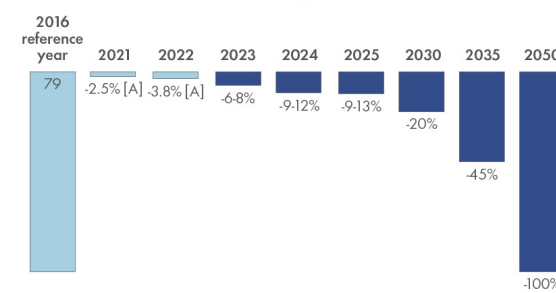
Our carbon targets

In 2022 we continued our progress on our path to net zero by 2050. At the end of 2022, we reduced our Scope 1 and 2 emissions by 30%, and the net carbon intensity of our energy products by 3.8% from our 2016 reference year.

Net carbon emissions – Scope 1 & 2 operational emissions



Net carbon intensity (NCI) (gCO₂e/MJ)



[A] 2021 target 2-3% reduction, 2022 target 3-4% reduction, both achieved.

Annual Report on Remuneration continued

2020 energy transition performance condition: outcome

To help to transform the energy system, Shell's strategy is to develop a portfolio that will:

- provide more electricity to customers, while also driving a shift to renewable electricity;
- develop low- and zero-carbon alternatives to traditional fuels, including biofuels and hydrogen; and
- address any remaining emissions from conventional fuels with solutions such as carbon capture and storage and nature-based solutions.

Progress against these strategic goals is assessed under the LTIP, alongside the reduction in the total net emissions of all energy products sold, as measured by Shell's net carbon intensity (NCI) target.



Net carbon intensity (NCI) - Performance indicator met

We have medium-term targets to reduce our NCI by 20% by 2030, 45% by 2035 and a long-term target of 100% by 2050, compared with 2016 levels. Our short-term NCI targets are consistent with these medium-term targets.

We achieved our short-term target for the 2020-22 LTIP cycle to reduce our NCI by 3-4% compared with the 2016 base year, with a 3.8% reduction by 2022.

Growing a material power business - Performance indicator substantively met

As with much of the early stages of the energy transition journey, we have been in a phase of piloting and learning and we expect that to continue for some time as we create the foundations on which a valuable power business can be built. We are doing this by entering new markets to access customers and developing new commercial pathways by creating a funnel of renewable power capacity options and then converting these options to realised investments. Over the performance cycle, the Power business has developed, learning how to manage risk and execute projects that can leverage Shell's existing strengths, with the key challenge remaining to identify and act on opportunities that deliver appropriate returns.

- We set out in 2020 with a goal to enter three new markets, aligned with the target markets under our 2019 strategy for the power business for direct power sales to end-consumers (applying a materiality threshold of 1 terawatt hour (TWh) of power sold per annum) cumulatively since 2019. We achieved two new entries with the ERM acquisition in Australia (now trading as Shell Energy) and our growing power business in Germany which reached the materiality threshold in Q4 2022. While our initial target markets were aligned with the 2019 power strategy, this business has evolved rapidly and the REMCO also took account of market entries in India, Japan and Italy which while not aligned with the original strategy, are consistent with the objectives of entering new markets and creating a customer base. Alongside these the REMCO noted other milestones of progress in establishing our customer base such as the acquisition of Inspire, a USA-based renewable energy residential retailer, and Powershop, an online energy retailer serving more than 185,000 customers in Australia. We have also refined our thinking on this metric as the Power business has evolved, and from the 2021 LTIP have moved to assessing progress based on the total power sales measured in TWh of power sold and the proportion of those sales which are from renewables.
- We also set out to secure renewable power generation capacity options of 5-10 GW and are well beyond target at 47 GW over the LTIP cycle. Investments, such as Sprng Energy group (a \$1.55 billion investment, completed in August 2022), a solar and wind platform in India which brought significant operational renewable power generation capacity and a pipeline of new projects, and Savion (completed in December 2021), a US solar and energy storage developer, are key to enabling us to continue to learn where we can be competitive with the strength of our integrated value chain and generate attractive returns.
- A target of post-FID capacity of 2-4 GW from renewables was set for the LTIP, which was met with 3.6 GW of post-FID capacity achieved. Notable investments towards building this capacity include the Sprng acquisition and the Crosswinds development in the Netherlands which began construction in 2022. In total, Shell has invested £7 billion in renewable power projects cumulatively since 2019.
- Emerging economies present some of the fastest-growing power markets in the world. Focusing on Africa and South-east Asia, Shell is aiming to build an integrated sustainable power business, helping customers access electricity from cleaner sources. Shell intended to invest \$200 million in energy access customers over the LTIP period. By the end of 2022, we had completed \$190 million, falling slightly short of the initial target. The most notable investment was the acquisition of Daystar Power (completed in December 2022), a West African provider of hybrid solar power solutions to businesses. Daystar was an important growth milestone for Shell's emerging market power business, and can help address a critical energy gap for many businesses that currently rely on diesel generators for back-up power. Investments such as Daystar give Shell platforms to develop our customer propositions in dynamic and growing markets for renewable energy, as we look to expand the renewables business away from mature markets.

One of the key challenges we have experienced over the LTIP cycle has been volatility and lower-than-expected returns. This has sharpened our focus on prioritisation of value over volume. In the power space that means a shift in our focus to compete in a way that utilises the unique nature and skills of Shell's integrated business to give us the competitive advantage and deliver appropriate returns on this energy transition journey.

Growing lower-carbon products - Performance indicator met

Shell is investing in low- and zero-carbon products such as renewable electricity, hydrogen and biofuels, working closely with our customers to identify the products they need to decarbonise. Shell's biofuels strategy is to develop and invest in the projects and technologies to develop a profitable manufacturing business converting sustainable feedstocks to low-carbon fuels across three main categories: Hydroprocessed Esters and Fatty Acids (HEFA)/Hydrotreated Vegetable Oil (HVO), Renewable Natural Gas (RNG), and advanced biofuels. In the years ahead we also aim to be a leading player in a global hydrogen economy, developing integrated hydrogen hubs to serve industry and heavy-duty transport. The 2020 LTIP cycle supported this by setting a number of performance indicators which were aimed at de-risking advanced biofuels technologies and the overall abatement of CO₂ from Shell's investment in low-carbon fuels.

- Over the LTIP performance period we took equity positions in two advanced biofuels projects (Lanzajet (USA) and Enkern Varennes (Canada)), ahead of the performance indicator which was set for the LTIP of one investment in a commercial biofuels project. Shell together with its partners has agreed to a revised allocation of equity in the Enkern Varennes Carbon Recycling (VCR) project and over time Shell expects to reduce its long-term percentage holding in the VCR project. Therefore, the REMCO determined that it would count only one project.
- For the LTIP we also set a performance indicator of 1,500 Tonnes a day (T/d) of carbon equivalent abated through HVO biofuels and RNG from waste sources, which was met with 8,894 T/d abated, largely through the Shell Rotterdam biofuels facility, which Shell took final investment decision on in September 2021. Once built this will be among the largest biofuels facilities in Europe, producing enough renewable diesel to avoid 2,800,000 tonnes of CO₂ per year. The start-up of our first US RNG plant (Oregon) in January 2022 and final investment decisions on three further RNG plants (Kansas, Idaho) also support this target.
- The REMCO set a performance indicator to identify a number of lead projects for Shell's proprietary biomass to liquids technology, iH2, for delivery once the technology development release is issued. While no FIDs were taken, two priority iH2 projects (Norway and US) are progressing.

Annual Report on Remuneration continued



Growing lower-carbon products - Performance indicator met continued

Beyond the set targets, the REMCO also considered some of the wider developments that Shell undertook which demonstrate how Shell can help meet society's need for cleaner energy through low-carbon fuels. This included the final investment decision on Holland Hydrogen 1 in July 2022, which will be Europe's largest renewable hydrogen plant when operational from 2025. The 200 MW electrolyser will produce up to 80 tonnes of renewable hydrogen a day, with power coming from the offshore wind farm Hollandse Kust (noord), with some of the hydrogen produced used to replace grey hydrogen at the Shell Energy and Chemicals Park Rotterdam.

The ultimate proof of the strategy and the contribution that low-carbon fuels can make in reducing emissions is being able to produce and sell these at scale, and the REMCO noted that Shell is one of the world's largest traders and blenders of biofuels. The Brazilian joint venture Raízen, in which Shell has a 44% interest, is one of the world's largest biofuels producers and in November 2022, Shell announced an agreement to buy 3.25 billion litres of sugar-cane ethanol under a long-term agreement with Raízen. In December 2022, Shell reached an agreement to acquire Nature Energy, the largest producer of renewable natural gas in Europe (with the acquisition completed in February 2023), supporting Shell's ambitions to grow its low-carbon fuels production.



Develop emissions sinks - Targets met

The development of systems that capture and store or absorb carbon is required as part of the global response to climate change to reduce and compensate for emissions where there are not currently scalable low-carbon alternatives. The 2020-22 LTIP energy transition performance condition focused on getting started on developing the commercial value chains and capacity for future projects, with metrics based on taking FID on a number of the projects.

In 2020, we intended to progress nature-based solutions verified by recognised carbon credit standards. Carbon credits generated by high-quality nature-based projects may be used to offset emissions in line with the mitigation hierarchy of avoid, reduce and offset.

- Over the LTIP performance cycle we have taken FID on 15 projects, well ahead of the 4-8 FID set as a performance indicator in 2020, reflecting both the growth in the market for carbon credits and the development of capability within Shell as the business matures.
- In 2020, we set a performance indicator to mature one carbon capture and storage project to post-FID. In 2020, we took FID on Northern Lights, our Norwegian CCS joint venture (Shell interest 33.3%). We continue to have a healthy number of projects we are developing on CCS at a global level.
- By the end of 2022, our Quest project in Canada (Shell interest 10%) had captured and safely stored more than 7.5 million tonnes of CO₂ since it began operating in 2015. In Australia, the Gorgon project (Shell interest 25%, operated by Chevron), which started operating in August 2019, had stored more than 7 million tonnes of CO₂ by the end of 2022.

There are also a number of broader indicators of Shell's progress in the energy transition that the REMCO considered when making its overall vesting determination.

During 2020, Shell:

- Announced its target to become a net-zero emissions energy business by 2050.
- Published the Industry Associations Climate Review update, including Shell's updated climate-related policy positions and our payments to keep industry associations.

During 2021, Shell:

- Launched its Powering Progress strategy to transition of our business to net-zero emissions, including targets to reduce the carbon intensity of energy products we sell by 6-8% by 2023, 9-12% by 2024, 9-13% by 2025, 20% by 2030, 45% by 2035 and 100% by 2050.
- Offered an advisory vote on Shell's energy transition strategy to our shareholders for the first time, achieving support of 89%.
- Put in place a simpler, more cost-effective organisation needed to implement Powering Progress.
- Published the 2021 Industry Associations Climate Review, extending our coverage to 36 industry associations.
- Formed more than 50 collaborations with other leading companies aiming to be at the forefront of the energy transition.

During 2022, Shell:

- Completed the Simplification of Shell plc, aligning its tax residence with its country of incorporation and established a single line of shares, allowing Shell to respond to the challenges of the energy transition by managing its portfolio with greater agility.
- Published its first Energy Transition Progress Report and offered an advisory vote on Shell's progress to our shareholders for the first time, achieving support of 79.9%.

Overall, the REMCO determined that the energy transition measure (accounting for 10% of the award) should vest at 180% of target.

The REMCO reviewed Shell's broader performance over the performance period (see page 180 for detailed discussion), and also reflected on the share price at award and on vesting, noting that the share price had increased by 24%, and that appreciation accounted for 16% of the total value of the CEO's LTIP at vest, and was satisfied that no windfall gain had arisen.

The overall LTIP vesting outcome, including an illustration of the impact of share price movements and accrued dividends, is set out below. The CEO's and CFO's vested awards are subject to a further three-year holding period which extends beyond their tenure as Executive Director.

The REMCO decided that the LTIP outcome was consistent with the target opportunity and intended operation of the plan under the Policy and appropriate, and therefore no adjustment to the vesting outcome was required. Accordingly, the REMCO decided that the LTIP should vest at 81% of target (equivalent to 41% of maximum).

2020 LTIP vesting outcome

Ben van Beurden						
Vesting outcome: [A] 200,589 x 81% = 162,477 ordinary shares €3,858,831	+	Change in share price: [B] 162,477 x €5.62 €912,309	+	Accrued dividends: [C] 26,313 ordinary shares €772,687	=	Total LTIP Vesting: 188,790 ordinary shares €5,543,827 £4,914,397 [D]
Sinead Gorman						
Vesting outcome: [A] 22,500 x 81% = 18,225 ordinary shares £362,058	+	Change in share price: [B] 18,225 x £6.17 £112,430	+	Accrued dividends: [C] 2,988 ordinary shares £77,804	=	Total LTIP Vesting: 21,213 ordinary shares £552,291
<small>[A] Based on the share price at award of €23.75 for Ben van Beurden and £19.87 for Sinead Gorman. For details of Jessica Uhl's 2020 LTIP, see the "Payments to past Directors" section. [B] Calculated based on the opening share price on March 3, 2023 minus the share price at the date of award. For Ben van Beurden: €29.37 - €23.75 = €5.62; for Sinead Gorman: £26.04 - £19.87 = £6.17. [C] Based on the opening share price on March 3, 2023 of €29.37 for Ben van Beurden and £26.04 for Sinead Gorman. [D] Converted from EUR to GBP using a spot exchange rate on March 3, 2023.</small>						

Consideration of 2022 final pay outcomes

In determining the final pay outcomes for 2022, the REMCO also considered the personal performance of the Executive Directors.

Personal performance

It has been an unprecedented period for the energy sector. The exceptionally strong financial performance in 2022 is attributable in part to the macro environment, but also, in the view of the REMCO, reflects the outstanding personal contributions and teamwork from management in recent years. Over the last three years, the Executive Directors have demonstrated strong and compassionate leadership navigating the Company through the pandemic and volatility in energy prices. They also implemented a new organisational structure (Project Reshape), simplified the share structure and aligned the Company's tax residence with its country of incorporation to strengthen Shell's competitiveness and accelerate both shareholder distributions and delivery of strategy to become a net-zero emissions energy company.

CEO: Ben van Beurden

The REMCO acknowledges the fundamental role the CEO's strategic and operational leadership has played in enabling Shell to achieve financial outcomes to deliver on our commitment to increase shareholder distributions, while we reduce net debt. Key successes are noted throughout this report and in particular in discussions of the 2022 annual bonus and 2020 LTIP vesting outcomes on pages 174 and 176. By the end of 2022, the CEO had led delivery of:

- Strong financial results with net income of \$43 billion and Adjusted Earnings of \$40 billion, and CFFO (including working capital) of \$68 billion against plan targets of \$40 billion, reflecting continuous high-grading of our upstream assets and the strength of our trading businesses;
- Delivery of \$26 billion of shareholder distributions in 2022, representing a return, in absolute terms, to pre-pandemic levels (2019 was around \$25 billion);
- Net debt at \$45 billion, down from \$79 billion at the end of 2019;
- Launching the Powering Progress strategy including Shell's intent to become a net-zero emissions business and achieving 89% support in a shareholder advisory vote on the proposed energy transition strategy;
- Implementing a new organisational structure;
- Simplifying the share structure and aligning the Company's tax residence with its country of incorporation allowing Shell to respond to the challenges of the energy transition by managing its portfolio with greater agility;
- Material upstream divestments and downstream portfolio rationalisation, as well as new acquisitions in direct support of our net-zero goals. These actions have protected and strengthened the balance sheet, enabling Shell to advance the Powering Progress strategy in a highly volatile macro environment.

The CEO has continued to play a leading role in the energy transition, both internally in driving performance against our strategic objectives and externally in directing conversations with policymakers, industry groups, shareholders and other key stakeholders towards the practical measures needed to transform the energy system.

Under the CEO's personal leadership, Shell took decisive early action to announce its intent to withdraw from Russian oil and gas. The CEO has been strong and principled in his position, and the Company has worked hard to support the safety of our staff and contractors in Ukraine, Russia, and neighbouring countries. We also support relief efforts, and take action when we need to do so.

The CEO's relentless focus on safety during the period has seen remarkable improvement in safety scores. The safety refresh, which focused on applying a learner mindset and psychological safety, has encouraged employees to learn from mistakes and successes and speak up freely.

People survey scores further increased during 2022, including the achievement of the best "employee engagement" result in the last 12 years and the highest ever "organisational leadership" and "team leadership" scores across Shell.

Annual Report on Remuneration continued

CFO: Jessica Uhl (until March 31, 2022); Sinead Gorman (April 1, 2022 onwards)

Maintaining discipline on capital, operating and lease expenditure and the implementation of an updated capital allocation framework to balance growth and shareholder distributions was a key focus for the CFO during a particularly turbulent period. The Company's financial success during 2022 was underpinned by the finance function's disciplined capital stewardship and the effective management of our financial framework, allocating higher cash flows from high commodity prices towards debt reduction, capex and shareholder distributions. Optimising business risk management has allowed us to respond with agility to the volatile energy market.

A key achievement over the last three years has undoubtedly been the successful delivery of the simplification of Shell plc. The successful completion of the establishment of a single line of shares, and the alignment of Shell's tax residence with its country of incorporation in the UK was hugely complex and challenging, and the REMCO recognises the pivotal role that the CFO played in its success.

The CFO supported the CEO in managing Shell's continued withdrawal from Russian hydrocarbons following an escalation in the war in Ukraine. This included external reporting, and managing the Company's responses to fast-changing regulations and sanctions, and their impact on the Company's ability to meet contractual obligations in the exit of our Russia ventures in our Upstream, Integrated Gas, and Downstream businesses. The CFO also oversaw the introduction of new segments of reporting (introduction of Renewables and Energy Solutions, Marketing, and Chemicals and Products segments), with improved external financial and operational quarterly disclosures, promoting transparency for shareholders and other stakeholders.

The CFO led delivery of publication of the Shell Energy Transition Strategy and enhanced climate change disclosures in the Annual Report, which is part of our continuing work to implement the recommendations of the Task Force on Climate-related Financial Disclosures. Tax contribution reporting has also been expanded to include total tax contribution data on 21 countries and a summary of key tax issues in relation to the energy transition.

A highlight from 2022 has been the digitalisation of internal financial planning processes, enabling a step change in the quality, process and experience of internal processes, in particular in forecasting and business planning.

The REMCO considered the single figure outcomes for the CEO and the CFO. It noted that the overall remuneration outcome was higher than last year for the CEO. The REMCO was satisfied that these single figure outcomes represented a fair level of remuneration. In finalising its remuneration decisions for 2022, the REMCO considered a range of factors, including:

- Shell's performance in 2022 and over the LTIP performance period 2020-2022 and the formulaic outcomes of the bonus and the LTIP performance condition;
- The impact of fatalities on the formulaic scorecard outcome;
- Absolute and relative TSR performance over the period;
- A range of other factors that take account of Shell's performance beyond the formulaic outcomes of the variable pay structures, including safety, reputation, ethics and compliance, and feedback from the Audit Committee and the Safety, Environment and Sustainability Committee (SESCO);

2022 LTIP

- The macro-economic environment and wider stakeholder experience, and shareholders' expectations with regard to executive pay decision-making;
- The Executive Directors' remuneration compared with the variable pay outcomes for the general workforce;
- The alignment of the Executive Directors with the shareholder experience through their high shareholding requirements;
- The Executive Directors' remuneration compared with historical outcomes; and
- The personal performance of the Executive Directors.

After reflecting on the above factors, the REMCO was satisfied that the Policy had operated as intended.

Scheme interests awarded to Executive Directors in 2022 (audited)

In 2022, the Executive Directors were granted conditional share awards under the LTIP as set out in the table below. In approving the awards, the REMCO considered Shell's historical share price, including the share price over the prior year, and noted that the share price at grant was not lower than average historical levels for both Executive Directors and was higher than in 2021. The REMCO determined that the risk of windfall gain was limited, and therefore no adjustment was made to the award size.

Scheme interest type	Type of interest awarded	End of performance period	Target award [A]	Potential amount vesting	
				Minimum performance (% of shares awarded) [B]	Maximum performance (% of shares of the target award) [A]
LTIP	Performance shares	December 31, 2024	Ben van Beurden: 209,131 London-listed ordinary shares, equivalent to 3.0x base salary or £4,260,000 Sinead Gorman: 105,675 London-listed ordinary shares, equivalent to 2.7x base salary or £2,430,000	0	Maximum number of shares vesting is 200% of the shares awarded, before dividends.

[A] The award for Ben van Beurden was based on the closing market price on the date of grant, February 4, 2022, for ordinary shares of £20.370. The award for Sinead Gorman was based on the closing market price on the date of grant, May 6, 2022, for ordinary shares of £22.995. Jessica Uhl did not receive an LTIP award in 2022.

[B] Minimum performance relates to the lowest level of achievement, for which no reward is given.

The measures and weightings applying to LTIP awards made in 2022 were: CFFO (20% weighting), TSR (20%), ROACE (20%), FCF (20%), and energy transition (20%).

Relative measures

The relative measures are based on our performance on a number of key financial and external measures against our closest comparators. For each measure, we rank growth based on the data points at the end of the performance period compared with those at the beginning of the period.

- As in prior years, the CFFO metric is based on point-to-point growth in CFFO from the base year to the final year of the performance period.
- TSR is based on the change in share price plus dividends, and is calculated in US dollars using a 90-day averaging period (based on 45 days either side of the start and end date of the performance period).
- The ROACE metric is defined as point-to-point growth in ROACE from the base year to the final year of the performance period, where ROACE is net income as a percentage of the average capital employed for the period. Capital employed consists of total equity,

Annual Report on Remuneration continued

current debt and non-current debt. To facilitate comparison, our calculation of Shell's ROACE for the purpose of the LTIP differs from that described in "Performance indicators" on page 31-32 in that there is no adjustment for after-tax interest expense.

Vesting under each relative measure is assessed independently, with the vesting outcome ranging from 0% to 200% of the target award in respect of the measure, in accordance with the following vesting schedule:

- Ranking first equals 200% vesting;
- Ranking second equals 150% vesting;
- Ranking third equals 80% vesting; and
- Ranking fourth or fifth equals 0% vesting.

Outperforming Shell's closest competitors on key financial metrics is challenging. The REMCO is aware that vesting for median performance is generally set at a limit of 25% of maximum for other UK companies, but notes that this is typically applied against a larger comparator group. A vesting outcome of 80% for median performance (40% of maximum) in a small comparator group is considered appropriate by the REMCO.

Absolute measures

FCF

The FCF performance condition supports the delivery of our cash flow priorities, which are to service and reduce debt, pay dividends, buy back shares and make future capital investments.

The performance targets for FCF will be set by reference to Shell's annual operating plans, based on the aggregate of plan FCF targets over the three-year performance period. Given that FCF is heavily influenced by the volatility of oil and gas prices, the annual operating plans are updated each year to set an annual target to reflect a changing oil price premise. As a result, FCF targets are set annually for each annual operating plan and will be disclosed in aggregate retrospectively after the three-year period. The REMCO has considered setting a three-year target at the outset, but it believes such an approach would require adjustments for the oil and gas price premise and other matters at the end of the period, given the unpredictability and volatility in oil and gas prices. The REMCO has a long-standing no-adjustments policy which leads it to believe that a more appropriate approach is to set the target based on the aggregation of the annual operating plans.

Under the FCF measure, achievement of threshold performance will result in 40% of the target award (20% of maximum) in respect of the FCF measure vesting, increasing to full vesting for achievement of outstanding performance. A straight-line vesting schedule will apply for performance between threshold and outstanding.

Energy transition

For the 2022 award, the energy transition element comprised a number of strategic measures that laid the foundation for Shell to achieve our longer-term ambitions in the energy transition. There are four main categories, a mix of leading and lagging indicators, each comprising a number of quantitative and qualitative performance indicators. Performance in each category is reviewed independently; together, it provides a guiding framework for the REMCO's holistic assessment of energy transition performance over the three years. In determining the final vesting outcome between 0% and 200% of the target level, the REMCO takes account of Shell's wide progress in the energy transition beyond the defined measures.

The four measures are as follows:

- Build a valuable power business: our ambition is to expand our power business through selective investments in generation and by reselling power generated by others;

- Grow new low- and zero-carbon energy product offerings: continue to invest in low- and zero-carbon products such as renewable electricity, hydrogen, biofuels and chemicals;
- Develop emission sinks: invest in carbon capture and storage opportunities, to reduce emissions where there are no currently scalable low-carbon alternatives, and in the development of high-quality nature-based projects, to compensate for emissions; and
- Net Carbon Intensity: reduce NCI of the energy products Shell sells.

Progress in the energy transition is not expected to be linear because it will reflect the pace of change of society as a whole and the speed at which Shell makes progress with its strategic business objectives. As a result, performance indicators have been set as ranges. The quantitative performance indicators are commercially sensitive, so they will not be disclosed until the end of the performance period (or until they are no longer considered commercially sensitive).

Further information on the energy transition performance measure is provided on page 177.

For an update on Shell's energy transition, see the Shell Energy Transition Progress Report from www.shell.com.

TSR underpin

If Shell's TSR ranking is fourth or fifth, the level of the award that can vest on the basis of the other measures will be capped at 50% of the maximum.

Performance update on FCF

2021 LTIP award

At December 31, 2022, FCF performance was above target, with a strong outcome of \$40.3 billion for 2021 (target \$9 billion), and \$46 billion for 2022 (target \$18 billion). As one year of FCF performance remains, and 80% of the award is subject to relative and energy transition performance conditions, this does not reflect the potential vesting of the award.

2022 LTIP award

At December 31, 2022, FCF performance was above target, based on \$46 billion for 2022 (target \$18 billion). As two years of FCF performance remain, and 80% of the award is subject to relative and energy transition performance conditions, this does not reflect the potential vesting of the award.

Executive Director changes

The previous CFO, Jessica Uhl, began working in the UK effective December 31, 2021. In early 2022, we announced that given her family circumstances, a long-term relocation to the UK was not sustainable, and the Company accelerated the managed succession plan and Jessica Uhl stepped down as CFO and as a Director of Shell plc on March 31, 2022, and left Group service on June 30, 2022. Details of Jessica Uhl's remuneration for 2022 may be found in the single figure table on page 173, and the "Payments for loss of office" and "Payments to past Directors" sections.

As disclosed in last year's Directors' Remuneration Report, Sinead Gorman was appointed to the Board as CFO effective April 1, 2022. On appointment, her salary was £900,000 per annum, and during 2022, she received salary and benefits in line with the Policy, and her pension is aligned to the UK defined contribution pension arrangements offered to new Shell employees. Sinead Gorman was also eligible to receive a pro rata annual bonus of up to 240% of salary and a target LTIP award of 270% of salary, in line with the Policy. The remuneration paid to Sinead Gorman in respect of her service as an Executive Director during 2022 is disclosed in the single figure table.

Annual Report on Remuneration continued

As a result of a managed succession process led by the Chair of the Board, Ben van Beurden stepped down as CEO on December 31, 2022. He will continue working as a full-time adviser to the Board, focusing on matters related to the cost-of-living crisis, energy security, and supporting advice to governments and regulators until June 30, 2023, after which he will leave the Group. Ben van Beurden will be eligible for a pro-rated annual bonus in relation to the performance year 2023, and his outstanding LTIP awards will be reduced to reflect time served, and vest at the normal time subject to performance. Ben van Beurden will not receive a 2023 LTIP award.

Ben van Beurden's contract was a rollover of the Dutch end-of-employment arrangements under which cessation of employment was by mutual agreement and not by notice. Accordingly, the 2020 Policy provided for a maximum loss of office payment of one year's annual pay (base salary plus target bonus), in line with Dutch statutory end-of-employment compensation.

Following relocation to the UK, the Dutch statutory provisions are no longer the appropriate point of reference and in determining the appropriate compensation for loss of office the REMCO took into consideration UK market norms and acted in the best interests of Shell and shareholders as a whole. Ben van Beurden will receive a payment of £1,420,000, equivalent to one times base salary (which, for the

avoidance of doubt, does not include target bonus), to be phased in six equal monthly instalments between July 1, 2023 and December 31, 2023, and outstanding payments will be reduced by 50% if he secures a paid position (excluding Non-executive Directorships) in that period.

While Ben van Beurden was under a four-month notice period as a legacy of his Dutch arrangements, his cessation of employment is by mutual agreement and therefore notice has neither been given nor received. Had cessation of employment been by notice, it would have commenced from the date of announcement of his stepping down as an Executive Director. Going forward, the 2023 Policy proposes alignment to UK market practice (i.e. a 12-month notice period).

Ben van Beurden and Jessica Uhl are subject to post-employment shareholding requirements for a period of two years post termination, and their share awards remain subject to holding periods.

As previously announced, Wael Sawan was appointed as CEO effective January 1, 2023. His salary is £1,400,000, and he receives benefits and pension (in the form of pension cash allowance of 20% of salary) in line with the Policy. He is eligible for a target annual bonus of 125% of salary, and he received a target award under the LTIP of 300% of salary in February 2023.

Single figure of total remuneration for Non-executive Directors (audited)

	£ thousand					
	Fees		Taxable benefits [A]		Total	
	2022	2021	2022	2021	2022	2021
Dick Boer	153	144	4	—	157	144
Neil Carson	171	165	2	—	173	165
Ann Godbehere	184	182	7	1	191	183
Euleen Goh	211	193	6	1	217	194
Jane Holl Lute [B]	154	85	14	1	168	86
Catherine J. Hughes	182	159	9	1	191	160
Martina Hund-Mejean	154	142	3	1	157	143
Sir Andrew Mackenzie [C]	785	500	4	15	789	515
Bram Schot [D]	144	131	2	—	146	131
Gerrit Zalm [E]	62	152	5	—	67	152

[A] UK regulations require the inclusion of benefits where these would be taxable in the UK, on the assumption that Directors are tax residents in the UK. On this premise, the taxable benefits include the cost of a Non-executive Director's occasional business-required partner travel. Shell also pays for travel between home and the head office, where Board and Committee meetings are typically held, and related hotel and subsistence costs. For consistency, business expenses for travel between home and the head office are not reported as taxable benefits because for most Non-executive Directors this is international travel and hence would not be taxable in the UK.

[B] Appointed as a Director with effect from May 19, 2021.

[C] Appointed Chair of the Board with effect from May 18, 2021.

[D] Appointed as a Director with effect from May 24, 2022.

[E] Stepped down as a Director with effect from May 24, 2022.

Statement of Directors' shareholding and share interests (audited)

Shareholding guidelines

The REMCO believes that Executive Directors should align their interests with those of shareholders by holding shares in Shell plc (the Company). The CEO is expected to build a shareholding with a value of 700% of base salary, and the CFO 500%. The shareholding requirement extends post employment, such that Executive Directors will be required to maintain their shareholding requirement, or the number of shares actually held if this is less than the shareholding requirement, for a period of two years post employment.

Only unfettered shares count towards an Executive Director's shareholding. Shares delivered that are subject to holding requirements also count towards the guidelines. The CEO and the CFO have five years from their respective appointment to the Board to achieve their respective shareholding requirements.

There is a Company-sponsored nominee account which allows for restrictions to be applied on the sale or transfer of shares that are subject to holding periods. The restrictions remain in force beyond the Executive Director's employment.

Non-executive Directors are encouraged to hold shares with a value equivalent to 100% of their fixed annual fee and to maintain that holding during their tenure.

Directors' share interests

The interests, in shares of the Company or calculated equivalents, of the Directors in office during 2022, including any interests of their connected persons, are set out in the table over the page.

Annual Report on Remuneration continued

Directors' share and scheme interests (audited)

	Ordinary shares held at January 1, 2022	Ordinary shares held at December 31, 2022	Unvested and subject to performance conditions [A]	Shareholding guideline as % of salary	Current shareholding as % of salary [B]
Executive Directors					
Ben van Beurden	973,533	874,531	695,978	700%	1433%
Sinead Gorman	38,566 [C]	39,660	168,634	500%	102%
Jessica Uhl	299,283 [D]	342,099 [E]	94,183	500%	N/A
Non-executive Directors					
Dick Boer	10,000	10,000			
Neil Carson	16,000	16,000			
Ann Godbehere	10,000 [F]	10,000 [F]			
Euleen Goh	12,895	12,895			
Jane Holl Lute	5,002 [G]	6,808 [H]			
Catherine J. Hughes	55,984 [I]	55,984 [I]			
Martina Hund-Mejean	20,000 [J]	20,000 [J]			
Sir Andrew Mackenzie	27,623	27,623			
Bram Schot [K]	—	—			
Gerrit Zalm	2,026	2,026 [L]			

[A] Includes unvested long-term incentive awards and notional dividend shares accrued at December 31, 2022. Interests are shown on the basis of the original awards, which can vest at between 0% and 200% based on performance. Dividend shares accumulate each year on an assumed notional LTIP award. Such dividend shares are disclosed and recorded on the basis of the number of shares conditionally awarded but, when an award vests, dividend shares will be awarded only in relation to vested shares as if the vested shares were held from the award date.

[B] Calculated using the £23.26 per share closing price on December 30, 2022, the last market day of 2022.

[C] As at April 1, 2022, the date of her appointment as CFO.

[D] Held as 35,201 ordinary shares and 132,041 ADS. Each ADS represents two ordinary shares.

[E] As at March 31, 2022, when she stepped down as CFO. Held as 78,017 ordinary shares and 132,041 ADS. Each ADS represents two ordinary shares.

[F] Held as 5,000 ADS. Each ADS represents two ordinary shares.

[G] Held as 2,501 ADS. Each ADS represents two ordinary shares.

[H] Held as 3,404 ADS. Each ADS represents two ordinary shares.

[I] Held as 50,984 ordinary shares and 2,500 ADS. Each ADS represents two ordinary shares.

[J] Held as 10,000 ADS. Each ADS represents two ordinary shares.

[K] On August 17, 2020, Bram Schot purchased 5,500 certificates Shell Turbo Long 6,9 BNP Paribas Markets (ISIN: NL0009558519) at a price of €5.37 per certificate. These certificates are cash settlement instruments the value of which is linked to the price of Shell shares. In this case, the ratio of the turbo is 1:1 and accordingly 5,500 certificates represent 5,500 Shell shares. As at January 16, 2023, the leverage is 1.30 but it fluctuates depending on the share price. If the share price increases, the leverage will decrease. The finance level is 6.38 and the stop-loss level is 6.9. The finance level is adjusted on the 15th day of every month. Finance costs are 4.91% on an annual basis. With a turbo long, there is a finance level and a stop-loss level. If the underlying share price drops below the stop-loss level, the turbo long is terminated. The investor then receives the value of the difference between the finance level and the level on which the counterparty, in this case BNP Paribas, can close the turbo. Take for example a turbo with a stop-loss level of 10 and a finance level of 8. When the underlying share price drops below 10, which is the stop-loss level, the buyer will still receive the amount 10-8=2. But if the share price would suddenly drop to 8 or below, the buyer will receive nothing and the total investment is lost. In most cases, the turbo would be terminated at the stop-loss level, and the buyer receives the amount of the difference between the finance level and the stop-loss level. The actual amount will be determined by BNP. In addition, on August 27, 2020, Bram Schot purchased 100 Leonteq Express Euro Denominated Certificates on ING, Shell, Unilever (ISIN: CH0470808913), with a nominal value of €1,000 each at a price of €515 per certificate. These certificates are cash settlement instruments of which payment of a conditional coupon depends for 1/3 on the development of the price of the Shell Shares on Euronext Amsterdam and, as such, are a financial instrument linked to the Shell shares. Both transactions took place before Bram Schot became a Director of the Company. On February 12, 2021, Bram Schot purchased (i) an additional 2,500 certificates Shell Turbo Long 6,9 BNP Paribas Markets (ISIN: NL0009558519) at a price of €7.69 per certificate; and (ii) an additional 50 Leonteq Express Euro Denominated Certificates on ING, Shell, Unilever (ISIN: CH0470808913), with a nominal value of €1,000 each at a price of €715 per certificate.

[L] As at May 24, 2022, when he stepped down as a Director.

The Directors share interests converted into ordinary shares or ADS, as appropriate, following the assimilation of Shell's A and B shares into a single class of shares on January 29, 2022.

Effective as of January 1, 2023, Wael Sawan was appointed as an Executive Director. As at March 6, 2023, he holds 210,666 ordinary shares.

The changes to Directors' shareholdings as at March 6, 2023 are as follows:

- Sinead Gorman's share interest increased by 23,669 ordinary shares after the delivery of the 2022 annual bonus shares and the vesting of the 2020 LTIP award.
- Andrew Mackenzie purchased 8,235 ordinary shares on February 7, 2023.
- On February 6, 2023, Bram Schot disposed of the 150 Leonteq Express Euro Denominated Certificates on ING, Shell, Unilever (ISIN: CH0470808913), with a nominal value of €1,000 each at a price of €1,007.70 per certificate.

At March 6, 2023, the Directors and Senior Management (pages 129 and 137) of the Company beneficially owned, individually and in aggregate (including shares under option), less than 1% of Company shares. These shareholdings are not considered sufficient to affect the independence of the Directors.

Dilution

In any 10-year period, no more than 5% of the issued ordinary share capital of the Company may be issued or issuable under executive (discretionary) share plans adopted by the Company, or 10% when aggregated with awards under any other employee share plan operated by the Company. To date, no shareholder dilution has resulted from these plans, although it is permitted under the rules of the plans, subject to these limits.

Effective as of March 2, 2023, Cyrus Taraporevala has been appointed as a Non-executive Director. As at March 6, 2023, he held 125 ADS.

Annual Report on Remuneration continued

Payments for loss of office (audited)

Jessica Uhl stepped down from the Board and her role as CFO with effect from March 31, 2022, and left Group service on June 30, 2022. She received a payment for loss of office of £921,000, equivalent to one times base salary. This was paid in 12 equal bi-weekly instalments, with the final payment made in December 2022, and would have been subject to mitigation in the event that she resumed a paid role in that period.

Jessica Uhl received a pro-rated annual bonus in relation to the performance year 2022 of £810,000. 50% of the bonus was delivered in cash and 50% was delivered in shares, subject to a three-year holding period which remains in force post termination. Jessica Uhl's 2020 and 2021 LTIPs will be reduced on a pro rata basis for time served, and the extent of any vesting will be determined at the end of the performance period.

Payments to past Directors (audited)

Jessica Uhl's remuneration during the period April 1 to June 30, 2022 is set out below:

- Base salary: there was no change to Jessica Uhl's salary during this period, and she received £230,250.
- Pension: Jessica Uhl continued to participate in the US defined benefit plan.

Jessica Uhl received an LTIP award of 59,062 ADS in 2020, which has been pro-rated for time served. The pro-rated award vested at 81% of target based on performance to December 31, 2022. Therefore, 46,365 ADS (including accrued dividends) vested on March 3, 2023, with a value at vesting of \$2,847,724. A three-year holding period applies, which remains in force post termination.

Payments below £5,000 are not reported as they are considered de minimis.

TSR performance and CEO pay

Performance graph

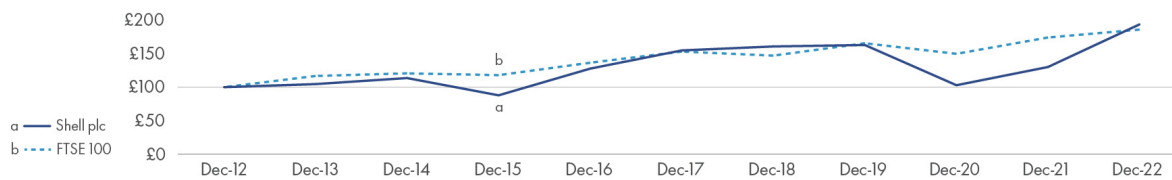
The graph below compares the TSR performance of Shell plc over the past 10 financial years with that of the FTSE 100 Index. The Board regards this index as the most appropriate broad market equity index for comparison, following Shell's headquarters move to the UK. Data shown is for the performance of RDS B shares prior to the assimilation of Shell's shares into a single line of ordinary shares on January 29, 2022.

CEO pay outcomes

The table below the graphs sets out the single figure of total remuneration, the annual bonus payment and long-term incentive (LTI) vesting rates compared with the respective maximum opportunity, for the CEO for the past 10 years.

Historical TSR performance

Value of hypothetical £100 holding



Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
CEO	Peter Voser	Ben van Beurden									
Single figure of total remuneration (£000) [A]	7,183	19,510 [B]	4,049	7,046	7,811	17,817	8,746	5,197	6,344	9,698	
Annual bonus award against maximum opportunity	44%	94%	98%	66%	81%	79%	21%	—%	64%	73%	
LTI vesting against maximum opportunity	30%	49%	8%	42%	35%	95%	74%	45%	25%	41%	

[A] Prior to 2022, the CEO's remuneration was denominated in EUR. Each year's single figure of total remuneration has been converted to GBP using the 12-month average exchange rates for the year.

[B] Ben van Beurden's single figure for 2014 was impacted by the increase in pension accrual calculated under the UK reporting regulations and tax equalisation as a result of his promotion and prior assignment to the UK.

Percentage change in remuneration of the Directors and employees

As the Company does not have any direct employees, the table below compares the remuneration of the Executive and Non-executive Directors of Shell plc with an employee comparator group consisting of local employees in the UK, the Netherlands, and the USA. The local employee population of these countries is considered to be a suitable employee comparator group because: these are countries with a significant Shell employee base; a large proportion of senior managers come from these countries; and the REMCO considers remuneration levels in these countries when setting base salaries for Executive Directors. For the purposes of comparison, the change in employee remuneration is calculated by reference to the change in salary scale, benefits and annual bonus for a notional employee in each of the base countries, not by reference to the actual change in pay for a group of employees.

Taxable benefits are those that align with the definition of taxable benefits applying in the respective country. In line with the "Single figure of total remuneration for Executive Directors" table, the annual bonus is included in the year in which it was earned.

Annual Report on Remuneration continued

Percentage change in remuneration of Directors and employees [A]

	Salary/fees (% change)			Benefits (% change)			Annual bonus (% change)		
	2021-22	2020-21	2019-20	2021-22	2020-21	2019-20	2021-22	2020-21	2019-20
Employees [B]	2.4%	0.6%	3.0%	(8.4%)	0%	0%	(0.4%)	N/A	(100.0%)
Executive Directors									
Ben van Beurden	3.5%	0%	2.0%	3270.5% [C]	8.6%	(23.7%)	17.7%	N/A	(100.0%)
Jessica Uhl [D]	(74.1%)	0%	2.0%	(47.4%)	(22.8%)	28.1%	N/A	N/A	(100.0%)
Sinead Gorman	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Non-executive Directors [E]									
Dick Boer	6.3%	70.4%	N/A	N/A	N/A	N/A			
Neil Carson	3.6%	4.3%	85.6%	N/A	N/A	N/A			
Ann Godbehere	0.8%	2.9%	15.8%	1286.7%	N/A	N/A			
Euleen Goh	9.4%	11.4%	0.2%	520.3%	N/A	N/A			
Jane Holl Lute	80.4%	N/A	N/A	1893.8%	N/A	N/A			
Catherine J. Hughes	14.1%	2.8%	(10.0%)	868.8%	N/A	N/A			
Martina Hund-Mejean	8.6%	68.4%	N/A	358.2%	N/A	N/A			
Sir Andrew Mackenzie	57.0%	1473.0%	N/A	(69.3%)	N/A	N/A			
Bram Schot	10.1%	300%	N/A	N/A	N/A	N/A			
Gerrit Zalm [F]	(59.0%)	0%	0%	N/A	N/A	N/A			

[A] In a number of instances the value for the preceding year was zero. In these cases, N/A is recorded.

[B] As Shell plc does not have any employees, the change in pay for an employee comparator group from the UK, USA and the Netherlands is shown.

[C] Ben van Beurden's 2022 benefits include time-limited relocation-related benefits.

[D] Jessica Uhl stepped down as CEO effective March 31, 2022. The changes in remuneration shown for 2021-22 are based on a full year for 2021, and the period January 1 to March 31, 2022 for 2022.

[E] Non-executive Directors do not receive any short-term incentives. The increases shown reflect the individuals' appointment to the Board part-way through the prior year, or additional fees payable for joining Board Committees.

[F] Gerrit Zalm stepped down from the Board effective May 24, 2022. The changes in remuneration shown for 2021-22 are based on a full-year for 2021, and the period January 1 to May 24, 2022 for 2022.

Relative importance of spend on pay

The table below sets out distributions to shareholders by way of dividends and share buybacks, and remuneration paid to or receivable by employees for the last five years, together with annual percentage changes.

Year	Dividends and share buybacks [A]		Spend on pay (all employees) [B]	
	\$ billion	Annual change	\$ billion	Annual change
2022	25.8	183%	14.0	16%
2021	9.1	—%	12.1	—%
2020	9.1	(64)%	12.1	(8)%
2019	25.4	26%	13.2	(1)%
2018	20.2	29%	13.4	(6)%

[A] Dividends paid, which includes the dividends settled in shares via our Scrip Dividend Programme and repurchases of shares as reported in the "Consolidated Statement of Changes in Equity".

[B] Employee costs, excluding redundancy costs, as reported in Note 32 to the "Consolidated Financial Statements".

Spend on pay can be compared with the major costs associated with generating income by referring to the "Consolidated Statement of Income". Over the last five years, the average spend on pay was 5% of the major costs of generating income. These costs are considered to be the sum of: purchases; production and manufacturing expenses; selling, distribution and administrative expenses; research and development; exploration; and depreciation, depletion and amortisation.

Total pension entitlements (audited)

During 2022, Jessica Uhl accrued retirement benefits under a defined benefit plan. The pension accrued under this plan at March 31, 2022 is set out below.

Accrued pension (audited)

Thousand	\$
Jessica Uhl [A]	1,247

[A] Jessica Uhl has an annual choice between two accrual formulas with different forms of benefits. One is in the form of a lifetime annuity and the other allows for a lump-sum payment. She elected to accrue benefits up to 2018 under the arrangement for a lump-sum payment, and the eventual lump-sum benefit is shown. From 2019, she elected to accrue benefits as a lifetime annuity. The value of this accrued benefit at March 31, 2022, was \$13,429 per annum plus a lump sum of \$391,530. She also has a deferred Dutch defined benefit pension plan, as a result of a prior Shell assignment on local Dutch terms and conditions. The age at which Jessica Uhl can receive any pension benefit without an actuarial reduction under this Dutch plan is 60. The value of the deferred pension benefit is €3,587 per annum.

The age at which Jessica Uhl can receive any pension benefit without an actuarial reduction under her US pension plan is 65. Any pension benefits on early retirement are reduced using actuarial factors to reflect early payment. No payments were made in 2022 regarding early retirement or in lieu of retirement benefits.

After his relocation to the UK on December 31, 2021, Ben van Beurden became a deferred member of his Dutch defined benefit plan, and therefore did not accrue any pension benefit under a defined benefit plan during 2022. The increase in his accrued pension over the year is due only to indexation in line with inflation on his deferred pension, consistent with treatment for any other deferred member in the plan.

External appointments

Ben van Beurden served on the Supervisory Board of Daimler AG as a Non-executive Director in 2022, and Jessica Uhl served on the Board of Goldman Sachs Group as Non-executive Director in 2022. Sinead Gorman did not hold any Non-executive Director positions during 2022.

Annual Report on Remuneration continued

Statement of voting at 2022 AGM

Shell's 2022 AGM was held on May 24, 2022. The result of the poll in respect of Directors' remuneration was as follows:

Approval of Directors' Remuneration Report

Votes	Number	Percentage
For	4,346,283,705	95.92%
Against	184,753,614	4.08%
Total cast	4,531,037,319 [A]	100.00%
Withheld [B]	24,598,418	

[A] Representing 60.69 % of issued share capital.

[B] A vote withheld is not a vote under UK law and is not counted in the calculation of the proportion of the votes for and against a resolution.

The result of the poll in respect of the Directors' Remuneration Policy last approved at the 2020 AGM was as follows:

Approval of Directors' Remuneration Policy

Votes	Number	Percentage
For	3,705,707,055	92.91%
Against	282,966,810	7.09%
Total cast	3,988,673,865 [A]	100.00%
Withheld [B]	24,979,832	

[A] Representing 51.09% of issued share capital.

[B] A vote withheld is not a vote under UK law and is not counted in the calculation of the proportion of the votes for and against a resolution.

CEO pay ratio

Option	25 th percentile pay ratio	Median pay ratio	75 th percentile pay ratio	
2022	A	134:1	80:1	50:1
Total pay and benefits:	£72,632	£121,847	£192,995	
Salary:	£45,904	£56,302	£96,790	
2021	A	97:1	57:1	37:1
Total pay and benefits:	£65,123	£111,912	£170,289	
Salary:	£43,550	£68,238	£101,000	
2020	A	93:1	57:1	38:1
Total pay and benefits:	£55,584	£90,972	£136,007	
Salary:	£49,117	£75,365	£118,291	
2019	A	147:1	87:1	54:1
Total pay and benefits:	£59,419	£100,755	£161,717	
Salary:	£40,417	£56,721	£79,991	
2018	A	202:1	143:1	92:1
Total pay and benefits:	£88,112	£124,459	£193,027	
Salary:	£53,528	£80,407	£96,074	

Shell has chosen to use option A to calculate the CEO pay ratio in accordance with guidance from the UK government that this is the preferred approach and the most statistically accurate method for identifying the ratios. Under option A, a comparable single figure for all UK employees has been calculated in order to identify the employees whose pay and benefits are at the 25th, 50th (median) and 75th percentiles for comparison with the CEO. Employee pay has been calculated based on the total pay and benefits paid in respect of 2022 for all employees who were employed on December 31, 2022. For part-time workers and joiners in the year, pay and benefits have been annualised based on the proportion of their working time in the UK during the year. This is calculated with an approach consistent with the methodology for determining annual bonuses. The REMCO believes that this provides a fair and reasonable calculation of the pay ratios for Shell employees in the UK.

The ratio of the CEO's pay to the median UK employee is 80. The global pay ratio, calculated by comparing the CEO's single figure with the average employee headcount cost, is 79. The ratio at median for 2022 is higher than for 2021, reflecting an increase in variable pay outcomes for the CEO. While variable pay outcomes have also increased for other UK employees, a higher proportion of the CEO's remuneration is variable, meaning the pay ratio is higher in years of higher variable pay outcomes. Overall, the pay ratios are lower than in 2018 (the first year of reporting), reflecting reductions in the CEO bonus and LTIP opportunities over time, as well as changes in variable pay outcomes. The REMCO believes the CEO pay ratio for 2022 is appropriate and consistent with Shell's philosophy of pay for performance.

Directors' employment arrangements and letters of appointment
Executive Directors are employed for an indefinite period. Non-executive Directors, including the Chair, have letters of appointment. Details of Executive Directors' employment arrangements can be found in the proposed Policy on page 196.

Further details of Non-executive Directors' terms of appointment can be found in the "Other regulatory and statutory information" on page 199 and the "Governance framework" report on page 141.

Compensation of Directors and Senior Management

During the year ended December 31, 2022, Shell paid and/or accrued compensation totalling \$53 million (2021: \$48 million) to Directors and Senior Management for services in all capacities while serving as a Director or member of Senior Management, including \$2 million (2021: \$3 million) accrued to provide pension, retirement and similar benefits. The amounts stated are those recognised in Shell's income on an IFRS basis. See Note 33 to the "Consolidated Financial Statements". Personal loans or guarantees were not provided to Directors or Senior Management.

Workforce engagement on remuneration matters

Workforce engagement

The Board's view is that all Directors have a collective responsibility for workforce engagement, ensuring that employees' voices are heard on all business matters, including pay, and that the Company communicates effectively to employees on our remuneration policies and practices. The Board and management regularly engage with the workforce through a range of formal and informal channels, including webcasts, town halls, team meetings, face-to-face gatherings, employee surveys, and online publications via the intranet. During live webcasts and other interactive sessions, employees have the opportunity to pose questions on any topic, including pay. The Board's preference is to build on existing, long-standing channels of engagement for discussions around remuneration.

During the year, the Board reviewed the results of the 2022 Shell People Survey, and was pleased to note further improvements, including the achievement of the best "employee engagement" result in the last 12 years and the highest ever "organisational leadership" and "team leadership" scores across Shell. The Board was also pleased with the significant levels of employee engagement with intranet articles explaining the Powering Progress Share Award and EC Special Recognition Award, and how the refreshed Group scorecard connects with Shell's strategic priorities.

Annual Report on Remuneration continued

Wider employee context

The REMCO receives annual updates on workforce remuneration topics, including employees' views on pay matter; CEO pay ratio; UK gender and ethnicity pay gap information; planned general employee salary increases; and bonus scorecard and Performance Share Plan (PSP) outcomes. In addition, the REMCO receives ad hoc papers covering other pay matters periodically, e.g. a consideration of workforce remuneration policies and their alignment with culture.

Management understands that employees have been through a challenging period, and has recognised their efforts in various ways, as referred to in the Chair's Statement. In addition, at the beginning of the year, management reviewed the bonus scorecard outcome for 2021 and determined to apply a discretionary uplift to the formulaic outcome for below-Board employees, to recognise financially the extraordinary

lengths that colleagues have gone to. For the avoidance of doubt, the uplift was not applied to Executive Directors. The REMCO noted this decision as part of its review of workforce matters. These materials provide an important backdrop for the REMCO when making judgements on the design and award of Executive Director remuneration.

Shell adheres to its fair pay principles in all remuneration-related matters. Pay in Shell is market-competitive, free from bias, and provides security to our employees. Shell sets clear performance expectations, gives employees the opportunity to share in Shell's success through a variety of variable pay schemes, and is transparent and clear in its communication of remuneration. For more information, visit the "Human Rights" section of www.shell.com.

How executive remuneration aligns with wider Company pay policy

Executive remuneration structures in Shell are strongly aligned with the structures for the broader workforce, as set out in the table below.

Element	Comparison of Executive Director and wider workforce arrangements
Salary	The Executive Directors' salaries are reviewed with reference to the factors set out in the Policy, against defined comparator groups. The market-competitiveness of wider workforce salaries is assessed at a base country level.
Pension and benefits	The Executive Directors' pension benefits are aligned with those offered to new employees in the UK. Shell does not operate separate executive pension arrangements. All Group employees participate in the relevant pension plan for their base country based on their date of joining. The Executive Directors are eligible to receive the same standard benefits available to the broader workforce.
Annual bonus	The Group scorecard applicable to Group employees is identical to that applicable to Executive Directors in terms of performance measures, weightings, and targets. For the wider workforce, an additional multiplier applies based on individual performance during the year. No individual multiplier applies to Executive Directors, and further, 50% of the bonus is paid in shares, and the bonus is subject to malus and clawback provisions.
Long-term incentives	Executive Directors and around 150 senior executives participate in the LTIP on the same terms. Executive Directors' LTIP awards are subject to a three-year holding period. A further around 16,500 employees participate in the PSP; 50% of the performance conditions are the same as those for the LTIP.
Shareholding guidelines	The Executive Directors have the highest shareholding guidelines in the Company, which are set at 700% and 500% of salary for the CEO and the CFO, respectively. These guidelines continue post termination for a period of two years. Shareholding guidelines extend deep into the organisation, to the senior manager level (75% of salary). Employees are required to achieve their individual guideline within a specified timeframe, as is the case for Executive Directors.

Statement of planned implementation of Policy in 2023

A summary of how the proposed Policy will be applied to Directors' remuneration for 2023 is set out below.

Executive Directors

Comparator group

The current benchmarking comparator group consists of the other oil majors (BP, Chevron, ExxonMobil, and TotalEnergies) and a selection of major Europe-based companies. The other oil majors are included in the comparator group as these represent our closest direct competitors operating in similar market conditions. The Europe-based companies are selected based on their size, complexity and global reach. For 2023, the REMCO has decided to replace BHP with Glencore. BHP delisted from the LSE and was therefore no longer considered a European company for the purpose of the peer group, and Glencore was selected as a replacement given its similarity to Shell in terms of size, sector and complexity (see table to the right). The REMCO retains the right to alter the comparator group as it sees fit in order to ensure it remains an appropriate and relevant benchmark.

2023 European comparator group

Allianz	Diageo	Rio Tinto
AstraZeneca	Glencore	Roche
BAT	GSK	Siemens
Bayer	Nestle	Unilever
Daimler	Novartis	Vodafone

The REMCO uses benchmark data from these companies only as a guide to the competitiveness of the remuneration packages. The REMCO does not seek to position our remuneration at any defined point against the comparator data.

Salaries

Wael Sawan was appointed as CEO on January 1, 2023, on a salary of £1,400,000. No increases are anticipated during 2023.

Effective January 1, 2023, Sinead Gorman received an increase of 2.8% and her salary for 2023 is £925,000.

Annual Report on Remuneration continued

In reviewing the CFO's salary, the REMCO carefully considered the external environment, and the increases provided to the general workforce in the key markets of the UK, the USA, and the Netherlands (average 5.8%). The CFO's increase for 2023 was positioned below this level and the REMCO recognised the "multiplier effect on total remuneration".

The REMCO also paid close attention to the benchmarking analysis from the defined comparator groups. No specific benchmark position is defined, but the REMCO was satisfied that the positioning was appropriate against the benchmark groups following the increases.

Annual bonus

The REMCO reviewed the structure of the annual bonus scorecard as part of its comprehensive review of the Policy. The REMCO considered that the scorecard remained well aligned with our strategic and operational priorities, and no changes are proposed for 2023.

The performance measures, weightings and link to strategy for the 2023 performance year are set out below. They remain unchanged from 2022.

See page 175 for further details of the performance measures.

2023 annual bonus measures, weightings, and link to strategy

Performance measure	Weighting
Financial delivery	35%
Operational excellence	35%
Shell's journey in the energy transition	15%
Safety	15%

Link to strategy	
Financial delivery • Cash flow from operating activities (35%)	Supports our financial priority to generate cash to fund shareholder distributions and capital investment.
Operational excellence • Asset management excellence (15%) • Project delivery excellence (10%) • Customer excellence (10%)	Underpins delivery of our financial framework and ambitions to progress in the energy transition.
Shell's journey in the energy transition • Selling lower-carbon products (5%) • Reducing our emissions (5%) • Partnering to decarbonise (5%)	Drives focus on the business transformations needed to succeed in the energy transition.
Safety (15%) • Serious Injury and Fatality Frequency (7.5%) • Tier 1 and 2 process safety (7.5%)	Drives an ongoing focus on personal and process safety.

Scorecard targets will be disclosed in the subsequent Directors' Remuneration Report when they are no longer deemed to be commercially sensitive.

Long-term Incentive Plan

On February 3, 2023, a conditional award of performance shares under the LTIP was made to the Executive Directors resulting in 173,985 Shell plc shares being conditionally awarded to Wael Sawan and 103,458 to Sinead Gorman. The award had a face value of 300% (maximum performance outcome 600%) of the base salary for the CEO and 270% (maximum performance outcome 540%) of the base salary for the CFO, excluding potential share price appreciation and dividends.

Performance is measured over the three-year period January 1, 2023 to December 31, 2025. The performance measures, weightings and link to strategy for the 2023 award are set out below.

2023 LTIP measures and vesting schedule

Performance measure	Weighting
Cash generation [A]	25%
TSR [A]	25%
Organic free cash flow [B]	25%
Energy transition [B]	25%

[A] Relative measures [B] Absolute measures

Link to strategy	Vesting schedule (% of initial LTIP award)
Cash generation (defined as CFO/average capital employed) Measurement of Shell's ability to generate the top-line cashflows to finance investment in our business and shareholder distributions.	1st – 200% 2nd – 150% 3rd – 80% 4th or 5th – 0%
TSR Assessment of actual value created for shareholders.	Performance ranked against the other energy majors: BP, Chevron, ExxonMobil and TotalEnergies.
Organic free cash flow Recognition of the importance of generating cash after net capital expenditure to service and reduce debt, pay dividends, buy back shares and make future capital investments.	Maximum – 200% Target – 100% Threshold – 40% Below threshold – 0% OFCF targets are set annually for each annual operating plan.
Energy transition Measures focused on the strategic business transformations that will seek to enable long-term success in the energy transition.	The REMCO will assess progress against the NCI target and Shell's longer-term goals for each strategic theme when making the vesting decision for each LTIP cycle.
TSR underpin If TSR is in fourth or fifth, vesting is capped at 50% of maximum.	
Holding period Three-year holding period, which remains in force post tenure.	

Further details of the energy transition performance condition are set out over the page.

Annual Report on Remuneration continued

Performance framework for 2023-2025 LTIP Energy Transition performance condition

Quantitative NCI target	
Net Carbon Intensity (NCI) assessed as percentage reduction in the target year vs. the 2016 base year.	Target is 9-13% reduction compared against the 2016 base year.
Supporting strategic themes	
Reducing Scope 1 & 2 emissions demonstrate progress in reducing Scope 1 & 2 emissions.	Example performance indicators include progress towards meeting Shell's public commitment to reduce net Scope 1 & 2 emissions by 50% by 2030, relative to 2016.
Building a renewable power business demonstrate progress in increasing the renewable generation capacity available to Shell for long-term market sales.	Example performance indicators include progress against the business plan and long-term power strategy.
Growing new lower-carbon energy offerings demonstrate progress in (i) developing advanced biofuels and lower-carbon fuels technology, and (ii) implementing Shell's hydrogen strategy.	Example performance indicators include (i) progress with technology readiness for investment in commercial-scale advanced biofuels and lower-carbon fuels projects, and (ii) progress towards investment decisions on integrated blue hydrogen projects and world-scale hydrogen export hubs.
Developing emission sinks and offsets demonstrate progress in (i) building and expanding nature-based solutions demand positions, and (ii) implementing the carbon capture, utilisation and storage strategy.	Example performance indicators include (i) progress towards Shell's target of retiring up to 120 mtpa of credits by 2030, and (ii) progress with investment decisions for carbon capture, utilisation and storage projects.

As the 2023 LTIP awards to Executive Directors were granted prior to the shareholder vote on the proposed Policy, the TSR underpin will apply in the usual way: if Shell's TSR ranking is fourth or fifth, the level of the award that can vest on the basis of the other measures will be capped at 50% of the maximum.

Discretion, malus and clawback

Variable-pay elements are subject to adjustment (malus) and recovery (clawback) provisions. The REMCO may adjust an award, for example by lapsing part or all of it, reducing the number of shares which would otherwise vest, by imposing additional conditions on it, or imposing a new holding period or applying clawback.

Please refer to the proposed Policy for a full description of the circumstances under which discretion, malus and clawback might be applied to a variable pay award.

Service contracts

Please refer to page 196 in relation to the notice periods of Executive Director service contracts.

Pension

Wael Sawan and Sinead Gorman are eligible to participate in the defined contribution UK Shell Pension Plan with an employer contribution rate of up to 20% of salary, or take this as a pension cash alternative. They have chosen the latter. The UK Shell Pension Plan or associated pension cash alternative is available to new Shell employees in the UK at the same contribution levels.

Further details of Executive Director pension arrangements can be found on page 185.

Benefits

In consideration of his appointment as CEO in 2023, Wael Sawan received support for his family's relocation to the UK in line with the provisions of Shell's International Mobility policies. In addition, in relation to their relocation to the UK, Wael Sawan and Sinead Gorman will continue to receive housing allowances until the end of 2023.

Executive Directors are provided with a chauffeured car for business travel, including home-to-office commuting. Other benefits, such as medical and other risk benefits are in line with those provided to the general workforce.

Annual Report on Remuneration continued

Non-executive Directors' fees

Non-executive Directors' fees 2023

		£	Other fees
Chair of the Board		785,000	Non-executive Directors receive an additional fee of £4,000 for any Board meeting involving intercontinental travel – except for one meeting a year held in a location other than London.
Non-executive Director		120,000	
Senior Independent Director		49,000	
Audit Committee	Chair [A]	53,000	
	Member	22,000	
Safety, Environment and Sustainability Committee	Chair [A]	31,000	
	Member	15,000	
Nomination and Succession Committee	Chair [A]	22,000	
	Member	11,000	
Remuneration Committee	Chair [A]	36,000	
	Member	15,000	

[A] The chair of a committee does not receive an additional fee for membership of that committee.

The Company Chair fee is determined by the REMCO, and for 2023 is unchanged from the previous level of £785,000. The Chair of the Board does not receive any additional fee for chairing the Nomination and Succession Committee or attending any other Board Committee meeting.

The Non-executive Directors receive a basic fee. There are additional fees for the Senior Independent Director, a Board Committee chair or a Board Committee member, and for most Board meetings involving intercontinental travel. Business expenses (including transport between home and office and occasional business-required partner travel) and associated tax are paid or reimbursed by Shell.

The Board reviews Non-executive Directors' fees periodically to ensure that they are aligned with those of other major listed companies. During these reviews the Board uses the largest 30 companies by market capitalisation listed on the FTSE and the European comparator group as its primary points of reference. The last general review was in 2022. Fees will remain unchanged for 2023.

Directors' Remuneration Policy

The Directors' Remuneration Policy sets out:

- A summary of proposed changes to the Directors' Remuneration Policy, page 191;
- Executive Directors' Remuneration Policy, page 192; and
- Non-executive Directors' Remuneration Policy, page 197.

This section describes the Directors' Remuneration Policy (the Policy) which, subject to shareholder approval at the 2023 Annual General Meeting (AGM), will come into effect from May 23, 2023, and will be effective until the 2026 AGM, unless a revised Policy is proposed by the Company and approved by shareholders in the meantime.

The principles underpinning the REMCO's approach to executive remuneration are the foundation for everything we do, and are:

- **Alignment with Shell's strategy and sustainability:** the Executive Directors' compensation package should promote the long-term, sustainable success of Shell, and be strongly linked to the achievement of stretching targets that are indicators of the execution of Shell's strategy;
- **Pay for performance:** the majority of the Executive Directors' compensation, (excluding benefits and pensions), should be linked directly to Shell's performance through variable pay instruments;
- **Competitiveness:** remuneration levels should be determined by reference internally against Shell's Senior Management and externally against companies of comparable size, complexity and global scope;
- **Long-term creation of shareholder value:** Executive Directors should align their interests with those of shareholders by holding shares in Shell;
- **Consistency:** the remuneration structure for Executive Directors should generally be consistent with the remuneration structure for Shell's Senior Management. This consistency builds a culture of

alignment with Shell's purpose and a common approach to sharing in Shell's success; and

- **Risk assessment:** decisions should be made in the context of the Shell General Business Principles and Code of Conduct. The remuneration structures and rewards should meet risk assessment tests to ensure that shareholders' interests are safeguarded and that inappropriate actions are avoided.

The Executive Directors' remuneration structure is made up of a fixed element of basic pay and two variable elements: the annual bonus (50% delivered in shares) and the Long-term Incentive Plan (LTIP). Variable pay outcomes are conditional on the successful execution of the operating plan in the short term, and the delivery of strategic goals and financial and share price outperformance over the longer term. The award of shares under the bonus and LTIP, along with significant shareholding requirements, are intended to ensure executives have a sizeable shareholding in the Company and experience the same outcomes as our shareholders.

During 2022, the REMCO reviewed the Policy to ensure that it continued to support Shell's strategy. The REMCO determined that the current Policy remained appropriate in most respects, and required changes only to reflect the transition of our Executive Directors to the UK to align with market practice and for simplification. For each area of the Policy, the REMCO reviewed the alignment with strategy, market practice, the corporate governance environment, and feedback from shareholders, and additionally spent time updating the selection and calibration of performance metrics in variable pay schemes. Any potential conflict of interest was mitigated by the independence of the REMCO members and the REMCO Terms of Reference. The REMCO also considered the provisions of the UK Corporate Governance Code when reviewing the Policy, and sought to reflect the principles of clarity, simplicity, risk management, predictability, proportionality and alignment with culture.

A summary of the main changes to the Policy is set out below.

Remuneration element	Proposed changes to Policy	Rationale for the change
Executive Directors		
Base salary	<ul style="list-style-type: none"> ▪ Salary cap amended from €2 million to £2 million. 	<ul style="list-style-type: none"> ▪ To reflect the transition of the Executive Directors to the UK.
Pension	<ul style="list-style-type: none"> ▪ Move from base country arrangements to defined contribution pension arrangements applicable to the wider Shell workforce in the UK. 	
Severance policy	<ul style="list-style-type: none"> ▪ New service contracts under which both the employee and the employer can terminate employment by giving 12 months' written notice, replacing the previous provision which reflected Dutch statutory provisions. 	
Annual bonus and LTIP rules	<ul style="list-style-type: none"> ▪ REMCO discretion to suspend annual bonus or share award vesting pending the outcome of an investigation in exceptional circumstances. 	<ul style="list-style-type: none"> ▪ To allow sufficient time for investigation, as required.
Leaver treatment	<ul style="list-style-type: none"> ▪ REMCO discretion to waive remaining bonus/LTIP holding period in exceptional circumstances (primarily death). 	<ul style="list-style-type: none"> ▪ To align with market practice.
TSR underpin in LTIP	<ul style="list-style-type: none"> ▪ TSR underpin to be removed from the LTIP. 	<ul style="list-style-type: none"> ▪ To simplify the plan and align with market practice.
Non-executive Directors		
Retirement gift	<ul style="list-style-type: none"> ▪ Maximum value amended from €300 to £300. 	<ul style="list-style-type: none"> ▪ To reflect the transition to the UK.

Directors' Remuneration Policy continued

Executive Directors' Remuneration Policy table

Purpose and link to strategy	Maximum opportunity	Operation and performance measurement
Base salary		
Provides a fixed level of earnings to attract and retain Executive Directors.	£2,000,000	<p>Reviewed annually with adjustments effective from January 1.</p> <p>In making salary determinations, the REMCO will consider:</p> <ul style="list-style-type: none"> the market positioning of the compensation packages; comparison with Senior Management salaries; the employee context, and planned average salary increase for other employees across the UK, the Netherlands, and the USA; the experience, skills and performance of the Executive Director, or any change in the scope and responsibility of their role; general economic conditions, Shell's financial performance, and governance trends; and the impact of salary increases on pension benefits and other elements of the package.
Benefits		
Provides benefits, typically in line with those applicable to the wider workforce, in order to attract and retain Executive Directors.	Determined by the nature of the benefit itself and costs of provision, and may depend on external factors, e.g. insurance costs.	<p>Typical benefits include car allowances, home-to-office transport, risk benefits (for example ill health, disability or death-in-service), security provision, and employer contributions to insurance plans (such as medical) including Directors' liability insurance. In the event an international relocation is required either prior to appointment or while appointed, Shell's mobility policies may apply and the REMCO may offer appropriate provisions in respect of items including, but not limited to, relocation, assistance with visa/immigration/tax issues, and tax return support. It may also provide housing and education assistance for a specified period of time, expected to be no more than two years. Tax equalisation related to expatriate employment prior to Board appointment, or in other limited circumstances to offset double taxation, may also be provided.</p> <p>Precise benefits will depend on the Executive Director's specific circumstances and may include any tax liabilities relating to business-related benefits such as in the case of security or relocation provisions.</p> <p>The REMCO may adjust the range and scope of the benefits offered in the context of developments for other employees in the country which the Executive Director is based. Personal loans or guarantees are not provided to Executive Directors.</p>
Pension		
Provides a competitive defined contribution pension provision applicable to the wider workforce in the UK to attract and retain Executive Directors.	Determined by the rules of the defined contribution UK pension arrangements.	<p>Executive Directors' retirement benefits are maintained in line with those of the wider Shell workforce in the UK. Only base salary is pensionable, unless plan regulations specify otherwise and cannot legally be disappplied. The rules of the relevant plan detail the pension benefits which members can receive. The REMCO retains the right to amend the form of any Executive Director's pension arrangements where appropriate, for example in response to changes in legislation to ensure the original objective of this element of remuneration is preserved.</p> <p>New Executive Directors based in the UK, whether internal appointees or external hires, will be provided with the defined contribution arrangement, applicable to the wider Shell workforce in the UK, which currently includes the flexibility to take this as a pension cash alternative.</p>
Annual bonus		
<p>Rewards the delivery of short-term operational targets as derived from Shell's operating plan.</p> <p>Aligns the interests of Executive Directors and shareholders, and supports retention, through long-term holding in shares.</p>	<p>Target bonus: 125% of base salary.</p> <p>Maximum bonus: 200% of target.</p>	<ul style="list-style-type: none"> The bonus is determined by reference to performance from January 1 to December 31 each year. Annual bonus = base salary x target bonus % x scorecard result (0–2). The scorecard is reviewed each year, taking account of Shell's operating plan, to ensure that the performance measures, targets and weightings are appropriate. Performance measures typically relate to financial delivery, operational excellence, progress in the energy transition, and safety, with indicative weightings of 35%, 35%, 15% and 15% respectively. This helps to balance short-term financial performance with the achievement of a broader set of strategic and operational objectives to support long-term shareholder value creation. The REMCO retains the flexibility to adjust performance measures, weightings and targets on a year-by-year basis, within the terms of the Policy. Scorecard targets are disclosed on a retrospective basis in a subsequent Annual Report on Remuneration, when they are no longer deemed commercially sensitive. To reinforce alignment with shareholder interests, 50% of any bonus earned is delivered in cash and 50% is delivered in net-of-tax shares. The shares are subject to a three-year holding period from the end of the performance period the award relates to, which applies beyond an Executive Director's tenure. The REMCO retains discretion to waive any part of this holding period in exceptional circumstances (primarily death). The bonus is subject to malus provisions before it is delivered, and to clawback thereafter for a period of three years.

Directors' Remuneration Policy continued

Executive Directors' Remuneration Policy table continued

Purpose and link to strategy	Maximum opportunity	Operation and performance management
Long-term Incentive Plan (LTIP)		
<p>Rewards longer-term value creation linked to Shell's strategy. The measures focus on financial performance, capital discipline and the achievement of Shell's ambitions in the energy transition.</p> <p>Aligns the interests of Executive Directors and shareholders, and supports retention through long-term holding in shares.</p>	<p>Target award: 300% of base salary.</p> <p>Awards may vest at up to 200% of the shares originally awarded, plus dividends.</p>	<ul style="list-style-type: none"> Award levels are determined in respect of any financial year by the REMCO within the Policy maximum. Awards may vest at between 0% and 200% of the initial award, depending on Shell's performance, assessed over a three-year performance period, on an absolute basis and/or on a relative basis against an appropriate comparator group. Performance measures and weightings are reviewed and set by the REMCO at the beginning of each three-year performance period, taking account of Shell's strategic priorities. Notional dividends accrue over the vesting period in respect of awards that vest. To reinforce alignment with shareholder interests, net of tax shares delivered from vested awards are subject to a three-year holding period from the end of the performance period the award relates to, which applies beyond an Executive Director's tenure. The REMCO retains discretion to waive any part of this holding period in exceptional circumstances (primarily death). Dividends accrue over the vesting period in respect of awards that vest. The award is subject to malus provisions before vesting, and to clawback provisions thereafter for a period of three years.
Discretion, malus and clawback		
<p>Enables the management of risks from behaviour-based incentive schemes and the REMCO to manage the range of pay outcomes.</p>	<p>Adjustment events exist for the purposes of applying malus and clawback.</p> <p>The REMCO retains discretion to adjust pay outcomes.</p>	<ul style="list-style-type: none"> The REMCO retains the discretion to adjust mathematical outcomes of the annual bonus scorecard and/or LTIP vesting for any Executive Director if and to the extent that it considers this appropriate at their sole discretion. The REMCO may adjust pay outcomes for the purposes of managing quantum. This would be done at the REMCO's discretion after considering single figure outcome for the year, taking into account Shell's performance, the operation of the remuneration structures and any other relevant considerations. In exceptional circumstances, the REMCO may determine that the vesting of an annual bonus or a share award should be suspended pending the outcome of an investigation. The suspension may be for such period as the REMCO considers sufficient to permit the investigation to be concluded. The use of any discretion will be disclosed and explained.
Shareholding requirements		
<p>Aligns interests of Executive Directors with those of shareholders by creating a connection between individual wealth and Shell's long-term performance.</p>	<p>Shareholding (% of base salary):</p> <ul style="list-style-type: none"> CEO: 700% CFO: 500% 	<ul style="list-style-type: none"> Executive Directors are expected to build up their shareholding to the required level over a period of five years from appointment and, once reached, to maintain this level for the full period of their appointment. The intention is for the shareholding guideline to be reached through retention of vested shares from share plans. The REMCO will monitor progress and retains the ability to adjust the guideline in special circumstances on an individual basis. In the event of an increase to the guideline, this timeframe is increased by one year for every additional multiple of salary required, subject to a maximum of five years from the date of the change. The Executive Director will be required to maintain their shareholding requirement (or existing shareholding if lower) for a period of two years from the date they cease to be an employee. Post-termination holding is enforced through the arrangements put in place with the employee on termination. In the event that another Executive Director joins the Board, the REMCO will determine their shareholding requirement level, which will not be less than 200% of salary, in line with corporate governance best practice. Vested shares from incentive plans (including bonus and LTIP shares subject to holding period) count towards the requirement. The REMCO monitors individual progress and retains the ability to adjust the guideline in special circumstances on an individual basis.

Directors' Remuneration Policy continued

Notes to the Policy table

Executive Directors outside of the UK

In respect of salary, benefits and pension, in the event that an Executive Director is based outside of the UK, the REMCO reserves the right to determine the individual's remuneration arrangements in line with their base or host country, within the spirit of the Policy.

Payments from previously agreed remuneration arrangements

The REMCO reserves the right to make any remuneration payments where the terms of the payment were agreed (i) before the Policy came into effect, or (ii) at a time when the relevant individual was not a Director of the Company and, in the opinion of the REMCO, the payment was not in consideration for the individual becoming a Director of the Company. The REMCO also reserves the right to honour pre-existing contractual obligations in accordance with the terms of the service contract and relevant incentive plan. Details of any such payments will be set out in the Annual Report on Remuneration as they arise.

Selection of performance measures

For the 2023 performance year, the annual bonus scorecard will consist of financial delivery (35%), operational excellence (35%), progress in the energy transition (15%), and safety (15%). Targets are derived from the annual business plan. These measures are designed to drive focus on the financial and operational performance critical to our success in delivering our Powering Progress strategy. The REMCO believes it is important for annual variable pay to remain balanced, with short-term operational components complementing the LTIP's focus on longer-term financial and strategic outcomes. The same annual bonus scorecard applies to the majority of Group employees, supporting consistency of remuneration and alignment of objectives across employees and senior management.

For 2023 LTIP awards, performance will be assessed based on 75% financial metrics (relative CFPO divided by average capital employed, relative TSR, absolute OCF, equally weighted) and 25% on a strategic measure focused on Shell's journey in the energy transition. These metrics are designed to support our strategic ambition of accelerating our transition to be a net-zero emissions business while creating value for our shareholders.

For the relative measures, 200% vests for first position, 150% for second, 80% for third, and 0% for ranking fourth or fifth. The comparator group consists of four of the strongest companies in our industry (BP, Chevron, ExxonMobil and TotalEnergies). Outperforming Shell's closest competitors on key financial metrics is challenging. A vesting outcome of 80% of target (40% of maximum) for median performance in a small comparator group is considered appropriate by the REMCO. The REMCO is aware that vesting for median performance is generally set at a limit of 25% of maximum for other UK companies. However, these are typically applied against a larger comparator group. Commentary on the REMCO's consideration of the constituents of the comparator group is set out in the 2022 introduction from the REMCO Chair.

To simplify the plan and align with market practice, it is proposed that the underpin be removed from the plan effective from 2024 awards.

Discretion

There are a number of specific areas in which the REMCO may exercise discretion, including:

- To review the specific measures, weightings and targets for the annual bonus scorecard and LTIP award annually and adjust accordingly to evolve with Shell's strategy and circumstances to ensure that the targets remain stretching but realistic. If the REMCO were to propose any material changes to the LTIP performance metrics, it would consult with major shareholders; and
- To adjust mathematical variable pay outcomes if and to the extent that it considers this appropriate. This power to adjust the outcomes is broad and includes adjusting the outcomes to zero. For example, an adjustment might be made if the REMCO considers:
 - The mathematical outcomes do not reflect the wider financial or non-financial performance of the Company or the participant over the performance period;
 - The LTIP vesting percentage is not appropriate in the context of circumstances that were unexpected or unforeseen at award; and
 - There is any other reason why an adjustment is appropriate.

It is not anticipated that discretion would be used for upwards adjustment. If, in exceptional circumstances, it was considered, this would be done only after consultation with major shareholders.

Performance outcomes and/or share price movements make it difficult to predict the final amounts delivered under the LTIP at the time of award. Each year, the REMCO reviews the LTIP vesting values and single figure outcomes for the Executive Directors to ensure that they are appropriate. The REMCO will review the formulaic single figure outcomes relative to the quality of performance outcomes and adjust these, taking into account Shell's performance, shareholder experience, the operation of the remuneration structures and any other relevant factors to ensure that the highest variable pay outcomes are only achieved in years with the highest quality performance. In years where the vesting outcome makes the total remuneration inappropriate for any Executive Director, the REMCO will consider an adjustment to the annual bonus outcome and/or the LTIP vesting outcome for the purposes of managing remuneration quantum. In making any adjustment to the annual bonus and/or LTIP vesting outcome for this purpose, REMCO will consider the overall level of remuneration for the Executive Director, the operation of the annual bonus, the operation of the LTIP, the wider performance of Shell over the performance periods, as well as the internal context for other employees. An explanation of any discretionary adjustment would be set out in the relevant year's Directors' Remuneration Report.

Malus and clawback

Variable pay awards may be made subject to adjustment events. At the discretion of the REMCO, such an award may be adjusted before delivery (malus) or reclaimed after delivery (clawback) if an adjustment event occurs.

Adjustment events will be specified in award documentation and it is intended that they will, for example, relate to restatement of financial statements due to material non-compliance with a financial reporting requirement; misconduct by an Executive Director or misconduct through their direction or non-direction; any material breach of health and safety or environment regulations; serious reputational damage to Shell; material failure of risk management; corporate failure; or other exceptional events as determined at the discretion of the REMCO. The REMCO retains the right to alter the list of adjustment events in respect of future awards.

Directors' Remuneration Policy continued

Differences in Remuneration Policy for Executive Directors from that for other employees

The remuneration policies, structure, and approach to setting remuneration levels are consistent across organisational levels at Shell, with consideration given to location, seniority and responsibilities. A higher proportion of total remuneration is tied to variable pay for Executive Directors and members of Senior Management, to reflect these individuals' positions of influence and accountability.

Detailed discussion of how executive remuneration aligns with wider Company pay policy may be found in the "Workforce engagement on remuneration matters" section of the Annual Report on Remuneration, on page 186.

Illustration of potential remuneration outcomes

The charts on this page illustrate the potential future value and composition of the Executive Directors' total remuneration opportunities under four performance scenarios ("Minimum", "On-target", "Maximum" and "Maximum +50% share price appreciation between award and vest"). The remuneration opportunities are based on those set out in the Policy table, applied to 2023 base salaries. The majority of the Executive Directors' remuneration is delivered through variable pay elements, which are conditional on the achievement of stretching performance targets.

For simplicity, the charts exclude dividend accrual, and exclude the effect of any Company share price movement except in the "Maximum +50%" scenario.

Performance scenarios

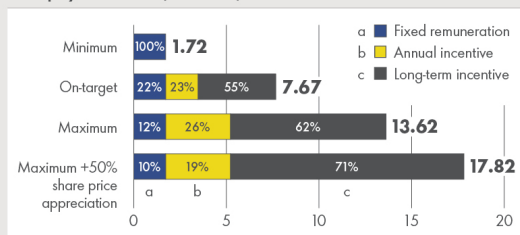
	Minimum	Target	Maximum
Base salary (2023)	P	P	P
Benefits (2022 actual) [A]	P	P	P
Pension (2023)	P	P	P
Bonus (2023)	NIL	125% CEO 120% CFO	250% CEO 240% CFO
LTIP (2023)	NIL	300% CEO 270% CFO	600% CEO 540% CFO

[A] Excluding one-off benefits related to the move to the UK.

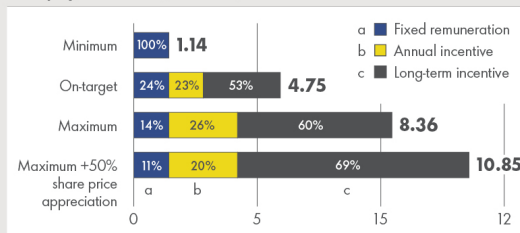
The REMCO will follow the approach set out below when determining the remuneration package for a new Executive Director.

Component	Approach	Maximum
Ongoing remuneration	The salary, benefits, annual bonus, long-term incentives and pension benefits will be positioned and delivered within the framework of the Policy.	As stated in the Executive Directors' Remuneration Policy table, and notes to the table.
Compensation for the forfeiture of any awards under variable remuneration arrangements	To facilitate external recruitment, one-off compensation in consideration for forfeited awards under variable remuneration arrangements entered into with a previous employer may be required. The REMCO will use its judgement to determine the appropriate level of compensation by matching the value of any lost awards under variable remuneration arrangements with the candidate's previous employer. This compensation may take the form of a one-off cash payment or an additional award under the LTIP. The compensation can alternatively be based on a newly created long-term incentive plan arrangement where the only participant is the new Director. The intention is that any such compensation would, as far as possible, align to the duration and structure of the award being forfeited. Where appropriate, performance conditions, holding periods, and malus and clawback provisions will apply.	An amount equal to the value of the forfeited variable remuneration awards, as assessed by the REMCO. Consideration will be given to appropriate performance conditions, performance periods and clawback arrangements.

CEO pay scenarios (£ million)



CFO pay scenarios (£ million)



Recruitment

The REMCO determines the remuneration package for new Executive Director appointments. These appointments may involve external or internal recruitment, or reflect a change in role of a current Executive Director.

When determining remuneration packages for new Executive Directors, the REMCO will seek a balanced outcome which allows Shell to:

- Attract and motivate candidates of the right quality;
- Take into account the individual's current remuneration package and other contractual entitlements;
- Seek a competitive pay position relative to our comparator group, without overpaying;
- Encourage relocation if required; and
- Honour entitlements (for example, variable remuneration) of internal candidates before their promotion to the Board, with the exception of any previous pension arrangements.

Directors' Remuneration Policy continued

Component	Approach	Maximum
Replacement of forfeited entitlements other than any awards under variable remuneration arrangements	<p>There may also be a need to compensate a new Executive Director in respect of forfeited entitlements other than any awards under variable remuneration arrangements. This could include, for example, contractual entitlements or other benefits. On recruitment, these entitlements may be replicated within the Executive Director's remuneration package or valued by the REMCO and compensated in cash.</p> <p>In cases of internal promotion to the Board, any commitments made which cannot be effectively replaced within the Executive Director's remuneration package may, at the REMCO's discretion, continue to be honoured.</p>	An amount equal to the value of the forfeited entitlements, as assessed by the REMCO.
Exceptional recruitment incentive	Apart from the ongoing annual remuneration package and any compensation in respect of the replacement of forfeited entitlements, there may be circumstances in which the REMCO needs to offer a one-off recruitment incentive in the form of cash or shares to ensure the right external candidate is attracted (e.g. to the industry). The REMCO recognises the importance of internal succession planning but it must also have the ability to compete for talent with other global companies. The necessity and level of this incentive will depend on the individual's circumstances. The intention will be that this is only used in genuinely exceptional circumstances.	A one-off amount up to the limits set out in the Executive Directors' Remuneration Policy table, in addition to the ongoing package.
Relocation	In the event that an internal or external candidate were required to relocate internationally to take up the Executive Director position, the REMCO may offer appropriate relocation provisions in respect of items including, but not limited to, relocation, assistance with visa/immigration issues, housing, and education assistance. If provided, these will be for a specified period of time, expected to be no more than two years.	The level of such benefits would be set at an appropriate level by the REMCO, taking into account the circumstances, provisions applicable to the wider internationally mobile workforce, and typical market practice.

Executive Directors' service contracts and end of employment arrangements (including change of control provisions)

Provision	Policy
Service contracts	Executive Directors are employed for an indefinite period. Executive Directors based in the UK will be employed on service contracts governed by the laws of England and Wales.
Notice period	The Executive Director or the Company may terminate employment by giving 12 months' written notice. The Company may require the Executive Director to be on garden leave during all or any of the notice period (whether notice is given by the Company or the Executive Director).
Payment in lieu of notice (PILON)	<p>The Company may terminate an Executive Director's service contract at any time with immediate effect and pay a sum in lieu of the unexpired portion of any notice period to the value of no more than 12 months' fixed pay (salary and regular allowances) and other benefits (unless statutory requirements to pay additional sums apply).</p> <p>The Company has the contractual right to make any PILON in monthly instalments in its discretion. Once the right to make a PILON is exercised, its delivery in instalments is mitigated by a contractual obligation on the Executive Director to seek alternative employment.</p>
Compensation for loss of office	<p>Executive Directors will not usually receive additional payments for loss of office, other than, as appropriate, payments in lieu of notice as described above or payments in respect of damages if the Company terminates an Executive Director's employment in breach of contract (taking into account, as appropriate, the Executive Director's responsibility to mitigate any losses).</p> <p>The REMCO reserves the right to make payments it considers reasonable in settlement of potential legal claims taking into account contractual provisions, applicable law, corporate governance provisions, the applicability of any statutory compensation and the best interests of Shell and shareholders as a whole.</p>
Dismissal	The Company may terminate employment immediately in particular defined circumstances such as gross misconduct, with no further payment or PILON.
Annual bonus accrued prior to termination	<p>The following provisions will normally apply:</p> <ul style="list-style-type: none"> In the event of death, disability, injury or ill health, retirement, redundancy, completion of a fixed-term contract, and other circumstances at the REMCO's discretion, any annual bonus in the year of departure is pro-rated based on service. Depending on the timing of the departure, the REMCO may consider the latest scorecard position or defer payment until the full-year scorecard result is known. In the event of a change of control, the REMCO will assess the most appropriate treatment for the outstanding bonus period according to the circumstances. Bonuses delivered in shares represent the bonus which a participant has already earned, and carry no further performance conditions. Therefore, these shares will normally be unrestricted at the conclusion of the normal holding period otherwise, and no pro-rata will apply. In other circumstances (including resignation), no award will be made unless statutory requirements apply. The REMCO retains discretion to waive any part of a bonus holding period in exceptional circumstances (primarily death).

Directors' Remuneration Policy continued

Provision	Policy
LTIP awards	<p>Share awards will be treated in accordance with the relevant plan rules. The following provisions will normally apply:</p> <ul style="list-style-type: none"> In the event of disability, injury or ill health, retirement, redundancy, completion of a fixed-term contract, and other circumstances at the REMCO's discretion: outstanding awards are reduced pro-rata (on a monthly basis) for time elapsed during the performance period. They will generally survive the end of employment and remain subject to the same vesting performance conditions, holding period and malus and clawback provisions, as if the Executive Director had remained in employment. The extent to which awards vest will be determined by the REMCO, taking into account the extent to which the performance conditions have been satisfied. In the event of death: the award will vest in full on the date of death or, if there is a target level set out in the performance condition, then at that target level, unless the REMCO determines otherwise. Change of control: awards will be exchanged for equivalent new awards issued by the acquirer, if agreed to by the acquirer and the Board. If there is no agreement to exchange awards, awards will (i) vest immediately in full if there is no performance condition, or (ii) vest immediately to the extent that any performance condition has been satisfied to the date of vesting. Such awards will be reduced pro-rata for time elapsed during the performance period unless agreed otherwise. Other circumstances (including resignation): awards will lapse on cessation of employment unless statutory requirements apply. The REMCO retains discretion to waive any part of a holding period in exceptional circumstances (primarily death).
Other	<p>The provision of end-of-employment benefits such as a contribution to the Executive Director's legal fees for the review of any settlement agreement, repatriation costs, and outplacement support may also be included, as deemed reasonable by the REMCO. The Executive Director may also remain eligible for other benefits, such as security provision or tax return preparation, in line with policies for the wider workforce. The Company may pay the Executive Director's tax on such benefits.</p> <p>REMCO may adjust the range and scope of the benefits offered in the context of developments for other employees in relevant countries.</p>

In the event an Executive Director is based outside of the UK, the REMCO will determine the appropriate service contract and end of employment arrangements.

The table below sets out the effective dates of the Executive Directors' service contract.

Executive Director	Date of contract
Wael Sawan	January 1, 2023
Sinead Gorman	April 1, 2022

Executive Directors' employment arrangements are available for inspection at the AGM or on request. For further details on appointment and re-appointment of Directors, see the "Governance Framework" on page 141 and "Other regulatory and statutory information" on page 199.

Non-executive Directors' Remuneration Policy table

Fee structure	Approach to setting fees	Other remuneration
<p>Non-executive Directors (NEDs) receive a fixed annual fee for their Directorship. The Chair receives a Chair of the Board fee, and other NEDs receive a base fee for membership of the Board.</p> <p>Additional annual fees are payable to any NED (other than the Chair of the Board) who serves as Senior Independent Director, a Board Committee Chair, or a Board Committee member. Any individual receives either a Chair or member fee in respect of each Committee they sit on. The Chair of a Committee does not receive both fees.</p> <p>NEDs receive an additional fee for any Board meeting involving intercontinental travel, with the exception of one meeting a year held in a location other than London.</p>	<p>The Chair of the Board fee is determined by the REMCO. The Board determines the fees payable to NEDs. The maximum aggregate annual fees will be within the limit specified by the Articles of Association and in accordance with the NEDs' responsibilities and time commitments.</p> <p>The Board reviews NED fees periodically to ensure that they are appropriate in the context of fee levels at other major listed companies.</p>	<p>Business expenses incurred in respect of the performance of their duties as a NED will be paid or reimbursed by Shell. Such expenses could include transport between home and office, and occasional business-required partner travel. NEDs may receive a token of recognition on retirement from the Board. The maximum value for this is £300. The REMCO has the discretion to offer other benefits as appropriate to the circumstances. Where business expenses or benefits create a personal tax liability to the NED, Shell may cover the associated tax.</p> <p>The Chair and other NEDs are not eligible to receive awards under any incentive or performance-based remuneration plans, and personal loans or guarantees are not granted to them.</p> <p>NEDs do not accrue any retirement benefits as a result of their Non-executive Directorships with Shell.</p> <p>NEDs are encouraged to hold Shell shares with a value equivalent to 100% of their annual base fee and maintain that holding during their tenure.</p>

Directors' Remuneration Policy continued

Non-executive Directors' letters of appointment

NEDs, including the Chair of the Board, have letters of appointment. NEDs' letters of appointment are available for inspection at the AGM or on request. The table below shows the appointment and expiry dates for the NEDs' appointments:

Non-executive Director	Effective date of appointment
Sir Andrew Mackenzie	October 1, 2020
Dick Boer	May 20, 2020
Neil Carson	May 21, 2019
Ann Godbehere	May 23, 2018
Euleen Goh	September 1, 2014
Jane Holl Lute	May 19, 2021
Catherine J. Hughes	June 1, 2017
Martina Hund-Mejean	May 20, 2020
Bram Schot	October 1, 2020
Cyrus Taraporevala	March 2, 2023

For further details on appointment and re-appointment of NEDs, see the "Governance Framework" on page 141 and "Other regulatory and statutory information" on page 199.

Non-executive Director recruitment

The remuneration package for new NEDs is determined within the confines of the Policy table for NED fees, and subject to the Articles of Association. NEDs are not offered variable remuneration or retention awards.

When determining the benefits for a new Chair of the Board, the individual circumstances of the future Chair will be taken into account.

Non-executive Director termination of office

No payments for loss of office will be made to NEDs.

Consideration of wider employee views

The REMCO takes account of the pay and employment conditions of the broader workforce when setting the Policy for Executive Directors.

Whilst no specific employee groups were consulted as part of the 2023 Policy review, Shell promotes and maintains good relations with employee representative bodies as part of its employee engagement programme, and operates multiple forums through which employees can engage on various business matters, including pay.

When determining Executive Directors' remuneration structure and outcomes, the REMCO reviews a set of information, including relevant reference points and trends, which includes internal data on employee remuneration (for example, employee relations matters in respect of remuneration, and average salary increases applying in the Netherlands, UK and the USA). During the Policy review, pay and employment conditions of the wider Shell employee population were taken into account by adhering to the same performance, rewards and benefits philosophy for the Executive Directors, as well as overall benchmarking principles. Furthermore, any potential differences from other employees (see "Differences in Remuneration Policy for Executive Directors from that for other employees") were taken into account when providing the REMCO with advice in the formation of the Policy.

The REMCO is kept informed by the CEO, the Chief Human Resources & Corporate Officer, and the Executive Vice President Performance and Reward on the bonus scorecard and any relevant remuneration matters extending below the Board and Executive Committee.

See the "Workforce engagement on remuneration matters" section in the Annual Report on Remuneration, on page 186, for more information on how Shell considers and engages with the broader workforce on remuneration matters.

Consideration of shareholder views

The REMCO engages with major shareholders regularly throughout the year. Such engagement allows the REMCO to hear shareholders' views on Shell's approach to executive remuneration, and test proposals when developing or evolving the Policy. In recent years, the REMCO has responded to shareholder views, including the approach to energy transition metrics in the LTIP, the quantum of executive pay and the broader use of discretion to manage remuneration outcomes. In developing the proposed Policy, the REMCO again consulted with shareholders and received a diverse range of views that have helped to determine which proposals to refine and which to discard. For example, as a result of shareholder feedback in the fourth quarter of 2022, the REMCO determined not to proceed with seeking support for recruitment provision that would permit an extended notice period on hiring. Shareholders have been helpful in emphasising the need for balanced metrics in the LTIP to help avoid unintended consequences as Shell progresses through the energy transition. In 2022, the continued interest in the energy transition LTIP measure directly influenced increased transparency in Shell's reporting on the progress of its energy transition journey.

It was clear to the REMCO that, whilst there were inevitably contrasting views around the different aspects of the Policy, shareholders are supportive of Shell's overall approach to remuneration and the REMCO's careful deliberations in decision-making. The REMCO will continue to review the Policy regularly to ensure it continues to reinforce Shell's long-term strategy and closely aligns with shareholders' interests.

Additional Policy statement

The REMCO reserves the right to make payments outside of the Policy in limited, exceptional circumstances, such as for regulatory, tax or administrative purposes, or to take account of a change in legislation or exchange controls, and only where the REMCO considers such payments are necessary to give effect to the intent of the Policy.

Signed on behalf of the Board

/s/ Caroline J. M. Omloo

Caroline J.M. Omloo

Company Secretary

March 8, 2023

Other Regulatory and Statutory Information

Management's evaluation of disclosure controls and procedures of Shell

Shell's CEO and CFO have evaluated the effectiveness of Shell's disclosure controls and procedures at December 31, 2022. Based on that evaluation, they concluded that Shell's disclosure controls and procedures are effective.

Management's report on internal control over financial reporting of Shell

Management, including the CEO and CFO, is responsible for establishing and maintaining adequate internal control over Shell's financial reporting and the preparation of the "Consolidated Financial Statements". It conducted an evaluation of the effectiveness of Shell's internal control over financial reporting and the preparation of the "Consolidated Financial Statements" based on the Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). On the basis of this evaluation, management concluded that, at December 31, 2022, the Company's internal control over financial reporting and the preparation of the "Consolidated Financial Statements" was effective.

The Trustee's and management's evaluation of disclosure controls and procedures of the Royal Dutch Shell Dividend Access Trust

The Trustee of the Royal Dutch Shell Dividend Access Trust (the Trustee) and Shell's CEO and CFO have evaluated the effectiveness of the disclosure controls and procedures in respect of the Dividend Access Trust (the Trust) at December 31, 2022. On the basis of this evaluation, these officers have concluded that the disclosure controls and procedures of the Trust are effective.

The Trustee's and management's report on internal control over financial reporting of the Royal Dutch Shell Dividend Access Trust

The Trustee and the Company's management are responsible for establishing and maintaining adequate internal control over the Trust's financial reporting. The Trustee and Shell's management conducted an evaluation of the effectiveness of internal control over financial reporting based on the Internal Control - Integrated Framework (2013) issued by COSO. On the basis of this evaluation, the Trustee and Shell's management concluded that, at December 31, 2022, the Trust's internal control over financial reporting was effective.

Changes in internal control over financial reporting

There has not been any change in the internal control over financial reporting of Shell or the Trust that occurred during the period covered by this Report that has materially affected, or is reasonably likely to materially affect, the internal control over financial reporting of Shell or the Trust. Material financial information of the Trust is included in the "Consolidated Financial Statements" and is therefore subject to the same disclosure controls and procedures as Shell.

See the "Royal Dutch Shell Dividend Access Trust Financial Statements" on pages 322-325 for additional information.

Financial Statements, Dividends and Dividend Policy

The "Consolidated Statement of Income" and "Consolidated Balance Sheet" can be found on pages 216 and 217 respectively.

Subject to Board approval, Shell aims to grow the dividend per share by around 4% every year, and Shell will target the distribution of a minimum of 20% and, subject to Board approval and prevailing market conditions, potentially more than 30% of its cash flow from operations to shareholders. The Board may choose to return cash to shareholders through a combination of dividends and share buybacks. When setting the level of shareholder remuneration, the Board looks at a range of

factors, including the macro environment, the underlying business earnings and cash flow of the Shell Group, the current balance sheet, future investment and divestment plans, and existing commitments.

Interim dividends are currently declared by the Board and paid on a quarterly basis. Shell does not currently pay a "final" dividend, which would need to be voted on by shareholders, requiring the introduction of a resolution at the AGM. This would delay the payment of the fourth quarter dividend (currently paid in late March) until after the AGM, which is towards the end of May, a delay of around seven weeks. Our approach to dividend payments is not uncommon for companies distributing returns to shareholders on a quarterly basis.

Shell pays its dividend in USD, EUR or GBP fully electronically either in CREST or via interbank transfers.

The Directors have announced a fourth quarter interim dividend payable on March 27, 2023, to shareholders on the Register of Members at the close of business on February 17, 2023. The closing date for dividend currency elections was March 3, 2023 [A] and the euro and sterling equivalents announcement date is March 13, 2023.

[A] A different dividend currency election date may apply to shareholders holding shares in a securities account with a bank or financial institution ultimately through Euroclear Nederland. This may also apply to other shareholders who do not hold their shares either directly on the Register of Members or in the corporate sponsored nominee arrangement. Such shareholders can contact their broker, financial intermediary, bank or financial institution for the election deadline that applies.

Repurchases of shares

Shell will target the distribution of a minimum of 20% and, subject to Board approval and prevailing market conditions, potentially more than 30% of its cash flow from operations to shareholders. The Board may choose to return cash to shareholders through a combination of dividends and share buybacks. For all share buyback programmes mentioned below, Shell entered into an irrevocable, non-discretionary arrangements with a broker in order to reduce the issued share capital of the Company.

Under shareholder authorities granted at the 2021 AGM, on December 2, 2021, Shell announced a share buyback programme of \$1.5 billion comprising the first part of the \$7 billion shareholder distributions from the sale of the Permian business in the USA, which was completed on January 28, 2022. On February 3, 2022, Shell announced the commencement of a share buyback programme of \$8.5 billion, comprising \$5.5 billion of Permian divestment proceeds and \$3.0 billion as part of the Company's capital allocation framework. This buyback programme was formed of two tranches, the first of \$4 billion which ran between February 3, 2022 and May 4, 2022, the second of \$4.5 billion which ran between May 5, 2022 and July 5, 2022..

At the May 24, 2022, AGM, shareholders granted the Company the authority to repurchase (i) up to 758 million ordinary shares "on-market" (excluding any treasury shares), less any "off-market" purchases made under the authority in (ii); and (ii) up to 758 million ordinary shares off-market (excluding any treasury shares), less any on-market purchases made under the authority in (i). The authorities for both on-market and off-market purchases will expire at the earlier of the close of business on August 24, 2023, and the end of the AGM of the Company to be held in 2023. On July 28, 2022, Shell announced the commencement of a share buyback programme of \$6 billion buyback which was completed on October 21, 2022; on October 27, 2022, Shell announced the commencement of a \$4 billion share buyback programme which completed on January 27, 2023; and on February 2, 2023, Shell announced the commencement of a share buyback programme of a further \$4 billion which is expected to be completed by May 4, 2023. This means that, as at close of February 20, 2023, 358 million further shares could still be repurchased under the current AGM authorities.

Other Regulatory and Statutory Information continued

The Board continues to regard the ability to repurchase issued shares in suitable circumstances as an important part of Shell's financial management. New resolutions will be proposed at the 2023 AGM to renew the authority for the Company to purchase its own share capital, up to specified limits, for a further year. These proposals will be described in more detail in the 2023 Notice of Annual General Meeting.

Simplification

On January 21, 2022, the Company changed its name from Royal Dutch Shell plc to Shell plc.

On January 29, 2022, one line of shares was established through assimilation of each A share and each B share into one single line of ordinary shares of the Company. This assimilation had no impact on voting rights or dividend entitlements.

Qualifying third-party indemnities

The Company has entered into a Deed of Indemnity (Deed) with each Director of the Company who served during the year. The terms of each of these Deeds are identical and they reflect the statutory provisions on indemnities contained in the Companies Act 2006 (CA 2006). Under the terms of each Deed, the Company has agreed to indemnify the Director, to the fullest extent permitted by the CA 2006, against any loss, liability or damage, howsoever caused (including in respect of a Director's own negligence), suffered or incurred by a Director in respect of their acts or omissions while or in the course of acting as a Director or employee of the Company, any associated company or affiliate (within the meaning of the CA 2006). In addition, the Company shall lend funds to Directors as required to meet reasonable costs and expenses incurred or to be incurred by them in defending any criminal or civil proceedings brought against them in their capacity as a Director or employee of the Company, associated company or affiliate, or, in connection with certain applications brought under the CA 2006. The provisions in the Company's Articles of Association (Articles) relating to arbitration and exclusive jurisdiction are incorporated, mutatis mutandis, into the Deeds entered into by each Director and the Company.

The Company has provided both indemnities and Directors' and officers' insurance to the Directors in connection with the performance of their responsibilities. Copies of these indemnities and the Directors' and officers' insurance policies are open to inspection. A copy of the form of these indemnities has been previously filed with the US Securities and Exchange Commission.

Related party transactions

In addition to the disclosures given in Notes 13 and 33 to the "Consolidated Financial Statements" on pages 255 and 286, the following related party transactions took place in 2022.

Indemnification Agreements

As noted in the Qualifying Third-Party Indemnities, the Company provides both indemnities and Directors' and Officers' insurance to the Directors in connection with the performance of their responsibilities. The Company has entered into a Deed of Indemnity with each Director of the Company who served during the year. A form of Director Indemnity Agreement has been previously filed with the US Securities and Exchange Commission. See "Other Regulatory and Statutory Information – Qualifying Third-Party Indemnities" for more information.

Agreements with Non-Executive Directors and Executive Officers

Non-executive Directors, including the Chair, receive a letter of appointment upon joining the Company's Board. A form of Letter of appointment for Non-executive Directors and amendment thereto have been previously filed with the US Securities and Exchange Commission.

Further details of Non-executive Directors' terms of appointment can be found in the "Other Regulatory and Statutory Information - Articles of Association" on page 202. and the "Governance framework" on page 141.

Non-executive Director compensation information is provided in the "Annual Report on Remuneration – Non-executive Directors' fees" on page 190.

Executive Directors are employed pursuant to a contract of employment. A form of contract of employment for Executive Directors has been previously filed with the US Securities and Exchange Commission.

Details of Executive Directors' employment arrangements can be found in the Directors' Remuneration Policy on page 191-198.

Transaction with GasTerra

In September 2021, Shell Energy Europe Limited (SEEL) signed a binding Contract Acquisition Agreement (CAA) with GasTerra (Shell interest 25%), whereby SEEL agreed to take over GasTerra's Gas Sales Agreement, dated December 21, 1999, between Gazprom Export LLC (Gazprom) as seller and GasTerra as buyer (GSA). The transfer of the GSA to SEEL took effect on October 1, 2022, upon payment of a fee by SEEL. Upon transfer and pursuant to the terms of the CAA, Shell recognized the transfer of a payable of approximately Euro 1.3 billion (\$1.4 billion) in respect of gas delivered by Gazprom to GasTerra in April and May of 2022 under the GSA. An equivalent receivable from GasTerra was also recognized pursuant to the terms of the CAA. Prior to the transfer on October 1, 2022, GasTerra exercised a right to set off a claim against Gazprom in respect of the non-delivery of gas as from end of May 2022. That right is disputed by Gazprom. Gazprom ceased to supply gas to GasTerra at the end of May 2022 and the GSA terminated in December 2022.

Transaction with Shell Midstream Partners, L.P.

On February 11, 2022, Shell Pipeline Company LP, a subsidiary of the Company, announced that it made a non-binding offer to purchase all remaining common units held by the public representing limited partner interests in Shell Midstream Partners, L.P. (Shell interest 68.5%)(SHLX) for \$12.89 per common unit in cash. On July 25, 2022, Shell USA, Inc. and SHLX announced the execution of a definitive agreement and plan of merger which would result in Shell USA, Inc. acquiring all common units held by the public at \$15.85 per common unit in cash and a total value of approximately \$1.96 billion. The transaction was completed on October 19, 2022. As a result, SHLX is now an indirect, wholly owned subsidiary of Shell USA, Inc. and its common units were delisted from the NYSE.

Transaction with Raizen

On November 7, 2022, Shell Trading Rotterdam B.V. entered into a long-term offtake agreement with Raizen (Shell interest 44%), a joint venture with Cosan SA formed in 2011. Under the agreement, Shell agreed to buy a total of 3.25 billion litres of sugar-cane cellulosic ethanol over a 13-year production period beginning in 2025 with a total value of approximately \$2.8 billion. We also have the right to potentially extend the offtake terms for a term up to 19 years if certain investment conditions are satisfied. The transactional price is driven by market pricing with a floor price attached, which is consistent with normal market terms. For extension, pricing will revert to market-based pricing.

From time to time, during the ordinary course of business, we enter into other offtake or supply agreements with Raizen for ethanol and other refinery product and lubricants for shorter period of time and based on market-based pricing.

Other Regulatory and Statutory Information continued

Related Party Transactions Procedures

The Audit Committee's Terms of Reference, which was updated in early 2022, provides that in advance of entering into any related party transactions, as defined under Item 7.B. of Form 20-F, the Audit Committee shall review, if no other independent committee has reviewed, all such proposed related party transactions for potential conflicts of interest and consistency with the interests of the Company and its shareholders.

Political contributions

No payments were made by Shell companies to political parties, organisations or their representatives during the year. Shell USA, Inc. administers the non-partisan Shell USA, Inc. Employees' Political Awareness Committee (SEPAC), a political action committee registered with the US Federal Election Commission. Eligible employees may make voluntary personal contributions to the SEPAC. All employees' contributions comply with federal and state law and are publicly reported in accordance with US election laws. Shell USA, Inc. does not exercise control over SEPAC's funding decisions.

Recent developments and post-balance sheet events

See Note 35 to the "Consolidated Financial Statements" on page 287.

Share capital

The Company's issued share capital at December 31, 2022, is set out in Note 26 to the "Consolidated Financial Statements" 279. The percentage of the total issued share capital is given below. On January 29, 2022, an assimilation of the Company's A and B shares was effected, creating a single line of ordinary shares. More information on how this has impacted the share capital of the Company can be found on page 199.

Share capital percentage as at December 31, 2022

Share class	%
Ordinary	100
Sterling deferred [A]	de minimis

[A] The Board has approved the redemption and cancellation of the Company's sterling deferred shares which will be effected in due course, in accordance with the Company's Articles of Association. Upon redemption, the sterling deferred shares will be treated as cancelled and the Company's issued share capital will be reduced by the nominal value of the shares redeemed, in accordance with section 688 of the UK Companies Act 2006.

Transfer of securities

There are no restrictions on transfer or limitations on the holding of the ordinary shares other than under the Articles, restrictions imposed by law or regulation (for example, insider trading laws) or pursuant to the Company's Share Dealing Code.

Share ownership trusts and trust-like entities

Shell has three primary employee share ownership trusts and trust-like entities: a Dutch foundation (stichting) and two US Rabbi Trusts. The shares held by the Dutch foundation are voted by its Board and the shares in the US Rabbi Trusts are voted by the Voting Trustee, Newport Trust Company. Both the Board of the Dutch foundation and the Voting Trustee are independent of Shell.

The UK Shell All Employee Share Ownership Plan has a separate related share ownership trust. Shares held by the trust are voted by its trustee, Computershare Trustees Limited, as directed by the participants.

Auditor

A resolution relating to the appointment of Ernst & Young LLP as auditor for the financial year 2023 will be proposed at the 2023 AGM.

Annual General Meeting

The AGM will be held on May 23, 2023, at ExCel London, 1 Western Gateway, London E16 1XL, United Kingdom. The Notice of Annual General Meeting will include details of the business to be put to shareholders at the AGM.

Conflicts of interest

In accordance with the Act and the Company's Articles, the Board may authorise any matter that otherwise may involve any Directors breaching their duty to avoid conflicts of interest. The Board has adopted a procedure to address these requirements. Detailed conflict of interest questionnaires are reviewed by the Board and, if considered appropriate, authorised. Conflicts of interest as well as any gifts and hospitality received by and provided by Directors are kept under review by the Board. Further information relating to conflicts of interest can be found in the Articles, available on the Shell website.

Shell General Business Principles

The Shell General Business Principles define how Shell subsidiaries are expected to conduct their affairs and are underpinned by the Shell core values of honesty, integrity and respect for people. These principles include, among other things, Shell's commitment to support fundamental human rights in line with the legitimate role of business and to contribute to sustainable development. They are designed to mitigate the risk of damage to our business reputation and to prevent violations of local and international legislation. They can be found at www.shell.com/sgbp.

See "Risk factors" on pages 21-30.

Shell Code of Conduct

Directors, officers, employees and contract staff are required to comply with the Shell Code of Conduct, which instructs them on how to behave in line with the Shell General Business Principles. This Code clarifies the basic rules and standards they are expected to follow and the behaviour expected of them. These individuals must also complete mandatory Code of Conduct training.

Designated individuals are required to complete additional mandatory training on antitrust and competition laws, anti-bribery, anti-corruption and anti-money laundering laws, financial crime, data protection laws and trade compliance requirements.

See "Risk factors" on pages 21-30.

The Shell Code of Conduct can be found at www.shell.com/codeofconduct.

Code of Ethics

Executive Directors and Senior Financial Officers of Shell must also comply with the Code of Ethics. This Code is specifically intended to meet the requirements of Section 406 of the Sarbanes-Oxley Act. It can be found at www.shell.com/codeofethics.

Independent professional advice

All Directors may seek independent professional advice in connection with their role as a Director. All Directors have access to the advice and services of the Company Secretary. The Company has provided both indemnities and Directors' and officers' insurance to the Directors in connection with the performance of their responsibilities. Copies of these indemnities and the Directors' and officers' insurance policies are open to inspection. A copy of the form of these indemnities has been previously filed with the US Securities and Exchange Commission.

Directors' shareholding qualification

While the Articles do not require Directors to hold shares in the Company, the Remuneration Committee believes that Executive

Other Regulatory and Statutory Information continued

Directors should align their interests with those of shareholders by holding shares in the Company. The CEO is expected to build up a shareholding of seven times base salary over five years from appointment and the CFO is expected to build up a shareholding of five times base salary over the same period. In the event that another Executive Director joins the Board, the Remuneration Committee will determine their shareholding requirement, which will not be less than 200% of their base salary.

Executive Directors will be required to maintain their requirement (or existing shareholding if less than the guideline) for a period of two years post employment. Non-executive Directors are encouraged to hold shares with a value equivalent to 100% of their fixed annual fee and to maintain that holding during their tenure.

Information on the Directors with shares in the Company can be found in the "Directors' Remuneration Report" on pages 166-170.

Non-executive Director independence

The Board follows the provisions of the Code in determining Non-executive Director independence, which states that at least half of the Board, excluding the Chair, should comprise Non-executive Directors determined by the Board to be independent. In the case of the Company, the Board has determined that all the Non-executive Directors at the end of 2022 are independent.

Nominating/Corporate Governance Committee and Compensation Committee

The NYSE listing standards require that a listed company maintain a nominating/corporate governance committee and a compensation committee, both composed entirely of independent directors and with certain specific responsibilities. The Company's Nomination and Succession Committee and Remuneration Committee both comply with these requirements, except that the terms of reference of the Nomination and Succession Committee require only a majority of the committee members to be independent.

Audit Committee

As required by NYSE listing standards, the Company maintains an Audit Committee for the purpose of assisting the Board's oversight of its financial statements, its internal audit function and its independent auditors. The Company's Audit Committee is in full compliance with US Exchange Act Rule 10A-3 and Section 303A.06 of the NYSE Listed Company Manual.

The Company's Audit Committee is not directly responsible for the appointment of independent auditors. However, the Company's Audit Committee makes recommendations to the Board on the appointment or reappointment of the external auditor to put to shareholders for approval in the Annual General Meetings. UK legislation provides that it is for shareholders to agree the appointment, reappointment and removal of the Company's independent auditors.

Shareholder approval of share-based compensation plans

The Company complies with the Listing Rules published by the Financial Conduct Authority (FCA), which require shareholder approval for the adoption of share-based compensation plans which are either long-term incentive plans in which one or more Directors can participate or plans which involve or may involve the issue of new shares or the transfer of treasury shares. Under the FCA rules, such plans cannot be changed to the advantage of participants without shareholder approval, except for certain minor amendments, such as to benefit the administration of the plan or to take account of tax benefits. The rules on the requirements to seek shareholder approval for share-based compensation plans, including those in respect of material revisions to such plans, may deviate from the NYSE listing standards.

Change of control

There are no provisions in the Articles that would delay, defer or prevent a change of control.

NYSE Governance Standards

In accordance with the NYSE rules for foreign private issuers, the Company follows home-country practice in relation to corporate governance. However, foreign private issuers are required to have an audit committee that satisfies the requirements of the US Exchange Act Rule 10A-3. The Company's Audit Committee satisfies such requirements. The NYSE also requires a foreign private issuer to provide certain written affirmations and notices to the NYSE, as well as a summary of the significant ways in which its corporate governance practices differ from those followed by domestic US companies under NYSE listing standards (see Section 303A.11 of the NYSE Listed Company Manual). The Company's summary of its corporate governance differences is given below and can be found at www.shell.com/investor.

Appointment and retirement of Directors

The Company's Articles, the Corporate Governance Code and the Companies Act 2006 govern the appointment and retirement of Directors. Board membership and biographical details of the Directors are provided on pages 129-136. However, Directors follow the direction laid out in the Code and stand for re-election annually.

On March 31, 2022, Jessica Uhl stepped down from the Board after five years' service as CFO and 17 years with Shell. Sinead Gorman was appointed and succeeded her as CFO on April 1, 2022.

On May 24, 2022, Gerrit Zalm stepped down from the Board after more than nine years' service as a Non-executive Director.

On December 31, 2022, Ben van Beurden stepped down from the Board after nine years as CEO and 39 years with Shell. Wael Sawan joined the Board as CEO on January 1, 2023.

On March 2, 2023, Cyrus Taraporevala joined the Board as a Non-executive Director.

On March 13, 2023, Sir Charles Roxburgh and Leena Srivastava will join the Board as Non-executive Directors.

At the conclusion of the 2023 AGM both Euleen Goh and Martina Hund-Mejean will stand down from the Board.

Articles of association

The Company's Articles were adopted on December 20, 2021. The Articles may only be amended by a special resolution of the shareholders in a general meeting. A full version of the Company's Articles can be found at www.shell.com/investors.

At a General Meeting, on December 10, 2021, the shareholders of the Company supported a resolution to amend Shell's Articles to enable the Simplification of the Company. The Simplification entailed establishing a single line of shares to eliminate the complexity of Shell's A/B share structure; and aligning the Company's tax residence with its country of incorporation in the UK; and consequently, changing the Company's name from Royal Dutch Shell plc to Shell plc.

The Company has proposed amendments to the Articles that will be presented to the shareholders at the 2023 AGM. Relevant portions of those amendments are described below in the applicable sections.

The following summarises certain provisions of the Articles [A] and of the applicable corporate legislation, including the Act (the legislation). This summary is qualified in its entirety by reference to the Articles and the Act. The information provided under this section is applicable to the

Other Regulatory and Statutory Information continued

Articles, which were in effect during the 2022 financial year to which this Report relates.

[A] A copy of the Articles has been previously filed with the SEC and is incorporated by reference as an exhibit to this Report. It can also be found at www.shell.com/investors.

Number of Directors

The Articles provide that the Company must have a minimum of three and can have a maximum of 20 Directors (disregarding alternate directors), but these restrictions can be changed by the Board.

Appointment of Directors

The Company can, by passing an ordinary resolution, appoint any willing person to be a Director. The Board can appoint any willing person to be a Director. Any Director appointed in this way must retire from office at the first AGM after his appointment. A Director who retires in this way is then eligible for reappointment. At the general meeting at which a Director retires, shareholders can pass an ordinary resolution to reappoint the Director or to appoint some other eligible person in their place.

The only people who can be appointed as Directors at a general meeting are the following: (i) Directors retiring at the meeting; (ii) anyone recommended by a resolution of the Board; and (iii) anyone nominated by a shareholder (not being a person to be nominated), where the shareholder is entitled to vote at the meeting and delivers to the Company's registered office, not less than six but not more than 21 days before the day of the meeting, a letter stating that he intends to nominate another person for appointment as a Director and written confirmation from that person that he is willing to be appointed.

Retirement of Directors

At every AGM, the following Directors shall retire from office: (i) any Director who has been appointed by the Board since the last AGM; (ii) any Director who held office at the time of the two preceding AGMs and who did not retire at either of them; and (iii) any Director who has been in office, other than as a Director holding an executive position, for a continuous period of nine years or more at the date of the meeting.

Notwithstanding the Articles, the Company complies with the Code which contains, among other matters, provisions regarding the composition of the Board and re-election of the Directors. As a result, the Company's current policy is that Directors are subject to annual re-election by shareholders. Any Director who retires at an AGM may offer themselves for reappointment by the shareholders.

Removal of Directors

In addition to any power to remove Directors conferred by the legislation, the Company can pass a special resolution to remove a Director from office, even though his time in office has not ended, and can (subject to the Articles) appoint a person to replace a Director who has been removed in this way by passing an ordinary resolution.

Vacation of office by Directors

Any Director automatically stops being a Director if: (i) he gives the Company a written notice of resignation; (ii) he gives the Company a written notice in which he offers to resign and the Board decides to accept this offer; (iii) all of the other Directors (who must comprise at least three people) pass a resolution or sign a written notice requiring the Director to resign; (iv) he is or has been suffering from mental or physical ill-health and the Board passes a resolution removing the Director from office; (v) he has missed Directors' meetings (whether or not an alternate director appointed by him attends those meetings) for a continuous period of six months without permission from the Board and the Board passes a resolution removing the Director from office; (vi) a bankruptcy order is made against him or he makes any arrangement or composition with his creditors generally; (vii) he is prohibited from being a Director under the legislation; or (viii) he

ceases to be a Director under the legislation or he is removed from office under the Articles. If a Director stops being a Director for any reason, he will also automatically cease to be a member of any committee or sub-committee of the Board.

Alternate directors

Any Director can appoint any person (including another Director) to act in his place as an alternate director. That appointment requires the approval of the Board, unless previously approved by the Board or unless the appointee is another Director.

Proceedings of the Board

The Board may decide in each case when to have meetings and how they will be conducted. The Board can also adjourn its meetings. If no other quorum is fixed by the Board, two Directors are a quorum. A Directors' meeting at which a quorum is present can exercise all the powers and discretions of the Board.

All or any of the Directors can take part in a meeting of the Directors by way of a conference telephone or any communication equipment which allows everybody to take part in the meeting by being able to hear each of the other people at the meeting and by being able to speak to all of them at the same time. A person taking part in this way will be treated as being present at the meeting and will be entitled to vote and be counted in the quorum. Any such meeting will be deemed to take place where the largest group of Directors participating is assembled or, if there is no such group, where the Chair of the meeting then is located.

The Board can appoint any Director as Chair or as Deputy Chair and can remove him or her from that office at any time. Matters to be decided at a Directors' meeting will be decided by a majority vote. If votes are equal, the Chair of the meeting has a second, casting vote.

The Board will manage the Company's business. It can use all the Company's powers, except where the Articles or the legislation say that powers can only be used by shareholders voting to do so at a general meeting. The Board is, however, subject to the provisions of the legislation, the requirements of the Articles and any regulations laid down by the shareholders by passing a special resolution at a general meeting.

The Board can exercise the Company's powers: (i) to borrow money; (ii) to guarantee; (iii) to indemnify; (iv) to mortgage or charge all or any of the Company's undertaking, property and assets (present and future) and uncalled capital; (v) to issue debentures and other securities; and (vi) to give security, either outright or as collateral security, for any debt, liability or obligation of the Company or of any third party. The Board must limit the borrowings of the Company and exercise all voting and other rights or powers of control exercisable by the Company in relation to its subsidiary undertakings so as to ensure that no money is borrowed if the total amount of the group's borrowings (as defined in the Articles) then exceeds, or would as a result of such borrowing exceed, two times the Company's adjusted capital and reserves (as defined in the Articles). Shareholders may pass an ordinary resolution allowing borrowings to exceed such limit.

The Board can delegate any of its powers or discretions to committees of one or more persons. Any committee must comply with any regulations laid down by the Board. These regulations can require or allow people who are not Directors to be members of the committee, and can give voting rights to such people but there must be more Directors on a committee than persons who are not Directors and a resolution of the committee is only effective if a majority of the members of the committee present at the time of the resolution were Directors.

Fees

The total fees paid to all the Directors (excluding any payments made under any other provision of the Articles) must not exceed €4,000,000 a year or any higher sum decided on by an ordinary resolution at a general meeting. It is for the Board to decide how much to pay each Director by way of fees. The Board, or any committee authorised by the Board, can award extra fees to any Director who, in its view, performs any special or extra services for the Company. The extra fees can take the form of salary, commission, profit-sharing or other benefits (and can be paid partly in one way and partly in another).

The Company can pay the reasonable travel, hotel and incidental expenses of each Director incurred in attending and returning from general meetings, meetings of the Board or committees of the Board or any other meetings which, as a Director, he is entitled to attend. The Company will pay all other expenses properly and reasonably incurred by each Director in connection with the Company's business or in the performance of his duties as a Director. The Company can also fund a Director's or former Director's expenditure and that of a Director or former Director of any holding company of the Company for the purposes permitted by the legislation and can do anything to enable a Director or former Director of the Company or any holding company of the Company to avoid incurring such expenditure all as provided in the legislation.

Pensions and gratuities

The Board or any committee authorised by the Board can decide whether to provide pensions, annual payments or other benefits to any Director or former Director, or any relation or dependant of, or person connected to, such a person. The Board can also decide to contribute to a scheme or fund or to pay premiums to a third party for these purposes. The Company can only provide pensions and other benefits to people who are or were Directors but who have not been employed by or held an office or executive position in the Company or any of its subsidiary undertakings or former subsidiary undertakings or any predecessor in business of the Company or any such other company or to relations or dependants of, or persons connected to, these Directors or former Directors if the shareholders approve this by passing an ordinary resolution.

Directors' interests

Conflicts of interest requiring authorisation by Directors

The Board may, subject to the relevant quorum and voting requirements, authorise any matter which would otherwise involve a Director breaching his or her duty under the legislation to avoid conflicts of interest. A Director seeking authorisation in respect of such a conflict of interest must tell the Board the nature and extent of his or her interest in the conflict of interest as soon as possible.

The Director must give the Board sufficient details of the relevant matter to enable it to decide how to address the conflict of interest, together with any additional information which it may request. Any Director (including the relevant Director) may propose that the relevant Director be authorised in relation to any matter which is the subject of such a conflict of interest. Such proposal and any authority given by the Board shall be effected in the same way as any other matter may be proposed to and resolved upon by the Board except that: (i) the relevant Director and any other Director with a similar interest will not count in the quorum and will not vote on a resolution giving such authority; and (ii) the conflicted Director and any other Director with a similar interest may, if the other members of the Board so decide, be excluded from any meeting of the Board while the conflict of interest is under consideration.

Where the Board gives authority in relation to a conflict of interest or where any of the situations described in (i) to (v) of "Other conflicts of interest" below applies in relation to a Director: (i) the Board may

(whether at the relevant time or subsequently) (a) require that the relevant Director is excluded from the receipt of information, the participation in discussion and/or the making of decisions related to the conflict or the situation and (b) impose upon the relevant Director such other terms for the purpose of dealing with the conflict or situation as they think fit; (ii) the relevant Director will be obliged to conduct himself in accordance with any terms imposed by the Board in relation to the conflict or situation; (iii) the Board may also provide that, where the relevant Director obtains (other than through his position as a Director of the Company) information that is confidential to a third party, the Director will not be obliged to disclose that information to the Company, or to use or apply the information in relation to the Company's affairs, where to do so would amount to a breach of that confidence; (iv) the terms of the authority shall be recorded in writing (but the authority shall be effective whether or not the terms are so recorded); and (v) the Board may revoke or vary such authority at any time but this will not affect anything done by the relevant Director prior to such revocation in accordance with the terms of such authority.

Other conflicts of interest

If a Director knows that he or she is in any way directly or indirectly interested in a proposed contract with the Company or a contract that has been entered into by the Company, they must tell the other Directors of the nature and extent of that interest in accordance with the legislation. If the Director has so disclosed the nature and extent of his interest, a Director can do one or more of the following: (i) have any kind of interest in a contract with or involving the Company or another company in which the Company has an interest; (ii) hold any other office or place of profit with the Company (except that of auditor) in conjunction with his office of Director for such period and upon such terms, including as to remuneration, as the Board may decide; (iii) alone, or through a firm with which he is associated, do paid professional work for the Company or another company in which the Company has an interest (other than as auditor); (iv) be or become a Director or other officer of, or employed by a party to a transaction or (v) arrangement with, or otherwise be interested in, any holding company or subsidiary company of the Company or any other company in which the Company has an interest; and (v) be or become a Director of any other company in which the Company does not have an interest and which cannot reasonably be regarded as giving rise to a conflict of interest at the time of his appointment as a Director of that other company.

Benefits

A Director does not have to hand over to the Company or its shareholders any benefit he or she receives or profit that he makes as a result of any matter which would otherwise involve a direct breach of his or her duty under the legislation to avoid conflicts of interest but which has been authorised or anything allowed under (i) to (v) of "Other conflicts of interest" above, nor is any type of contract so authorised or so allowed liable to be avoided.

Quorum and voting requirements

Subject to certain exceptions, a Director cannot vote or be counted in the quorum on a resolution of the Board relating to appointing that Director to a position with the Company or a company in which the Company has an interest or the terms or the termination of the appointment and a Director cannot vote or be counted in the quorum on a resolution of the Board about a contract in which he has an interest and, if he does vote, his vote will not be counted.

The Company can, by ordinary resolution, suspend or relax the provisions of the relevant article in the Articles to any extent or ratify any contract which has not been properly authorised in accordance with that relevant article.

Other Regulatory and Statutory Information continued

Directors' indemnities

As far as the legislation allows this, the Company can indemnify any Director or former Director of the Company, of any associated company or of any affiliate against any liability and can purchase and maintain insurance against any liability for any Director or former Director of the Company, of any associated company or of any affiliate. A Director or former Director of the Company, of any associated company or of any affiliate will not be accountable to the Company or the shareholders for any benefit so provided. Anyone receiving such a benefit will not be disqualified from being or becoming a Director of the Company.

Rights attaching to shares

The Company can issue shares with any rights or restrictions attached to them as long as this is not restricted by any rights attached to existing shares. These rights or restrictions can be decided either by an ordinary resolution passed by the shareholders or by the Board as long as there is no conflict with any resolution passed by the shareholders.

Dividends

Currently, only ordinary shares are entitled to a dividend.

Under the legislation, dividends are payable only out of profits available for distribution, as determined in accordance with the Act and under IFRS. Subject to the Act, if the Directors consider that the Company's financial position justifies the payment of a dividend, the Company can pay a fixed or other dividend on any class of shares on the dates prescribed for the payments of those dividends and pay interim dividends on shares of any class of any amounts and on any dates and for any periods which it decides. Shareholders can declare dividends in accordance with the rights of shareholders by passing an ordinary resolution, although such dividends cannot exceed the amount recommended by the Board.

Dividends are payable to persons registered as the holder(s) of shares, or to anyone entitled in any other way, at a particular time on a particular day selected by the Board. All dividends will be declared and paid in proportions based on the amounts paid up on the relevant shares during any period for which that dividend is paid. Any dividend or other money payable in cash relating to a share can be paid: (i) by inter-bank transfer or by other electronic means (including payment through CREST) directly to an account with a bank or other financial institution (or other organisations operating deposit accounts if allowed by the Company) named in a written instruction from the persons entitled to receive the payment under the Articles, such an account must be an account in the UK, unless the share on which the payment is to be made is held by Euroclear Nederland and the Dutch Securities Giro Act (Wet giraal effectenverkeer) applies to such share; (ii) by sending a cheque, warrant or similar financial instrument payable to the shareholder who is entitled to it by post addressed to his registered address; (iii) by sending a cheque, warrant or similar financial instrument payable to someone else named in a written instruction from the shareholder (or all joint shareholders) and sent by post to the address specified in that instruction; or (iv) in some other way if requested in writing by the shareholder (or all joint shareholders) and agreed with the Company. In respect of the payment of any dividend or other money, the Directors can decide and notify shareholders that: (i) one or more of the payment means described in paragraph above will be used for payment and, where more than one means will be used, a shareholder (or all joint shareholders) may elect to receive payment by one of the means so notified in the manner prescribed by the directors; (ii) one or more of such means will be used for the payment unless a shareholder (or all joint shareholders) elects for another means of payment in the manner prescribed by the Directors; or (iii) one or more of such means will be used for the payment and that shareholders will not be able to elect to receive the payment by any other means.

And for these purposes the Directors can decide that different means of payment will apply to different shareholders or groups of shareholders. If: (i) a shareholder (or all joint shareholders) does not specify an address, or does not (i) specify an account of a type prescribed by the Directors, or does not specify other details, and in each case that information is necessary in order to make a payment of a dividend or other money in the way in which under this Article the directors have decided that the payment is to be made or by which the shareholder (or all joint shareholders) has validly elected to receive the payment; or (ii) payment cannot be made by the company using the information provided by the shareholder (or all joint shareholders), then the dividend or other money will be treated as unclaimed for the purposes of these articles.

The Company will not be responsible for a payment which is lost or delayed. Unless the rights attached to any shares, the terms of any shares or the Articles say otherwise, a dividend or any other money payable in respect of a share can be declared and paid in whatever currency or currencies the Board decides using an exchange rate or exchange rates selected by the Board for any currency conversions required. The Board can also decide how any costs relating to the choice of currency will be met. The Board can offer shareholders the choice to receive dividends and other money payable in respect of their shares in alternative currencies on such terms and conditions as the Board may prescribe from time to time. Where any dividends or other amounts payable on a share have not been claimed, the Board can invest them or use them in any other way for the Company's benefit until they are claimed. The Company will not be a trustee of the money and will not be liable to pay interest on it. If a dividend or other money has not been claimed for 12 years after being declared or becoming due for payment, it will be forfeited and go back to the Company, unless the Board decides otherwise.

Under the proposed amendments to the Articles, which are being put forth to shareholders at the 2023 AGM, the 12-year period referenced above is being reduced to six years.

Prior to January 29, 2022, dividends in respect of B shares were paid under the dividend access mechanism described below. The Articles provide that if any amount paid by way of dividend by a subsidiary of the Company was received by the dividend access trustee on behalf of any holder of B shares and paid by the dividend access trustee to such holder, the entitlement of such holder of B shares to be paid any dividend declared pursuant to the Articles was reduced by the corresponding amount that has been paid by the dividend access trustee to such holder. If a dividend was declared pursuant to the Articles and the entitlement of any holder of B shares to be paid his pro rata share of such dividend was not fully extinguished on the relevant payment date by virtue of a payment made by the dividend access trustee, the Company has a full and unconditional obligation to make payment in respect of the outstanding part of such dividend entitlement immediately. Where amounts are paid by the dividend access trustee in one currency and a dividend was declared by the Company in another currency, the amounts so paid by the dividend access trustee was, for the purposes of the comparison required by the two immediately preceding sentences, converted into the currency in which the Company declared the dividend at such rate as the Board considered appropriate. For the purposes of the provisions referred to in this paragraph, the amount that the dividend access trustee has paid to any holder of B shares in respect of any particular dividend paid by a subsidiary of the Company (a "specified dividend") will be deemed to include: (i) any amount that the dividend access trustee may be compelled by law to withhold; (ii) a pro rata share of any tax that the subsidiary paying the specified dividend is obliged to withhold or to deduct from the same; and (iii) a pro rata share of any tax that is payable by the dividend access trustee in respect of the specified dividend.

Other Regulatory and Statutory Information continued

The Board can offer shareholders of ordinary shares (excluding any shareholder holding shares as treasury shares) the right to choose to receive extra ordinary shares, which are credited as fully paid up, instead of some or all of their cash dividend. Before the Board can do this, shareholders must have passed an ordinary resolution authorising the Board to make this offer.

Dividend access mechanism for B shares

General

On January 29, 2022 one line of shares was established through assimilation of each A share and each B share into one ordinary share of the Company. This assimilation had no impact on voting rights or dividend entitlements. Dutch withholding tax, applied previously on dividends on A shares, no longer applies on dividends paid on the ordinary shares following the assimilation. Prior to January 29, 2022, our A and B shares were identical, except for the dividend access mechanism, which only applied to B shares.

In relation to the assimilation of the Company's Class A and B shares, the Royal Dutch Shell Dividend Access Trust will continue in existence for the foreseeable future to facilitate the payment of unclaimed dividend liabilities for B shareholders, until these are either claimed or forfeited in line with the terms outlined in Note 4 to the Royal Dutch Shell Dividend Access Trust financial statements on page 324. The discussion below describes the dividend access mechanism as it applied to B shares prior to January 29, 2022.

Prior to January 29, 2022, it was the expectation and the intention, although there could be no certainty, that holders of B shares would receive dividends through the dividend access mechanism. Any dividends paid on the dividend access shares would have a UK source for UK and Dutch tax purposes. There would be no Dutch withholding tax on such dividends. For further details regarding the tax treatment of dividends paid, refer to "Shareholder information".

Description of dividend access mechanism

The "Shell" Transport and Trading Company, p.l.c., now The Shell Transport and Trading Company Limited (Shell Transport), and BG Group plc, now BG Group Limited (BG), have each issued a dividend access share to Computershare Trustees (Jersey) Limited as Trustee. Pursuant to a declaration of trust, the Trustee will hold any dividends paid in respect of the dividend access shares on trust for the holders of B shares and will arrange for prompt disbursement of such dividends to such holders. Interest and other income earned on unclaimed dividends will be for the account of Shell Transport and BG and any dividends which are unclaimed after 12 years will revert to Shell Transport and BG, as appropriate. Holders of B shares will not have any interest in either dividend access share and will not have any rights against Shell Transport and BG as issuers of the dividend access shares. The only assets held on trust for the benefit of these holders will be dividends paid to the Trustee in respect of the dividend access shares.

The declaration and payment of dividends on the dividend access shares will require board action by Shell Transport and BG (as applicable) and will be subject to any applicable limitations in law or in the Shell Transport or BG (as appropriate) articles of association in effect. In no event will the aggregate amount of the dividend paid by Shell Transport and BG under the dividend access mechanism for a particular period exceed the aggregate of the dividend announced by the Board of the Company on B shares in respect of the same period (after giving effect to currency conversions).

In particular, under their respective articles of association, Shell Transport and BG are each only able to pay a dividend on their respective dividend access share which represents a proportional amount of the aggregate of any dividend announced by the Company on the B shares in respect of the relevant period, where such proportions are calculated by reference to, in the case of Shell

Transport, the number of B shares in existence prior to completion of the Company's acquisition of BG (the Acquisition) and, in the case of BG, the number of B shares issued as part of the Acquisition, in each case as against the total number of B shares in issue immediately following completion of the Acquisition.

Operation of the dividend access mechanism

If, in connection with the announcement of a dividend by the Company on B shares, the Board of Shell Transport and/or the Board of BG elects to declare and pay a dividend on their respective dividend access shares to the Trustee, the holders of B shares will be beneficially entitled to receive their share of those dividends pursuant to the declaration of trust (and arrangements will be made to ensure that the dividend is paid in the same currency in which they would have received a dividend from the Company).

If any amount is paid by Shell Transport or BG by way of a dividend on the dividend access shares and paid by the Trustee to any holder of B shares, the dividend which the Company would otherwise pay on B shares will be reduced by an amount equal to the amount paid to such holders of B shares by the Trustee.

The Company will have a full and unconditional obligation, in the event that the Trustee does not pay an amount to holders of B shares on a cash dividend payment date (even if that amount has been paid to the Trustee), to pay immediately the dividend announced on B shares. The right of holders of B shares to receive distributions from the Trustee will be reduced by an amount equal to the amount of any payment actually made by the Company on account of any dividend on B shares. If for any reason no dividend is paid on the dividend access shares, holders of B shares will only receive dividends from the Company directly. Any payment by the Company will be subject to Dutch withholding tax (unless an exemption is obtained under Dutch law or under the provisions of an applicable tax treaty).

The Dutch tax treatment of dividends paid under the dividend access mechanism has been confirmed by the Dutch Revenue Service in an agreement (vaststellingsovereenkomst) with the Company and N.V. Koninklijke Nederlandsche Petroleum Maatschappij (Royal Dutch Petroleum Company) dated October 26, 2004, as supplemented and amended by an agreement between the same parties dated April 25, 2005, and a final settlement agreement in connection with the Acquisition dated November 9, 2015. The agreements state, among other things, that dividend distributions on the dividend access shares by Shell Transport and/or BG will not be subject to Dutch withholding tax provided that the dividend access mechanism is structured and operated substantially as set out above.

The dividend access mechanism may be suspended or terminated at any time by the Company's Directors or the Directors of Shell Transport or BG, for any reason and without financial recompense. This might, for instance, occur in response to changes in relevant tax legislation.

The daily operations of the Trust are administered on behalf of the Company by the Trustee. Material financial information of the Trust is included in the "Consolidated Financial Statements" and is therefore subject to the same disclosure controls and procedures as Shell.

Pre-emption rights

Subject to the Act and the Listing Rules published by the UK's Financial Conduct Authority (FCA), any equity securities allotted by the Company for cash must first be offered to shareholders in proportion to their holdings. The Act and the Listing Rules allow for the disapplication of pre-emption rights which may be waived by a special resolution of the shareholders, either generally or specifically.

Other Regulatory and Statutory Information continued

Voting

Subject to applicable law and the Articles, the ordinary shares have voting rights on all matters that are subject to shareholder approval including the election of directors. Currently, the voting rights of each ordinary share carry one vote at a general meeting of the Company.

Major shareholders have no differing voting rights.

Changing the rights attached to the shares
The Act provides that the Articles can be amended by a special resolution.

The Articles provide that, if the legislation allows this, the rights attached to any class of shares can be changed if this is approved either in writing by shareholders holding at least three-quarters of the issued shares of that class by amount (excluding any shares of that class held as treasury shares) or by a special resolution passed at a separate meeting of the relevant shareholders. At each such separate meeting, all of the provisions of the Articles relating to proceedings at a general meeting apply, except that: (i) a quorum will be present if at least one shareholder who is entitled to vote is present in person or by proxy who owns at least one-third in amount of the issued shares of the relevant class; (ii) any shareholder who is present in person or by proxy and entitled to vote can demand a poll; and (iii) at an adjourned meeting, one person entitled to vote and who holds shares of the class, or his proxy, will be a quorum. These provisions are not more restrictive than required by law in England.

If new shares are created or issued which rank equally with any other existing shares, or if the company purchases or redeems any of its own shares, the rights of the existing shares will not be regarded as changed or abrogated unless the terms of the existing shares expressly say otherwise.

Redemption provisions
The Company's shares are not subject to any redemption provisions.

Rights attaching to the sterling deferred shares
The sterling deferred shares are not ordinary shares and, therefore, they have different rights and restrictions. The sterling deferred shares have the following rights and restrictions: (i) on a distribution of assets of the Company among its shareholders on a winding-up, the holders of the sterling deferred shares will be entitled (such entitlement ranking in priority to the rights of holders of ordinary shares) to receive an amount equal to the aggregate of the capital paid up or credited as paid up on each sterling deferred share; (ii) save as provided in (i), the holders of the sterling deferred shares will not be entitled to any participation in the profits or assets of the Company; (iii) the holders of sterling deferred shares will not be entitled to receive notice of or to attend and/or speak or vote (whether on a show of hands or on a poll) at general meetings of the Company; (iv) the written consent of the holders of three quarters in nominal value of the issued sterling deferred shares or the sanction of a special resolution passed at a separate general meeting of the holders of the sterling deferred shares is required if the special rights and privileges attaching to the sterling deferred shares are to be abrogated, or adversely varied or otherwise directly adversely affected in any way (the creation, allotment or issue of shares or securities which rank in priority to or equally with the sterling deferred shares, or of any right to call for the allotment or issue of such shares or securities, is for these purposes deemed not to be an abrogation or variation or to have an effect on the rights and privileges attaching to sterling deferred shares); (v) all provisions of the Articles relating to general meetings of the Company will apply, with necessary modifications, to every general meeting of the holders of the sterling deferred shares; (vi) subject to the legislation, the Company will have the right at any time to redeem any such sterling deferred shares (provided that it is credited as fully paid) at a price not exceeding £1 for all the sterling deferred shares redeemed at any one time (to be

paid on such date as the Board shall select as the date of redemption to such one of the holders, if more than one, as may be selected by lot) without the requirement to give notice to the holder(s) of the sterling deferred shares; (vii) if any holder of a sterling deferred share to be redeemed fails or refuses to surrender the share certificate(s) or indemnity for such sterling deferred share or if the holder selected by lot to receive the redemption monies fails or refuses to accept the redemption monies payable in respect of it, such sterling deferred share will, notwithstanding the foregoing, be redeemed and cancelled by the Company and, in the event of a failure or refusal to accept the redemption monies, the Company will retain such money and hold it on trust for the selected holder without interest, and, in each case, the Company will have no further obligation whatsoever to the holder of such sterling deferred share; and (viii) no sterling deferred share will be redeemed otherwise than out of distributable profits or the proceeds of a fresh issue of shares made for the purposes of the redemption or out of capital to the extent permitted by the legislation.

The Board has approved the redemption and cancellation of the Company's sterling deferred shares which will be effected in due course, in accordance with the Company's Articles of Association. Upon redemption, the sterling deferred shares will be treated as cancelled and the Company's issued share capital will be reduced by the nominal value of the shares redeemed, in accordance with section 688 of the UK Companies Act 2006.

Disputes between a shareholder or American Depositary Share holder and Shell plc, any subsidiary, Director or professional service provider
The Articles generally require that, except as noted below, all disputes: (i) between a shareholder in such capacity and the Company and/or its Directors, arising out of or in connection with the Articles or otherwise; (ii) so far as permitted by law, between the Company and any of its Directors in their capacities as such or as the Company's employees, including all claims made by the Company or on behalf of the Company against any or all of its Directors; (iii) between a shareholder in such capacity and the Company's professional service providers (which could include the Company's auditors, legal counsel, bankers and ADS depositories); and/or (iv) between the Company and its professional service providers arising in connection with any claim within the scope of (iii) above, shall be exclusively and finally resolved by arbitration under the Rules of Arbitration of the International Chamber of Commerce (ICC), as amended from time to time. This would include all disputes arising under UK, Dutch or US law (including securities laws), or under any other law, between parties covered by the arbitration provision. Accordingly, the ability of shareholders to obtain monetary or other relief, including in respect of securities law claims, may be determined in accordance with these provisions, and the ability of shareholders to obtain monetary or other relief may therefore be limited and their cost of seeking and obtaining recoveries in a dispute may be higher than otherwise would be the case.

The tribunal shall consist of three arbitrators to be appointed in accordance with the ICC rules. The chairman of the tribunal must have at least 20 years' experience as a lawyer qualified to practise in a common-law jurisdiction which is within the Commonwealth (as constituted on May 12, 2005) and each other arbitrator must have at least 20 years' experience as a qualified lawyer. The place of arbitration must be The Hague, the Netherlands; and the language of the arbitration must be English.

At the 2023 AGM, shareholders will be asked to approve updated Articles of Association. The changes proposed are largely administrative and introduce further amendments to cater for the Simplification, which was effected in January 2022. The New Articles provide that the place of arbitration provided for under the New Articles will be London, the United Kingdom rather than The Hague, The Netherlands, and to remove references to Dutch legislation.

Other Regulatory and Statutory Information continued

Pursuant to the exclusive jurisdiction provision in the Articles, if a court or other competent authority in any jurisdiction determines that the arbitration requirement described above is invalid or unenforceable in relation to any particular dispute in that jurisdiction, then that dispute may only be brought in the courts of England and Wales, as is the case with any derivative claim brought under the Act. The governing law of the Articles is the substantive law of England.

Disputes relating to the Company's failure or alleged failure to pay all or part of a dividend which has been announced and which has fallen due for payment will not be subject to the arbitration and exclusive jurisdiction provisions of the Articles. Any derivative claim brought under the Act will not be subject to the arbitration provisions of the Articles.

Pursuant to the relevant depositary agreement, each holder of ADSs is bound by the arbitration and exclusive jurisdiction provisions of the Articles as described in this section as if that holder were a shareholder.

Calls on shares

The Board can call on shareholders to pay any money which has not yet been paid to the Company for their shares. This includes the nominal value of the shares and any premium which may be payable on those shares. The Board can also make calls on people who are entitled to shares by law.

Winding-up of the Company

If the Company is voluntarily wound up, the liquidator can distribute to shareholders any assets remaining after the liquidator's fees and expenses have been paid and all sums due to prior-ranking creditors (as defined under the laws of England) have been paid.

Sinking fund provisions

The shares are not subject to any sinking fund provision under the Articles or as a matter of the laws of England.

Discriminating provisions

There are no provisions in the Articles discriminating against a shareholder because of his ownership of a particular number of shares.

Limitations on rights to own shares

There are no limitations imposed by the Articles or the legislation on the rights to own shares, including the right of non-residents or foreign persons to hold or vote shares, other than limitations that would generally apply to all shareholders.

Transfer of shares

There are no significant restrictions on the transfer of shares.

Except as set out below, any shareholder can transfer some or all of his certificated shares to another person. A transfer of certificated shares must be made in writing and either in the usual standard form or in any other form approved by the Board. Except as set out below, any shareholder can transfer some or all of his CREST shares to another person. A transfer of CREST shares must be made through CREST and must comply with the uncertificated securities rules.

The Board can refuse to register the transfer of any shares which are not fully paid. Further rights to decline registration are as follows:

Certificated shares

A share transfer form cannot be used to transfer more than one class of share. Each class needs a separate form. Transfers cannot be in favour of more than four joint holders. The share transfer form must be properly stamped to show payment of any applicable stamp duty or certified or otherwise shown to the satisfaction of the Board to be exempt from stamp duty and must be delivered to the Company's registered office, or any other place decided on by the Board. The

transfer form must be accompanied by the share certificate relating to the share being transferred, unless the transfer is being made by a person to whom the Company was not required to, and did not send, a certificate. The Board can also ask (acting reasonably) for any other evidence to show that the person wishing to transfer the share is entitled to do so and, if the share transfer form is signed by another person on behalf of the person making the transfer, evidence of the authority of that person to do so.

CREST shares

Registration of a transfer of CREST shares can be refused in the circumstances set out in the uncertificated securities rules. Transfers cannot be in favour of more than four joint holders. Where a share has not yet been entered on the register, the Board can recognise a renunciation by that person of his right to the share in favour of some other person. Such renunciation will be treated as a transfer and the Board has the same powers of refusing to give effect to such a renunciation as if it were a transfer.

Partly paid shares

If a shareholder fails to pay the Company any amount due on his partly paid shares, the Board can enforce the Company's lien by selling all or any of the partly paid shares in any way they decide (subject to certain conditions).

Capital changes

The conditions imposed by the Articles for changes in capital are not more stringent than those required by the applicable laws of England.

Accordingly, the ability of shareholders to obtain monetary or other relief, including in respect of securities law claims, may be determined in accordance with these provisions, and the ability of shareholders to obtain monetary or other relief may therefore be limited and their cost of seeking and obtaining recoveries in a dispute may be higher than otherwise would be the case.

The tribunal shall consist of three arbitrators to be appointed in accordance with the ICC rules. The chairman of the tribunal must have at least 20 years' experience as a lawyer qualified to practise in a common-law jurisdiction which is within the Commonwealth (as constituted on May 12, 2005) and each other arbitrator must have at least 20 years' experience as a qualified lawyer. The place of arbitration must be The Hague, the Netherlands; and the language of the arbitration must be English.

Pursuant to the exclusive jurisdiction provision in the Articles, if a court or other competent authority in any jurisdiction determines that the arbitration requirement described above is invalid or unenforceable in relation to any particular dispute in that jurisdiction, then that dispute may only be brought in the courts of England and Wales, as is the case with any derivative claim brought under the Act. The governing law of the Articles is the substantive law of England.

Disputes relating to the Company's failure or alleged failure to pay all or part of a dividend which has been announced and which has fallen due for payment will not be subject to the arbitration and exclusive jurisdiction provisions of the Articles. Any derivative claim brought under the Act will not be subject to the arbitration provisions of the Articles.

Pursuant to the depositary agreement, each holder of ADSs is bound by the arbitration and exclusive jurisdiction provisions contained in the relevant depositary agreement, which are substantially similar to the Articles as described in this section as if that holder were a shareholder.

General Meetings

Under the applicable laws of England, the Company is required in each year to hold an AGM of shareholders in addition to any other

Other Regulatory and Statutory Information continued

meeting of shareholders that may be held. Each AGM must be held in the period six months from the date following the Company's accounting reference date.

Additionally, shareholders may submit resolutions in accordance with Section 338 of the Act.

Directors have the power to convene a general meeting of shareholders at any time. In addition, Directors are required to call a general meeting once requests to do so have been received by the Company from shareholders representing at least 5% of such paid-up capital of the Company as carries voting rights at general meetings of the Company (excluding any paid-up capital held as treasury shares) pursuant to Section 303 of the Act. A request for a general meeting must state the general nature of the business to be dealt with at the meeting and must be authenticated by the requesting shareholders. If Directors fail to call such a meeting within 21 days from receipt of such requests, and on a date not more than 28 days after the date of the notice convening the meeting, the shareholders that requested the general meeting, or any of them representing more than half of the total voting rights of all shareholders that requested the meeting, may themselves convene a general meeting which must be called for a date not more than three months after the date upon which the Directors became subject to the requirement to call a general meeting. Any such meeting must be convened in the same manner, as nearly as possible, as that in which meetings are required to be convened by the Directors of the Company.

Under the Act, the Company is required to give at least 21 clear days' notice of any AGM or, except where the conditions in Section 307A of the Act apply, any other general meeting of the Company. In addition, the Company complies with the Code which currently states that notices of AGMs should be sent to shareholders at least 20 working days before the meeting.

The Articles require that, in addition to any requirements under the legislation, the notice for any general meeting must state where the meeting is to be held (the principal meeting place) and the location of any satellite meeting place, which shall be identified as such in the notice as well as details of any arrangements made for those persons not entitled to attend a general meeting to be able to view and hear the proceedings (making it clear that participation in those arrangements will not amount to attendance at the meeting to which the notice relates). At the same time that notice is given for any general meeting, an announcement of the date, time and place of that meeting will, if practical, be published in a national newspaper in the Netherlands.

A shareholder is entitled to appoint a proxy (who is not required to be another shareholder) to represent and vote on behalf of the shareholder at any general meeting of shareholders, including the AGM, if a duly completed form of proxy has been received by the Company within the relevant deadlines (in general, where a poll is not demanded, 48 hours (or such shorter time as the Board decides) before the meeting).

Before a general meeting starts to do business, there must be a quorum present. Save as in relation to adjourned meetings, a quorum for all purposes is two people who are entitled to vote. They can be shareholders who are personally present, proxies for shareholders, or a combination of both. If a quorum is not present, a chairman of the meeting can still be chosen and this will not be treated as part of the business of the meeting. If a quorum is not present within five minutes of the time fixed for a general meeting to start or within any longer period not exceeding one hour which the chairman of the meeting can decide, or if a quorum ceases to be present during a general meeting: (i) if the meeting was called by shareholders, it will be cancelled; (ii) any other meeting will be adjourned to a day (being not less than 10 days later,

excluding the day on which it is adjourned and the day for which it is reconvened) with the time and place decided upon by the chairman of the meeting; and (iii) one shareholder present in person or by proxy and entitled to vote will constitute a quorum at any such adjourned general meeting and any notice of such adjourned meeting will say this.

Deemed delivery of documents

Under the Articles, if any notice, document or other information is given, sent or supplied by the Company by inland post, it is treated as being received the day after it was posted if first class post (or a service similar to first class post) was used, or 72 hours after it was posted if first class post (or a service similar to first class post) was not used. If a notice or document is sent by the Company by airmail, it is treated as being received 72 hours after it was posted. Any notice, document or other information left at a shareholder's registered address or a postal address notified to the Company in accordance with the Articles by a shareholder or a person entitled to a share by law is treated as being received on the day on which it was left.

Threshold for disclosure of share ownership

The Articles provide that, when a person receives a statutory notice, he has 14 days to comply with it. If he does not do so or if he makes a statement in response to the notice which is false or inadequate in some important way, the Company can decide to restrict the rights relating to the identified shares and send out a further notice to the shareholder, known as a restriction notice, which will take effect when delivered. The restriction notice will state that the identified shares no longer give the shareholder any right to attend or vote either personally or by proxy at a shareholders' meeting or to exercise any right in relation to shareholders' meetings. Where the identified shares make up 0.25% or more (in amount or in number) of the existing shares of a class at the date of delivery of the restriction notice, the restriction notice can also contain the following further restrictions: (i) the Board can withhold any dividend or part of a dividend (including scrip dividend) or other money which would otherwise be payable in respect of the identified shares without any liability to pay interest when such money is finally paid to the shareholder; and (ii) the Board can refuse to register a transfer of any of the identified shares which are certificated shares unless the Board is satisfied that they have been sold outright to an independent third party (as specified in the Articles). Once a restriction notice has been given, the Board is free to cancel it or exclude any shares from it at any time the Board thinks fit. In addition, the Board must cancel the restriction notice within seven days of being satisfied that all of the information requested in the statutory notice has been given. Also, where any of the identified shares are sold and the Board is satisfied that they were sold outright to an independent third party, it must cancel the restriction notice within seven days of receipt of notification of the sale. The Articles do not restrict in any way the provision of the legislation which applies to failures to comply with notices under the legislation.

The UK City Code on Takeovers and Mergers (the Takeover Code) imposes disclosure obligations on parties subject to the Takeover Code's disclosure regime. The Takeover Code requires that an opening position disclosure be made by: (i) an offeror company after the announcement that first identifies it as an offeror and after the announcement that first identifies a competing securities exchange offeror; and (ii) an offeree company after the commencement of an offer period and, if later, after the announcement that first identifies any securities exchange offeror. An opening position disclosure must be made by any person that is interested in 1% or more of any class of relevant securities of the offeree company or any securities exchange offeror. The Takeover Code also requires any person who is, or becomes, interested in 1% or more of any class of relevant securities of an offeree company or any securities exchange offeror to make a dealing disclosure if the person deals in any relevant securities of the offeree company or any securities exchange offeror during an offer

Other Regulatory and Statutory Information continued

period. Where two or more persons act together pursuant to an agreement or understanding, whether formal or informal, to acquire or control an interest in relevant securities, they will normally be deemed to be a single person for the purpose of the relevant provisions of the Takeover Code.

Rule 13d-1 of the US Securities Exchange Act of 1934 requires that a person or group that acquires beneficial ownership of more than 5% of equity securities registered under the US Securities Exchange Act, and that is not eligible to file a short-form report, disclose such information to the SEC within 10 days after the acquisition.

Report of Independent Registered Public Accounting Firm

To the shareholders and Board of Directors of Shell plc

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Shell plc (Shell or the Company) as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2022, and the related notes (collectively referred to as the Consolidated Financial Statements). In our opinion, the Consolidated Financial Statements present fairly, in all material respects, the consolidated financial position of the Company at December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) and in conformity with UK adopted international accounting standards.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated March 8, 2023, expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission (SEC) and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical audit matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the Audit Committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgements. The communication of critical audit matters does not alter in any way our opinion on the Consolidated Financial Statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Report of Independent Registered Public Accounting Firm continued

The estimation of oil and gas reserves

Description of the matter	<p>As described in Notes 12 and 13 to the Consolidated Financial Statements, at December 31, 2022, production assets amounted to \$117.4 billion and had an associated depreciation, depletion and amortisation (DD&A) charge of \$9.7 billion and joint ventures (JVAs) amounted to \$23.9 billion. As further described in Note 12, exploration and production impairment charges of \$0.9 billion and exploration and production impairment reversals \$6.0 billion were recorded during the year. As described in Note 24 to the Consolidated Financial Statements, decommissioning and restoration (D&R) provisions amounted to \$20.3 billion. Oil and gas reserves estimates are used in the calculation of DD&A, impairment testing and in the estimation of D&R provisions. The risk is the inappropriate recognition of reserves that impacts these accounting estimates.</p> <p>As described in Note 4 to the Consolidated Financial Statements, Shell's Powering Progress strategy includes specific reduction targets for emissions and carbon intensity. Accordingly, there is therefore a risk that Shell recognises oil and gas reserves that are not ultimately produced. If reserves are recognised that are not ultimately produced, depreciation will be understated, and the recoverable amount of assets may be overstated.</p> <p>Auditing the estimation of oil and gas reserves is complex, as there is significant estimation uncertainty in assessing the quantities of reserves and resources in place. Estimated reserves and resources in place are based on significant assumptions such as production curves and certain other inputs, including forecast production volumes, future capital and operating cost assumptions and life of field assumptions, all of which are inputs used by reserves experts to estimate oil and gas reserves. Estimation uncertainty is further elevated given the transition to a low-carbon economy, which could impact life-of-field assumptions and increase the risk of underutilised or stranded oil and gas assets.</p>
How we addressed the matter in our audit	<p>We obtained an understanding of the controls over Shell's oil and gas reserves' estimation process. We then evaluated the design of these controls and tested their operating effectiveness. For example, we tested management's controls over review of changes to year-on-year estimated oil and gas reserves volumes.</p> <p>We involved professionals with substantial oil and gas reserves audit experience to assist us in evaluating the key assumptions and methodologies applied by management.</p> <p>Our procedures included, amongst others, testing that significant additions or reductions in reserves had been made in the period in which new information became available, and assessing whether they were in compliance with Shell's reserves and resources guidance. We evaluated the professional qualifications and objectivity of management's reserves experts who performed the preparation of the reserve estimates and who are primarily responsible for providing independent review and challenge, and ultimately endorsement of, the reserve estimates. We observed the internal review and endorsement process at Shell's Upstream Reserves Committee meetings. These meetings are part of Shell's proved reserves assurance process described on page 288.</p> <p>We also evaluated the completeness and accuracy of the inputs used by management in estimating the oil and gas reserves by agreeing the inputs to source documentation and we performed backtesting of historical data to identify indications of estimation bias over time. We evaluated management's development plan for compliance with SEC rules that undrilled locations must be scheduled to be drilled within five years, unless specific circumstances justify a longer period. This evaluation was made by assessing the consistency of the development projections with Shell's development plans and capital allocation framework. Where reserves are recognised beyond current licence terms, we assessed the assumption around licence renewal.</p> <p>In order to address the risk of stranded assets, among other procedures, we estimated the carbon intensity of Shell's Upstream and Integrated Gas fields to analyse assets that are currently forecast to be producing beyond 2030 and the expected carbon intensity per barrel of those fields. For the assets where forecast emissions were highest, we used our Climate Risk data analytics tool to identify correlations between reserves, production and emissions data. For assets that we identified as carbon intensive that are expected to have material carrying value in 2030, we evaluated the risk that the carrying value of these assets will not be recovered. This included considering the decarbonisation plans of these assets and the associated costs.</p>

Report of Independent Registered Public Accounting Firm continued

Impairment of Property, plant and equipment and Joint venture and associates (JVA)

Description of the matter	<p>As described in Notes 12 and 13 to the Consolidated Financial Statements, at December 31, 2022 Shell recognised \$117.4 billion of production assets, \$49.9 billion of manufacturing, supply and distribution assets (primarily refineries and petrochemical plants) (collectively, PP&E) and \$23.9 billion of joint ventures and associates (JVAs). As disclosed in Note 12, Shell recognised \$1.8 billion impairment losses and \$6.2 billion impairment loss reversals. As discussed in Note 13, Shell recognised an impairment loss of \$1.6 billion relating to JVAs.</p> <p>The recoverable amounts of PP&E and JVAs are sensitive to changes in key assumptions, therefore our audit effort was focused on the completeness and timely identification of indicators of impairment charges or impairment reversals.</p> <p>Auditing the impairment assessments of PP&E and JVAs is subjective due to the significant amount of judgement involved in determining whether indicators of impairment or impairment reversal exist, particularly for longer term assets, and the extent of any impairment loss or its reversal.</p> <p>The key assumptions underpinning the impairment assessments include changes in forecast commodity price and refining margin assumptions (in particular over the mid-to-long-term). In addition, management forecast carbon prices, movements in oil and gas reserves, the assumed weighted average cost of capital (WACC), cash generating units (CGUs) assessments, changes in asset performance and future development plans and the expected useful lives of assets. The estimation of forecast commodity prices and refining and petrochemical margins are particularly judgmental because of, among other factors, increased demand uncertainty and pace of decarbonisation due to climate change and the energy transition.</p>
How we addressed the matter in our audit	<p>We obtained an understanding of the controls over Shell's asset impairment process. We then evaluated the design of these controls and tested their operating effectiveness. For example, we tested the controls over management's identification of indicators of impairment and reversals of impairment and the approval of oil and gas prices and refining margins.</p> <p>We evaluated Shell's assessment of impairment and impairment reversal triggers, including changes in the forecast commodity price assumptions, movements in oil and gas reserves (see oil and gas reserves critical audit matter), changes in asset performance and changes in Shell's business and operating plan assumptions. We further considered assets with high carbon intensity as a potential indicator of impairment, given Shell's carbon emissions reductions targets.</p> <p>We considered potential impairment triggers related to climate change and energy transition by estimating the carbon intensity of Shell's Upstream and Integrated Gas fields and identifying the most carbon intensive assets. We used our Climate Risk data analytics tool to identify correlations between reserves, production and emissions data and assessed management's plans to reduce the carbon intensity of these assets in the future to determine whether there is a material risk that reserves recognised will not be produced or if the carbon intensity limited the expected useful lives of the assets. We assessed consistency of Shell's plans to reduce the carbon intensity of these assets with their carbon emissions reductions targets and whether these actions have been reflected in Shell's operating plan, which impact Shell's financial statements and disclosures. Also, we assessed the operating and capital expenditure assumptions that were estimated necessary to achieve the emission reductions. This also involved assessing assumptions on acquisitions, divestments, investments in CCS technologies and Nature Based Solutions.</p> <p>In addition, we considered contradictory evidence, such as the results of comparable market transactions by other energy companies in jurisdictions with similar environmental and regulatory focus that could indicate a significant increase or decrease in the recoverable amount of Shell's assets. We also considered public comments or commitments made by Shell in relation to the Powering Progress strategy and whether these could impact the future potential value of any assets. We also performed a risk assessment on Shell's assets from a climate change physical risk perspective, considering asset and geographical specific factors to assess whether the existence of any increased physical risks represented a trigger for impairment. We then obtained an understanding of how management has incorporated historic, current and potential future asset integrity plans in the Shell operating plan.</p> <p>We also assessed potential operational changes that have or are expected to have a significant adverse effect on an asset and whether such unplanned shutdowns should be considered as impairment triggers.</p> <p>To test Shell's commodity price assumptions, amongst other procedures, we compared future short and long-term oil and gas prices to an independently developed reasonable range of forecasts based on consensus analysts' forecasts and those adopted by other international oil companies. To evaluate the impact of energy transition on Shell's commodity price forecasts applied in the preparation of the financial statements, we also compared Shell's oil and gas price scenarios to the IEA's Net Zero Emissions 2050 (NZE) and to the IEA's Announced Pledges Scenario (APS) price assumptions. We evaluated the reasonableness of Shell's refining margin assumptions by comparing these to independent market and consultant forecasts. We also involved our oil and gas valuations specialists to assess the reasonableness of Shell's refining margin and petrochemical margin estimation methodology and assumptions, including evaluating long-run demand forecasts, incorporating the impacts of the energy transition, supply dynamics, and the speed of the industry's response to changing demand through either constructing new refineries or closing older refineries. Given the downward pressure on petrochemicals margins, we assessed whether this represented a trigger for impairment by assessing the impact of reduced margins in the context of the overall lives of Shell's petrochemicals facilities.</p> <p>To evaluate the accuracy of significant assumptions we performed a lookback by comparing actual performance of assets to the forecasts made in the prior year.</p> <p>We assessed the appropriateness of Shell's disclosure of information about the assumptions Shell makes that could, in the future, have a significant risk of material adjustments to the carrying amounts of assets and liabilities, including sensitivity disclosures. This included evaluating the sensitivity disclosures in Note 4 of the carrying value of Shell's Upstream and Integrated Gas PP&E assets against a range of future oil and gas price assumptions, reflecting reduced demand scenarios due to climate change and the energy transition, including the IEA Net Zero Emissions by 2050 scenario.</p>

Report of Independent Registered Public Accounting Firm continued

Accounting for complex transactions within Shell's Trading and Supply (T&S) function and the valuation of financial derivatives

Description of the matter	<p>As described in Note 25, Shell recognised derivative financial instrument assets of \$23.7 billion and derivative financial instrument liabilities of \$22.9 billion. As described in Note 8 of the Consolidated Financial Statements, at December 31, 2022 Shell recognised \$381 billion of revenue. A subset of the consolidated revenue relates to complex transactions, where there is a risk of unrealised revenues being inappropriately recorded.</p> <p>Shell's trading and supply function is integrated within the Integrated Gas, Upstream, Marketing, Chemicals and Products, and Renewables and Energy Solutions segments. The function executes and settles both vanilla and non-standard complex trades or long-dated trades. The IT environment supporting the function is complex and involves a large number of systems, resulting in a high-level of manual intervention being required.</p> <p>Auditing non-standard trades is challenging because of the significant judgement used in determining the appropriate accounting treatment, and the key assumptions used in valuing the trades. Also, trading is not always carried out in active markets where prices are readily available, increasing subjectivity used in determining the pricing curve and volatility assumptions, which are key inputs to valuing the trades and in determining unrealised gains and losses.</p>
How we addressed the matter in our audit	<p>We obtained an understanding of the controls over Shell's process for the recognition of revenue relating to unrealised trading gains and losses, including controls over management's processes around complex deal valuations. We then evaluated the design of these controls and tested their operating effectiveness. For example, we tested controls around the review of pricing curve and volatility assumptions applied in the valuation models.</p> <p>We involved audit professionals with significant experience auditing large commodity trading organisations.</p> <p>We obtained an understanding of the commercial rationale of complex and long-dated deals by analysing the executed agreements and through discussions with management. Also, we performed an assessment of the accounting treatment of complex and long-dated deals, and assessing key assumptions against independent market information. We also analysed complex deals for the existence of non-standard contractual terms or features and further challenged managements accounting treatment against contract terms and previous accounting judgements. Where relevant, we involved our technical accounting specialists to assist in this assessment.</p> <p>We tested the completeness of Shell's complex deal register by comparing management's identified trades to those we identified based on their tenor and / or valuation criteria.</p> <p>We assessed the reasonableness of Shell's derivative valuation methodology against market practice and analysed the application of a consistent framework across the portfolio.</p> <p>We tested the forward pricing curve and volatility assumptions in management's valuation models, by comparing these to external broker quotes, market consensus providers, and our independent assessments. We involved EY valuation specialists to assist us in performing independent testing of the valuation models of Level 3 contracts, including the valuation of long-dated offtake contracts and those with illiquid tenor or price components. Our valuations were established using independently externally sourced inputs, where available.</p> <p>We performed external confirmation procedures for the completeness of recorded forward positions. Our tests included, amongst other procedures, requesting Shell's counterparties to confirm their entire position with Shell and asking counterparties to provide details of individual trades. We also sent confirmations to key counterparties who had material positions in the prior trading year, but no reported trading positions in the current year.</p>

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2016.
 London, United Kingdom
 March 8, 2023

Report of Independent Registered Public Accounting Firm continued

To the shareholders and Board of Directors of Shell plc

Opinion on Internal Control over Financial Reporting

We have audited Shell plc's (the Company) internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Consolidated Financial Statements of the Company, and our report dated March 8, 2023, expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting as set out on page 199. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorisations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorised acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

London, United Kingdom
March 8, 2023

Consolidated Financial Statements

Consolidated Statement of Income

	Notes	2022	2021	\$ million 2020
Revenue	8	381,314	261,504	180,543
Share of profit of joint ventures and associates	13	3,972	4,097	1,783
Interest and other income	9	915	7,056	869
Total revenue and other income		386,201	272,657	183,195
Purchases		258,488	174,912	117,093
Production and manufacturing expenses	8	25,518	23,822	24,001
Selling, distribution and administrative expenses	8	12,883	11,328	9,881
Research and development	8	1,075	815	907
Exploration	8	1,712	1,423	1,747
Depreciation, depletion and amortisation	8	18,529	26,921	52,444
Interest expense	10	3,181	3,607	4,089
Total expenditure		321,386	242,828	210,162
Income/(loss) before taxation		64,815	29,829	(26,967)
Taxation charge/(credit)	22	21,941	9,199	(5,433)
Income/(loss) for the period	8	42,874	20,630	(21,534)
Income attributable to non-controlling interest	8	565	529	146
Income/(loss) attributable to Shell plc shareholders	8	42,309	20,101	(21,680)
Basic earnings per share (\$)	30	5.76	2.59	(2.78)
Diluted earnings per share (\$)	30	5.71	2.57	(2.78)

Consolidated Statement of Comprehensive Income

	Notes	2022	2021	\$ million 2020
Income/(loss) for the period	8	42,874	20,630	(21,534)
Other comprehensive income/(loss) net of tax				
Items that may be reclassified to income in later periods:				
Currency translation differences	28	(2,986)	(1,413)	1,179
Debt instruments remeasurements	28	(78)	(28)	23
Cash flow hedging (losses)/gains	28	(232)	21	(160)
Net investment hedging gains/(losses)	28	180	295	(423)
Deferred cost of hedging	28	200	(39)	100
Share of other comprehensive income/(loss) of joint ventures and associates	13	274	(109)	(42)
Total		(2,642)	(1,273)	677
Items that are not reclassified to income in later periods:				
Retirement benefits remeasurements		5,466	7,198	(2,702)
Equity instruments remeasurements		(491)	145	64
Share of other comprehensive (loss)/income of joint ventures and associates	13	(253)	3	119
Total		4,722	7,346	(2,519)
Other comprehensive income/(loss) for the period		2,080	6,073	(1,842)
Comprehensive income/(loss) for the period		44,954	26,703	(23,376)
Comprehensive income attributable to non-controlling interest		621	468	136
Comprehensive income/(loss) attributable to Shell plc shareholders		44,333	26,235	(23,512)

Consolidated Financial Statements continued

Consolidated Balance Sheet

	Notes	Dec 31, 2022	Dec 31, 2021
\$ million			
Assets			
Non-current assets			
Goodwill [A]	11	16,039	14,920
Other intangible assets [A]	11	9,662	9,773
Property, plant and equipment	12	198,642	194,932
Joint ventures and associates	13	23,864	23,415
Investments in securities	14	3,362	3,797
Deferred tax	22	7,815	12,426
Retirement benefits	23	10,200	8,471
Trade and other receivables	15	6,920	7,065
Derivative financial instruments	25	582	815
		277,086	275,614
Current assets			
Inventories	16	31,894	25,258
Trade and other receivables	15	66,510	53,208
Derivative financial instruments	25	24,437	11,369
Cash and cash equivalents	17	40,246	36,970
		163,087	126,805
Assets classified as held for sale	18	2,851	1,960
		165,938	128,765
Total assets		443,024	404,379
Liabilities			
Non-current liabilities			
Debt	20	74,794	80,868
Trade and other payables	19	3,432	2,075
Derivative financial instruments	25	3,563	887
Deferred tax	22	16,186	12,547
Retirement benefits	23	7,296	11,325
Decommissioning and other provisions	24	23,845	25,804
		129,116	133,506
Current liabilities			
Debt	20	9,001	8,218
Trade and other payables	19	79,357	63,173
Derivative financial instruments	25	23,779	16,311
Income taxes payable		4,869	3,254
Decommissioning and other provisions	24	2,910	3,338
		119,916	94,294
Liabilities directly associated with assets classified as held for sale	18	1,395	1,253
		121,311	95,547
Total liabilities		250,427	229,053
Equity			
Share capital	26	584	641
Shares held in trust		(726)	(610)
Other reserves	28	21,132	18,909
Retained earnings		169,482	153,026
Equity attributable to Shell plc shareholders		190,472	171,966
Non-controlling interest		2,125	3,360
Total equity		192,597	175,326
Total liabilities and equity		443,024	404,379

[A] Goodwill, previously presented under Intangible assets, is separately presented as from 2022. Prior period comparatives have been revised to conform with current year presentation.

Signed on behalf of the Board

/s/ Sinead Gorman

Sinead Gorman
Chief Financial Officer
March 8, 2023

Consolidated Financial Statements continued

Consolidated Statement of Changes in Equity

\$ million

	Equity attributable to Shell plc shareholders					Non-controlling interest	Total equity
	Share capital (see Note 26)	Shares held in trust	Other reserves (see Note 28)	Retained earnings	Total		
At January 1, 2022	641	(610)	18,909	153,026	171,966	3,360	175,326
Comprehensive income for the period	—	—	2,024	42,309	44,333	621	44,954
Transfer from other comprehensive income	—	—	(34)	34	—	—	—
Dividends (see Note 29) [A]	—	—	—	(7,283)	(7,283)	(206)	(7,489)
Repurchases of shares [B]	(57)	—	57	(18,547)	(18,547)	—	(18,547)
Share-based compensation	—	(116)	176	131	191	—	191
Other changes	—	—	—	(188)	(188)	(1,650) [C]	(1,838)
At December 31, 2022	584	(726)	21,132	169,482	190,472	2,125	192,597
At January 1, 2021	651	(709)	12,752	142,616	155,310	3,227	158,537
Comprehensive income for the period	—	—	6,134	20,101	26,235	468	26,703
Transfer from other comprehensive income	—	—	(45)	45	—	—	—
Dividends (see Note 29) [A]	—	—	—	(6,321)	(6,321)	(348)	(6,669)
Repurchases of shares	(10)	—	10	(3,513)	(3,513)	—	(3,513)
Share-based compensation	—	99	58	93	250	—	250
Other changes	—	—	—	5	5	13	18
December 31, 2021	641	(610)	18,909	153,026	171,966	3,360	175,326
At January 1, 2020	657	(1,063)	14,451	172,431	186,476	3,987	190,463
Comprehensive (loss)/income for the period	—	—	(1,832)	(21,397)	(23,229)	136	(23,093)
Transfer from other comprehensive income	—	—	270	(270)	—	—	—
Dividends (see Note 29) [A]	—	—	—	(7,270)	(7,270)	(311)	(7,581)
Repurchases of shares	(6)	—	6	(1,214)	(1,214)	—	(1,214)
Share-based compensation	—	354	(143)	(230)	(19)	—	(19)
Other changes	—	—	—	566	566	(585)	(19)
At December 31, 2020	651	(709)	12,752	142,616	155,310	3,227	158,537

[A] The amount charged to retained earnings is based on prevailing exchange rates on payment date.

[B] Includes shares committed to repurchase under irrevocable contracts and repurchases subject to settlement at the end of the year. (See Note 26)

[C] The decrease in the non-controlling interest is mainly attributable to the acquisition of the non-controlling interest in Shell Midstream Partners, L.P.

Consolidated Financial Statements continued

Consolidated Statement of Cash Flows

	Notes	2022	2021	\$ million 2020
Income/(loss) before taxation for the period		64,815	29,829	(26,967)
Adjustment for:				
Interest expense (net)		2,135	3,096	3,316
Depreciation, depletion and amortisation		18,529	26,921	52,444
Exploration well write-offs	12	881	639	815
Net gains on sale and revaluation of non-current assets and businesses		(642)	(5,995)	(286)
Share of profit of joint ventures and associates		(3,972)	(4,097)	(1,783)
Dividends received from joint ventures and associates		4,398	3,929	2,591
(Increase)/decrease in inventories		(8,360)	(7,319)	4,477
(Increase)/decrease in current receivables		(8,989)	(20,567)	9,625
Increase/(decrease) in current payables		11,915	17,519	(9,494)
Derivative financial instruments		(2,619)	5,882	977
Retirement benefits		417	16	568
Decommissioning and other provisions		35	(76)	1,104
Other		2,991	803	8
Tax paid		(13,120)	(5,476)	(3,290)
Cash flow from operating activities		68,414	45,104	34,105
Capital expenditure		(22,600)	(19,000)	(16,585)
Investments in joint ventures and associates		(1,973)	(479)	(1,024)
Investment in equity securities		(260)	(218)	(218)
Proceeds from sale of property, plant and equipment and businesses		1,431	14,233	2,489
Proceeds from joint ventures and associates from sale, capital reduction and repayment of long-term loans		511	584	1,240
Proceeds from sale of equity securities		117	296	281
Interest received		906	423	532
Other investing cash inflows		2,060	2,928	3,239
Other investing cash outflows		(2,640)	(3,528)	(3,232)
Cash flow from investing activities		(22,448)	(4,761)	(13,278)
Net increase/(decrease) in debt with maturity period within three months		318	14	(63)
Other debt:				
New borrowings		269	1,791	23,033
Repayments		(8,459)	(21,534)	(17,385)
Interest paid		(3,677)	(4,014)	(4,105)
Derivative financial instruments		(1,799)	(1,165)	1,157
Change in non-controlling interest		(1,965)	19	(42)
Cash dividends paid to:				
Shell plc shareholders [A]		(7,405)	(6,253)	(7,424)
Non-controlling interest		(206)	(348)	(311)
Repurchases of shares		(18,437)	(2,889)	(1,702)
Shares held in trust: net purchases and dividends received		(593)	(285)	(382)
Cash flow from financing activities		(41,954)	(34,664)	(7,224)
Effects of exchange rate changes on cash and cash equivalents		(736)	(539)	172
Increase in cash and cash equivalents		3,276	5,140	13,775
Cash and cash equivalents at beginning of year		36,970	31,830	18,055
Cash and cash equivalents at end of year	17	40,246	36,970	31,830

[A] Cash dividends paid represents the payment of net dividends (after deduction of withholding taxes where applicable) and payment of withholding taxes on dividends paid in the previous quarter.

Notes to the Consolidated Financial Statements

1. Basis of preparation

The Consolidated Financial Statements of Shell plc (the "Company") and its subsidiaries (collectively referred to as "Shell") have been prepared in accordance with UK-adopted international accounting standards and with the requirements of the UK Companies Act 2006 as applicable to companies reporting under those standards. As applied to Shell, there are no material differences from International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB); therefore, the Consolidated Financial Statements have been prepared in accordance with IFRS as issued by the IASB.

As described in the accounting policies in Note 2, the Consolidated Financial Statements have been prepared under the historical cost convention except for certain items measured at fair value. Those accounting policies have been applied consistently in all periods.

The Consolidated Financial Statements were approved and authorised for issue by the Board of Directors on March 8, 2023.

Going concern

These Consolidated Financial Statements have been prepared on the going concern basis of accounting. In assessing the appropriateness of the going concern assumption over the period to March 31, 2024 (the "going concern period"), management have stress-tested Shell's most recent financial projections to incorporate a range of potential future outcomes by considering Shell's principal risks, potential downside pressures on commodity prices and cash preservation measures, including reduced future operating costs, capital expenditure and shareholder distributions. Management's stress test included scenarios and risks covering: unplanned shutdown at a major cash-generating asset; a lower oil and gas price environment; a significant health, safety, security and environment event; and global macro uncertainties. The going concern assessment confirmed that Shell has adequate cash, other liquid resources and undrawn credit facilities to enable it to meet its obligations as they fall due in order to continue its operations during the going concern period. Therefore, the Directors consider it appropriate to continue to adopt the going concern basis of accounting in preparing these Consolidated Financial Statements.

2. Significant accounting policies, judgements and estimates

This Note describes Shell's significant accounting policies, which are those relevant to an understanding of the Consolidated Financial Statements. It includes the measurement bases used in preparing the Consolidated Financial Statements. It allows for an understanding as to how transactions, other events and conditions are reported. It also describes: (a) judgements, apart from those involving estimations, that management makes in applying the policies that have the most significant effect on the amounts recognised in the Consolidated Financial Statements; and (b) estimations, including assumptions about the future, that management makes in applying the policies. The sources of estimation uncertainty that have a significant risk of a material adjustment to the carrying amounts of assets and liabilities within the next financial year are specifically identified as a significant estimate.

The accounting policies applied are consistent with those of the previous financial year except for the adoption as from January 1, 2022, of amendments to IAS 16 Property, Plant and Equipment (IAS 16) and IAS 37 Provisions, Contingent Liabilities and Contingent Assets (IAS 37).

The transition to the accounting pronouncements as listed below has no material impact.

IAS 16 Property, Plant and Equipment: Proceeds before Intended Use

The amendments to IAS 16 prohibit deducting from the cost of an item of property, plant and equipment under construction any proceeds and related costs from selling items produced while bringing these types of assets to the location and condition necessary for them to be capable of operating in the manner intended by management. Instead, the proceeds and related costs are recognised in the Consolidated Statement of Income in accordance with applicable accounting policies.

Prior to these IAS 16 amendments Shell's policy was to deduct any proceeds and related costs from selling items produced against property, plant and equipment under construction.

IAS 37 Provisions, Contingent Liabilities and Contingent Assets: Onerous Contracts - Cost of Fulfilling a Contract

The amendments to IAS 37 provide additional clarity on which costs an entity includes when assessing whether a contract is onerous. The amendments specify that the cost of fulfilling a contract comprises the costs that relate directly to the contract. Those costs include both incremental costs and an allocation of other costs, as long as these relate directly to fulfilling a contract.

Nature of the Consolidated Financial Statements

The Consolidated Financial Statements are presented in US dollars (dollars) and comprise the financial statements of the Company and its subsidiaries, being those entities over which the Company has control, either directly or indirectly, through exposure or rights to their variable returns and the ability to affect those returns through its power over the entities. Information about subsidiaries at December 31, 2022, can be found in Exhibit 8.1: Significant Subsidiaries and Other Related Undertakings.

Subsidiaries are consolidated from the date on which control is obtained until the date that such control ceases, using consistent accounting policies. All inter-company balances and transactions, including unrealised profits arising from such transactions, are eliminated. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. Non-controlling interest represents the proportion of income, other comprehensive income and net assets in subsidiaries that are not attributable to the Company's shareholders.

Notes to the Consolidated Financial Statements continued

2. Significant accounting policies, judgements and estimates continued

Currency translation

Foreign currency transactions are translated using the exchange rate at the dates of the transactions or valuation where items are remeasured. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at quarter-end exchange rates of monetary assets and liabilities denominated in foreign currencies (including those in respect of inter-company balances, unless related to loans of a long-term investment nature) are recognised in income unless when recognised in other comprehensive income in respect of cash flow or net investment hedges. Foreign exchange gains and losses in income are presented within interest and other income or within purchases where not related to financing. Share capital issued in currencies other than the dollar is translated at the exchange rate at the date of issue.

On consolidation, assets and liabilities of non-dollar entities are translated to dollars at year-end rates of exchange, while their statements of income, other comprehensive income and cash flows are translated at quarterly average rates. The resulting translation differences are recognised as currency translation differences within other comprehensive income. Upon sale of all or part of an interest in, or upon liquidation of, an entity, the appropriate portion of cumulative currency translation differences related to that entity is generally recognised in income.

Revenue recognition

Revenue from sales of oil, natural gas, chemicals and other products is recognised at the transaction price to which Shell expects to be entitled, after deducting sales taxes, excise duties and similar levies. For contracts that contain separate performance obligations, the transaction price is allocated to those separate performance obligations by reference to their relative stand-alone selling prices.

Revenue is recognised when control of the products has been transferred to the customer. For sales by Integrated Gas and Upstream operations, this generally occurs when the product is physically transferred into a vessel, pipe or other delivery mechanism; for sales by refining operations, it is either when the product is placed onboard a vessel or offloaded from the vessel, depending on the contractually agreed terms; and for sales of oil products and chemicals, it is either at the point of delivery or the point of receipt, depending on contractual conditions.

Revenue resulting from hydrocarbon production from properties in which Shell has an interest with partners in joint arrangements is recognised on the basis of Shell's volumes lifted and sold. Revenue resulting from the production of oil and natural gas under production-sharing contracts (PSCs) is recognised for those amounts relating to Shell's cost recoveries and Shell's share of the remaining production. Gains and losses on derivative contracts and the revenue and costs associated with other contracts that are classified as held primarily for the purpose of being traded are reported on a net basis in the Consolidated Statement of Income. Purchases and sales of hydrocarbons under exchange contracts that are necessary to obtain or reposition feedstocks for the refinery operations are presented net in the Consolidated Statement of Income.

Revenue resulting from arrangements that are not considered contracts with customers is presented as revenue from other sources.

Research and development

Development costs that are expected to generate probable future economic benefits are capitalised as intangible assets. All other research and development expenditure is recognised in income as incurred.

Exploration costs

Hydrocarbon exploration costs are accounted for under the successful efforts method: exploration costs are recognised in income when incurred, except that exploratory drilling costs, including in respect of the recapitalisation of the depreciation, are included in property, plant and equipment pending determination of proved reserves. Exploration costs capitalised in respect of exploration wells that are more than 12 months old are written off unless: (a) proved reserves are booked; or (b) (i) they have found commercially producible quantities of reserves; and (ii) they are subject to further exploration or appraisal activity in that either drilling of additional exploratory wells is under way or firmly planned for the near future or other activities are being undertaken to sufficiently progress the assessing of reserves and the economic and operating viability of the project.

Property, plant and equipment and intangible assets other than goodwill

Recognition

Property, plant and equipment comprise assets owned by Shell, assets held by Shell under lease contracts, and assets operated by Shell as contractor in PSCs. They include rights and concessions in respect of properties with proved reserves ("proved properties") and with no proved reserves ("unproved properties"). Property, plant and equipment, including expenditure on major inspections, and intangible assets are initially recognised in the Consolidated Balance Sheet at cost where it is probable that they will generate future economic benefits. This includes capitalisation of decommissioning and restoration costs associated with provisions for asset retirement (see "provisions"), certain development costs (see "research and development") and the effects of associated cash flow hedges (see "financial instruments") as applicable. Interest is capitalised as an increase in property, plant and equipment, on major capital projects during construction. The accounting for exploration costs is described separately (see "exploration costs"). Intangible assets other than goodwill include liquefied natural gas (LNG) off-take and sales contracts, environmental certificates, power purchase agreements, software costs, retail customer relationships and trademarks.

Property, plant and equipment and intangible assets other than goodwill are subsequently carried at cost less accumulated depreciation, depletion and amortisation (including any impairment). Gains and losses on sale are determined by comparing the proceeds with the carrying amounts of assets sold and are recognised in income, within interest and other income.

Notes to the Consolidated Financial Statements continued

2. Significant accounting policies, judgements and estimates continued

An asset is classified as held for sale if its carrying amount will be recovered principally through sale rather than through continuing use, which is when the sale is highly probable, and it is available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such assets. Assets classified as held for sale are measured at the lower of the carrying amount upon classification and the fair value less costs to sell. Assets classified as held for sale and the associated liabilities are presented separately from other assets and liabilities in the Consolidated Balance Sheet. Once assets are classified as held for sale, property, plant and equipment and intangible assets other than goodwill are no longer subject to depreciation or amortisation.

Depreciation, depletion and amortisation

Property, plant and equipment related to hydrocarbon production activities are in principle depreciated on a unit-of-production basis over the proved developed reserves of the field concerned, other than assets whose useful lives differ from the lifetime of the field which are depreciated applying the straight-line method. However, for certain Integrated Gas and Upstream assets, the use for this purpose of proved developed reserves, which are determined using the Securities and Exchange Commission (SEC) mandated yearly average oil and gas prices, would result in depreciation charges for these assets which do not reflect the pattern in which their future economic benefits are expected to be consumed as, for example, it may result in assets with long-term expected lives having accelerated or being fully depreciated within one year. Therefore, in these instances, other approaches are applied to determine a reserves base for the purpose of calculating depreciation, such as using management's expectations of future oil and gas prices rather than yearly average prices and using total proved reserves to provide a phasing of periodic depreciation charges that more appropriately reflects the expected utilisation of the assets concerned. (See Note 12)

Rights and concessions in respect of proved properties are depleted on the unit-of-production basis over the total proved reserves of the relevant area. Where individually insignificant, unproved properties may be grouped and depreciated based on factors such as the average concession term and past experience of recognising proved reserves.

Property, plant and equipment held under lease contracts, capitalised LNG off-take and sales contracts and power purchase agreements are depreciated or amortised over the term of the respective contract. Other property, plant and equipment and intangible assets other than goodwill are depreciated or amortised on a straight-line basis over their estimated useful lives. They include energy and chemicals parks (for which the useful life is generally 20 years), retail service stations (for which the useful life is generally 15 years), onshore power infrastructure (for which the useful life is generally 30-35 years), offshore wind assets (for which the useful life is generally 25-30 years) and major inspection costs, which are depreciated over the estimated period before the next planned major inspection (three to five years).

On classification of an asset as held for sale, depreciation ceases.

Estimates of the useful lives and residual values of property, plant and equipment and intangible assets other than goodwill are reviewed annually and adjusted if appropriate.

Impairment

Intangible assets other than goodwill and assets other than unproved properties (see "Exploration costs") are tested for impairment whenever events or changes in circumstances indicate that the carrying amounts for those assets may not be recoverable. If any such indication of impairment exists, the carrying amounts of those assets are written down to their recoverable amount, which is the higher of fair value less costs of disposal (see "Fair value measurements") and value in use.

Value in use is determined as the amount of estimated risk-adjusted discounted future cash flows. For this purpose, assets are grouped into cash-generating units based on separately identifiable and largely independent cash inflows. Estimates of future cash flows used in the evaluation of impairment of assets are made using management's forecasts of commodity prices, market supply and demand, potential costs associated with operational greenhouse gas (GHG) emissions, mainly related to CO₂, and forecast product and refining margins. In addition, management takes into consideration the expected useful lives of the manufacturing facilities, exploration and production assets, and expected production volumes. The latter takes into account assessments of field and reservoir performance and includes expectations about both proved reserves and volumes that are expected to constitute proved reserves in the future (unproved volumes), which are risk-weighted utilising geological, production, recovery and economic projections. Cash flow projections are based on management's most recent operating plan that represents management's best estimate and are risked as appropriate. The discount rate is based on a nominal post-tax weighted average cost of capital (WACC). Prior to 2021, cash flow estimates were discounted at a rate based on Shell's marginal cost of debt. The change in discount rate to a nominal post-tax WACC has been reflected in a commensurate manner in the risk adjustments to cash flow projections. Using a post-tax discount rate to calculate value in use does not result in a materially different outcome than using a pre-tax discount rate. (See Note 12)

Impairments are reversed as applicable to the extent that the events or circumstances that triggered the original impairment have changed.

Impairment losses and reversals are reported within depreciation, depletion and amortisation.

Upon classification of an asset as held for sale, the carrying amount is impaired if this exceeds the fair value less costs to sell.

Notes to the Consolidated Financial Statements continued

2. Significant accounting policies, judgements and estimates continued

Judgements and estimates

Proved oil and gas reserves

Unit-of-production depreciation, depletion and amortisation charges are principally measured based on management's estimates of proved developed oil and gas reserves. Also, exploration drilling costs are capitalised pending the results of further exploration or appraisal activity (successful efforts method), which may take place for several years before the final investment decision on a development project is taken and before any related proved reserves can be booked.

Proved reserves are estimated by internal qualified professionals. The proved reserves are estimated with reasonable certainty by analysis of available geological and engineering data at the time of the estimation, and only include volumes for which access to market is assured with reasonable expectation. Yearly average oil and gas prices are used for the estimation of proved reserves unless prices are defined by contractual arrangements, excluding escalations based upon future conditions. Proved reserves are subject to regular revision, both upward or downward, based on new information from the drilling of additional wells, observation of long-term reservoir performance under producing conditions, updates of development plans and changes in economic factors, including product prices, contract terms, legislation or development plans.

Changes to estimates of proved developed reserves affect prospectively the amounts of depreciation, depletion and amortisation charged and, consequently, the carrying amounts of exploration and production assets. Generally, in the normal course of business the diversity of the asset portfolio will limit the net effect of such revisions. The outcome of, or assessment of plans for, exploration or appraisal activity may result in the related capitalised exploration drilling costs being recognised in income in that period.

Judgement is involved in determining when to use an alternative reserves base in order to appropriately reflect the expected utilisation of the assets concerned (see "Depreciation, depletion and amortisation").

Information about the carrying amounts of exploration and production assets and the amounts charged to income, including depreciation, depletion and amortisation and the quantitative impact of the use of an alternative reserves base, is presented in Note 12.

Impairment

For the purposes of determining whether impairment of assets has occurred, and the extent of any impairment loss or its reversal, the key assumptions management uses in estimating risk-adjusted future cash flows for value in use measures are future oil and gas prices and refining margins. In addition, management uses other assumptions such as potential costs associated with operational GHG emissions and expected production volumes appropriate to the local circumstances and environment. These assumptions and the judgements of management that are based on them are subject to change as new information becomes available. Changes in assumptions could affect the carrying amounts of assets, and any impairment losses and reversals will affect income. Changes in economic conditions can affect the rate used to discount future cash flow estimates or the risk adjustment in the future cash flows. Judgement is applied to conclude whether changes in assumptions or economic conditions are an indicator that an asset may be impaired or that an impairment loss recognised in prior periods may no longer exist, or may have decreased.

Expected production volumes, which comprise proved reserves and unproved volumes, are used for impairment testing because management believes this to be the most appropriate indicator of expected future cash flows. Reserves estimates are inherently imprecise. Furthermore, projections about unproved volumes are based on information that is necessarily less robust than that available for mature reservoirs.

Estimation is involved with respect to the expected life of energy and chemicals parks, including management's view on the future development of refining margins.

The determination of cash-generating units requires judgement. Changes in this determination could impact the calculation of value in use and therefore the conclusion on the recoverability of assets' carrying amounts when performing an impairment test.

Judgement, which is subject to change as new information becomes available, can be required in determining when an asset is classified as held for sale. A change in that judgement could result in impairment charges affecting income, depending on whether classification requires a write-down of the asset to its fair value less costs to sell.

In assessing the value in use, the estimated risk-adjusted future post-tax cash flows are discounted to their present value using a post-tax discount rate that reflects Shell's post-tax WACC. The discount rate applied does not reflect asset-specific risks for which future cash flow estimates have been adjusted.

Significant estimates

Assumptions about future commodity prices and refining margins used in the impairment testing in, respectively, Integrated Gas and Upstream and Chemicals and Products (see Note 12) are regularly assessed by management, noting that management does not necessarily consider short-term increases or decreases in prices as being indicative of long-term levels.

The price methodology applied is based on Shell management's understanding and interpretation of demand and supply fundamentals in the near term, taking into account various other factors such as industry rationalisation and energy transition in the long term.

Future commodity prices and refining margins used in impairment testing provide a source of estimation uncertainty as referred to in paragraph 125 of IAS 1 Presentation of Financial Statements (IAS 1.125).

Information about the carrying amounts of assets and impairments and their sensitivity to changes in significant estimates is presented in Notes 11 and 12.

Notes to the Consolidated Financial Statements continued

2. Significant accounting policies, judgements and estimates continued

Goodwill

Goodwill is initially measured as the excess of the aggregate of the consideration transferred and the amount recognised for any non-controlling interest over the fair value of the identifiable assets acquired and liabilities assumed in a business combination at the acquisition date. The amount recognised for any non-controlling interest is measured as a percentage of the identified net assets of the acquiree based on the present ownership's proportionate share. At the acquisition date, acquired goodwill is allocated to each cash-generating unit (CGU), or groups of CGUs, expected to benefit from the combination's synergies. The CGU to which goodwill is allocated represents the lowest level at which the goodwill will be monitored and managed.

Goodwill is not amortised and is subsequently measured at the initial amount recognised less any accumulated impairment losses.

Impairment

The carrying amount of goodwill is tested for impairment at least annually. Impairment is determined for goodwill by assessing the recoverable amount of each CGU to which the goodwill relates. An impairment loss is recognised when the CGU's recoverable amount is lower than its carrying amount.

Previously recognised impairment losses of goodwill are not reversed subsequently.

Leases

A contract, or part of a contract, that conveys the right to control the use of an identified asset for a period of time in exchange for payments to be made to the owners (lessors) is accounted for as a lease. Contracts are assessed to determine whether a contract is, or contains, a lease at the inception of a contract or when the terms and conditions of a contract are significantly changed. The lease term is the non-cancellable period of a lease, together with contractual options to extend or to terminate the lease early, where it is reasonably certain that an extension option will be exercised or a termination option will not be exercised.

At the commencement of a lease contract, a right-of-use asset and a corresponding lease liability are recognised, unless the lease term is 12 months or less. The commencement date of a lease is the date on which the underlying asset is made available for use. The lease liability is measured at an amount equal to the present value of the lease payments during the lease term that are not paid at that date. The lease liability includes contingent rentals and variable lease payments that depend on an index, rate, or where they are fixed payments in substance. The lease liability is remeasured when the contractual cash flows of variable lease payments change due to a change in an index or rate when the lease term changes following a reassessment.

Lease payments are discounted using the interest rate implicit in the lease. If that rate is not readily available, the incremental borrowing rate is applied. The incremental borrowing rate reflects the rate of interest that the lessee would have to pay to borrow over a similar term, with a similar security, the funds necessary to obtain an asset of a similar nature and value to the right-of-use asset in a similar economic environment.

In general, a corresponding right-of-use asset is recognised for an amount equal to each lease liability, adjusted by the amount of any pre-paid lease payment relating to the specific lease contract. The depreciation on right-of-use assets is recognised in income unless capitalised as exploration drilling cost (see "exploration cost") or capitalised when the right-of-use asset is used to construct another asset.

Where Shell is the lessor in a lease arrangement at inception, the lease arrangement will be classified as a finance lease or an operating lease. Classification is based on the extent to which the risks and rewards incidental to ownership of the underlying asset lie with the lessor or the lessee.

Where Shell, usually in its capacity as operator, has entered into a lease contract on behalf of a joint arrangement, a lease liability is recognised to the extent that Shell has primary responsibility for the lease liability. A finance sublease is subsequently recognised if the related right-of-use asset is subleased to the joint arrangement. This is usually the case when the joint arrangement has the right to direct the use and obtains substantially all of the economic benefits from using the asset.

Impairment of the right-of-use asset

Right-of-use assets are subject to existing impairment requirements as set out in "Property, plant and equipment", above, and as presented in Note 12.

Judgements and estimates

A lease term includes optional lease periods where it is reasonably certain Shell will exercise the option to extend or not exercise the option to terminate the lease.

Determination of the lease term is subject to judgement and has an impact on the measurement of the lease liability and related right-of-use asset. When assessing the lease term at the commencement date, Shell takes into consideration the broader economics of the contract. Reassessment of the lease term is performed upon changes in circumstances that may affect the probability that an option to extend or to terminate the lease will be exercised.

Where the rate implicit in the lease is not readily available, an incremental borrowing rate is applied. This incremental borrowing rate reflects the rate of interest that the lessee would have to pay to borrow over a similar term, with a similar security, the funds necessary to obtain an asset of a similar nature and value to the right-of-use asset in a similar economic environment. Determination of the incremental borrowing rate requires estimation.

Notes to the Consolidated Financial Statements continued

2. Significant accounting policies, judgements and estimates continued

Joint arrangements and associates

Arrangements under which Shell has contractually agreed to share control (see "Nature of the Consolidated Financial Statements" for the definition of control) with another party or parties are joint ventures where the parties have rights to the net assets of the arrangement, or joint operations where the parties have rights to the assets and obligations for the liabilities relating to the arrangement. Investments in entities over which Shell has the right to exercise significant influence but neither control nor joint control are classified as associates. Information about incorporated joint arrangements and associates at December 31, 2022, can be found in Exhibit 8.1: Significant Subsidiaries and Other Related Undertakings.

Investments in joint ventures and associates are accounted for using the equity method, under which the investment is initially recognised at cost and subsequently adjusted for the Shell share of post-acquisition income less dividends received and the Shell share of other comprehensive income and other movements in equity, together with any loans of a long-term investment nature. Where necessary, adjustments are made to the financial statements of joint ventures and associates to bring the accounting policies used into line with those of Shell. In an exchange of assets and liabilities for an interest in a joint venture, the non-Shell share of any excess of the fair value of the assets and liabilities transferred over the pre-exchange carrying amounts is recognised in income. Unrealised gains on other transactions between Shell and its joint ventures and associates are eliminated to the extent of Shell's interest in them; unrealised losses are treated similarly but may also result in an assessment of whether the asset transferred is impaired.

Shell recognises its assets and liabilities relating to its interests in joint operations, including its share of assets held jointly and liabilities incurred jointly with other partners.

Inventories

Inventories are stated at cost or net realisable value, whichever is lower. Cost comprises direct purchase costs (including transportation), and associated costs incurred in bringing inventories to their present condition and location, and is determined using the first-in, first-out (FIFO) method for oil, gas and chemicals and by the weighted average cost method for materials.

Taxation

The charge for current tax is calculated based on the income reported by the Company and its subsidiaries, as adjusted for items that are non-taxable or disallowed and using rates that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is determined, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the Consolidated Balance Sheet and on unused tax losses and credits carried forward.

Deferred tax assets and liabilities are calculated using the enacted or substantively enacted rates that are expected to apply when an asset is realised or a liability is settled. They are not recognised where they arise on the initial recognition of goodwill or of an asset or liability in a transaction (other than in a business combination) that, at the time of the transaction, affects neither accounting nor taxable profit, or in respect of taxable temporary differences associated with subsidiaries, joint ventures and associates where the reversal of the respective temporary difference can be controlled by Shell and it is probable that it will not reverse in the foreseeable future.

Deferred tax assets are recognised to the extent that it is probable that future taxable profits will be available against which the deductible temporary differences, unused tax losses and credits carried forward can be utilised.

Income tax receivables and payables as well as deferred tax assets and liabilities include provisions for uncertain income tax positions/treatments.

Income taxes are recognised in income except when they relate to items recognised in other comprehensive income, in which case the tax is recognised in other comprehensive income. Income tax assets and liabilities are presented separately in the Consolidated Balance Sheet except where there is a right of offset within fiscal jurisdictions and an intention to settle such balances on a net basis.

Judgements and estimates

Tax liabilities are recognised when it is considered probable that there will be a future outflow of funds to a taxing authority. In such cases, provision is made for the amount that is expected to be settled, where this can be reasonably estimated. Provisions for uncertain income tax positions/treatments are measured at the most likely amount or the expected value, whichever method is more appropriate. Generally, uncertain tax treatments are assessed on an individual basis, except where they are expected to be settled collectively. It is assumed that taxing authorities will examine positions taken if they have the right to do so and that they have full knowledge of the relevant information. A change in estimate of the likelihood of a future outflow and/or in the expected amount to be settled would be recognised in income in the period in which the change occurs. This requires the application of judgement as to the ultimate outcome, which can change over time depending on facts and circumstances. Judgements mainly relate to transfer pricing, including inter-company financing, interpretation of PSCs, expenditure deductible for tax purposes and taxation arising on disposal.

Notes to the Consolidated Financial Statements continued

2. Significant accounting policies, judgements and estimates continued

Judgements and estimates continued

Deferred tax assets are recognised only to the extent it is considered probable that those assets will be recoverable. This involves an assessment of when those assets are likely to reverse, and a judgement as to whether or not there will be sufficient taxable profits available to offset the assets when they do reverse. This requires assumptions regarding future profitability and is therefore inherently uncertain. To the extent assumptions regarding future profitability change, there can be an increase or decrease in the amounts recognised in respect of deferred tax assets as well as in the amounts recognised in income in the period in which the change occurs.

Taxation information, including charges and deferred tax assets and liabilities, is presented in Note 22. Income taxes include taxes at higher rates levied on income from certain Integrated Gas and Upstream activities.

Retirement benefits

Benefits in the form of retirement pensions and health care and life insurance are provided to certain employees and retirees under defined benefit and defined contribution plans.

Obligations under defined benefit plans are calculated annually by independent actuaries using the projected unit credit method, which takes into account employees' years of service and, for pensions, average or final pensionable remuneration, and are discounted to their present value using interest rates of high-quality corporate bonds denominated in the currency in which the benefits will be paid and of a duration consistent with the plan obligations. Where plans are funded, payments are made to independently managed trusts; assets held by those trusts are measured at fair value. Defined benefit plan surpluses are recognised as assets to the extent that they are considered recoverable, which is generally by way of a refund or lower future employer contributions.

The amounts recognised in income in respect of defined benefit plans mainly comprise service cost and net interest. Service cost comprises principally the increase in the present value of the obligation for benefits resulting from employee service during the period (current service cost) and also amounts relating to past service and settlements or amendments of plans. Plan amendments are changes to benefits and are generally recognised when all legal and regulatory approvals have been received and the effects have been communicated to members. Net interest is calculated using the net defined benefit liability or asset matched against the discount rate yield curve at the beginning of each year for each plan. Remeasurements of the net defined benefit liability or asset resulting from actuarial gains and losses, and the return on plan assets excluding the amount recognised in income, are recognised in other comprehensive income.

For defined contribution plans, pension expense represents the amount of employer contributions payable for the period.

Significant judgements and estimates

Defined benefit obligations and plan assets, and the resulting liabilities and assets that are recognised, require significant estimation as these are subject to volatility as (actuarial) assumptions regarding future outcomes and market values change. Substantial judgement is required in determining the actuarial assumptions, which vary for the different plans to reflect local conditions but are determined under a common process in consultation with independent actuaries. The assumptions applied in respect of each plan are reviewed annually and adjusted where necessary to reflect changes in experience and actuarial recommendations.

Actuarial assumptions applied in determining defined benefit obligations provide a source of estimation uncertainty as referred to in IAS 1.125.

Information about the amounts reported in respect of defined benefit pension plans, assumptions applicable to the principal plans and their sensitivity to changes in significant estimates is presented in Note 23.

Provisions

Provisions are recognised at the balance sheet date at management's best estimate of the expenditure required to settle the present obligation. Non-current amounts are discounted at a rate intended to reflect the time value of money. The carrying amounts of provisions and the discount rate applied are regularly reviewed and adjusted for new facts or changes in law, technology or financial markets.

Notes to the Consolidated Financial Statements continued

2. Significant accounting policies, judgements and estimates continued

Provisions for decommissioning and restoration costs, which arise principally in connection with hydrocarbon production facilities, oil products manufacturing facilities and pipelines, are measured on the basis of current requirements, technology and price levels; the present value is calculated using amounts discounted over the useful economic life of the assets. The liability is recognised (together with a corresponding amount as part of the related property, plant and equipment) once a legal or constructive obligation arises to dismantle an item of property, plant and equipment and to restore the site on which it is located and when a reasonable estimate can be made. The effects of changes resulting from revisions to the timing or the amount of the original estimate of the provision are reflected on a prospective basis, generally by adjustment to the carrying amount of the related property, plant and equipment. However, where there is no related asset, or the change reduces the carrying amount to nil, the effect, or the amount in excess of the reduction in the related asset to nil, is recognised in income.

Shell reviews its energy and chemicals parks on a regular basis to determine whether any changes in assumptions, including expected life, trigger the need to recognise a provision for decommissioning and restoration.

Redundancy provisions are recognised when a detailed formal plan identifies the business or part of the business concerned, the location and number of employees affected, a detailed estimate of the associated costs and an appropriate timeline, and the employees affected have been notified of the plan's main features.

An onerous contract provision is recognised when the unavoidable cost of meeting the obligations under the contract exceeds the economic benefits expected to be received under it. The unavoidable cost under a contract is the lower of the cost of fulfilling the contract and any compensation or penalties arising from failure to fulfil it. The cost of fulfilling a contract comprises the costs that relate directly to the contract. Before an onerous provision is recognised Shell first recognises any impairment loss that has occurred on assets dedicated to that contract.

Other provisions are recognised in income in the period in which an obligation arises and the amount can be reasonably estimated. Provisions are measured based on current legal requirements and existing technology where applicable. Recognition of any joint and several liability is based on management's best estimate of the final pro rata share of the liability. Provisions are determined independently of expected insurance recoveries. Recoveries are recognised when virtually certain of realisation.

Estimates

Estimates of provisions for future decommissioning and restoration costs are recognised and based on current legal and constructive requirements, technology and price levels. Because actual cash outflows can differ from estimates due to changes in laws, regulations, public expectations, technology, prices and conditions, and can take place many years in the future, the carrying amounts of provisions are regularly reviewed and adjusted to take account of such changes.

Significant estimate

The discount rate applied to reflect the time value of money in the carrying amount of provisions requires estimation. The discount rate used in the calculation of provisions is the pre-tax rate that reflects current market assessments of the time value of money. Generally, the market assessments of the time value of money can be reflected in the risk-free rate and given the long-term investment nature of oil and gas business, Shell considers it appropriate to use the 20-year US Treasury bond yield return as the risk-free rate. The discount rate applied is reviewed regularly and adjusted following changes in market rates.

The discount rate applied to determine the carrying amount of provisions provides a source of estimation uncertainty as referred to in IAS 1.125.

Information about decommissioning and restoration provisions and their sensitivity to changes in estimates is presented in Note 24.

Financial instruments

Financial assets and liabilities are presented separately in the Consolidated Balance Sheet except where there is a legally enforceable right of offset and Shell has the intention to settle on a net basis or realise the asset and settle the liability simultaneously.

Financial assets

Financial assets are classified at initial recognition and subsequently measured at amortised cost, fair value through other comprehensive income or fair value through profit or loss. The classification of financial assets is determined by the contractual cash flows and where applicable the business model for managing the financial assets.

Debt instruments are measured at amortised cost, if the objective of the business model is to hold the financial asset in order to collect contractual cash flows and the contractual terms give rise to cash flows that are solely payments of principal and interest. It is initially recognised at fair value plus or minus transaction costs that are directly attributable to the acquisition or issue of the financial asset. Subsequently, the financial asset is measured using the effective interest method less any impairment. Gains and losses are recognised in profit or loss when the asset is derecognised, modified or impaired.

All equity instruments and other debt instruments are recognised at fair value. For equity instruments, on initial recognition, an irrevocable election (on an instrument-by-instrument basis) can be made to designate these as at fair value through other comprehensive income instead of fair value through profit or loss. Dividends received on equity instruments are recognised as other income in profit or loss when the right of payment has been established, except when Shell benefits from such proceeds as a recovery of part of the cost of the financial asset, in which case such gains are recorded in other comprehensive income.

Notes to the Consolidated Financial Statements continued

2. Significant accounting policies, judgements and estimates continued

Investments in securities

Investments in securities ("securities") comprise equity and debt securities. Equity securities are carried at fair value. Generally, unrealised holding gains and losses are recognised in other comprehensive income. On sale, net gains and losses previously accumulated in other comprehensive income are transferred to retained earnings. Debt securities are generally carried at fair value with unrealised holding gains and losses recognised in other comprehensive income. On sale, net gains and losses previously accumulated in other comprehensive income are recognised in income.

Impairment of financial assets

The expected credit loss model is applied for recognition and measurement of impairments in financial assets measured at amortised cost or at fair value through other comprehensive income. The expected credit loss model is also applied for financial guarantee contracts to which IFRS 9 applies and which are not accounted for at fair value through profit or loss. The loss allowance for the financial asset is measured at an amount equal to the 12-month expected credit losses. If the credit risk on the financial asset has increased significantly since initial recognition, the loss allowance for the financial asset is measured at an amount equal to the lifetime expected credit losses. Changes in loss allowances are recognised in profit or loss. For trade receivables, a simplified impairment approach is applied recognising expected lifetime losses from initial recognition.

Cash and cash equivalents

Cash and cash equivalents comprise cash at bank and in hand, including offsetting bank overdrafts, short-term bank deposits, money market funds, reverse repos and similar instruments that generally have a maturity of three months or less at the date of purchase.

Financial liabilities

Financial liabilities are measured at amortised cost, unless they are required to be measured at fair value through profit or loss, such as instruments held for trading, or Shell has opted to measure them at fair value through profit or loss. Debt and trade payables are recognised initially at fair value based on amounts exchanged, net of transaction costs, and subsequently at amortised cost except for fixed rate debt subject to fair value hedging which is remeasured for the hedged risk (see below). Interest expense on debt is accounted for using the effective interest method, and other than interest capitalised, is recognised in income. For financial liabilities that are measured under the fair value option, the change in the fair value related to own credit risk is recognised in other comprehensive income. The remaining fair value change is recognised at fair value through profit or loss.

Derivative contracts and hedges

Derivative contracts are used in the management of interest rate risk, foreign exchange risk, commodity price risk, and foreign currency cash balances. Derivatives that are not closely related to the host contract in terms of economic characteristics and risks and the host contract of which is not a financial asset are separated from their host contract and recognised at fair value with the associated gains and losses recognised in income.

Contracts to buy or sell a non-financial item that can be settled net in cash are accounted for as financial instruments, with the exception of those contracts that were entered into and continue to be held for the purpose of the receipt or delivery of a non-financial item in accordance with Shell's expected purchase, sale or usage requirements. Gains or losses arising from changes in the fair value of derivatives that are not designated as effective hedging instruments are recognised in income.

Certain derivative contracts qualify and are designated either: as a fair value hedge of the change in fair value of a recognised asset or liability or an unrecognised firm commitment; or as a cash flow hedge for the change in cash flows to be received or paid relating to a recognised asset or liability or a highly probable forecast transaction; or as a net investment hedge of the change in foreign exchange rates associated with net investments in foreign operations with a different functional currency than Shell's functional currency.

A change in the fair value of a hedging instrument designated as a fair value hedge is recognised in income, together with the consequential adjustment to the carrying amount of the hedged item. The effective portion of a change in fair value of a derivative contract designated as a cash flow hedge is recognised in other comprehensive income until the hedged transaction occurs; any ineffective portion is recognised in income. Where the hedged item is a non-financial asset or liability, the amount in accumulated other comprehensive income is transferred to the initial carrying amount of the asset or liability (reclassified to the balance sheet); a net investment hedge is accounted for similarly to a cash flow hedge. Gains or losses on the hedging instrument relating to the effective portion of the hedge are recognised in other comprehensive income while any gains or losses relating to the ineffective portion are recognised in the income statements. On disposal of the foreign operation, the cumulative value of any such gains or losses recorded in other comprehensive income is reclassified to the income statement.

The effective portion of a change due to retranslation at quarter-end exchange rates in the carrying amount of debt and the principal amount of derivative contracts used to hedge net investments in foreign operations is recognised in other comprehensive income until the related investment is sold or liquidated; any ineffective portion is recognised in income.

All relationships between hedging instruments and hedged items are documented, as well as risk management objectives and strategies for undertaking hedge transactions. The effectiveness of hedges is also continually assessed and hedge accounting is discontinued when there is a change in the risk management strategy.

Unless designated as hedging instruments, contracts to sell or purchase non-financial items that can be settled net as if the contracts were financial instruments and that do not meet expected own-use requirements (typically, forward sale and purchase contracts for commodities in trading operations), and contracts that are or contain written options, are recognised at fair value; associated gains and losses are recognised in income.

Derivatives that are held primarily for the purpose of trading are presented as current in the Consolidated Balance Sheet.

Notes to the Consolidated Financial Statements continued

2. Significant accounting policies, judgements and estimates continued

Judgement

Judgement is required to determine whether contracts to buy or sell LNG are capable of being settled on a net basis. Due to the limited liquidity in the LNG market and the lack of net settlement history, contracts to buy or sell LNG are not considered capable of being settled on a net basis. As a result, these contracts are accounted for on an accrual basis and not as a financial instrument.

Fair value measurements

Fair value measurements are estimates of the amounts for which assets or liabilities could be transferred at the measurement date, based on the assumption that such transfers take place between participants in principal markets and, where applicable, taking highest and best use into account.

Estimate

Where available, fair value measurements are derived from prices quoted in active markets for identical assets or liabilities. In the absence of such information, other observable inputs are used to estimate fair value. Inputs derived from external sources are corroborated or otherwise verified, as appropriate. In the absence of publicly available information, fair value is determined using estimation techniques that take into account market perspectives relevant to the asset or liability, in as far as they can reasonably be ascertained, based on predominantly unobservable inputs. For derivative contracts where publicly available information is not available, fair value estimations are generally determined using models and other valuation methods, the key inputs for which include future prices, volatility, price correlation, counterparty credit risk and market liquidity, as appropriate; for other assets and liabilities, fair value estimations are generally based on the net present value of expected future cash flows.

Share-based compensation plans

The fair value of share-based compensation expense arising from the Performance Share Plan (PSP) and the Long-term Incentive Plan (LTIP) - Shell's main equity-settled plans - is estimated using the average Monte Carlo fair values and is recognised in income from the date of grant over the vesting period with a corresponding increase directly in equity. The model projects and averages the results for a range of potential outcomes for the vesting conditions, the principal assumptions for which are the share price volatility and dividend yields for Shell and four of its main competitors using respectively three years and 10 years of historical data.

Shares held in trust

Shares in the Company, which are held by employee share ownership trusts and trust-like entities, are not included in assets but are reflected at cost as a deduction from equity as shares held in trust.

Acquisitions and sales of interests in a business

Assets acquired and liabilities assumed when control is obtained over a business, and when an interest or an additional interest is acquired in a joint operation which is a business, are recognised at their fair value at the date of the acquisition; the amount of the purchase consideration above this value is recognised as goodwill. When control is obtained, any non-controlling interest is recognised as the proportionate share of the identifiable net assets. The acquisition of a non-controlling interest in a subsidiary and the sale of an interest while retaining control are accounted for as transactions within equity. The difference between the purchase consideration or sale proceeds after tax and the relevant proportion of the non-controlling interest, measured by reference to the carrying amount of the interest's net assets at the date of acquisition or sale, is recognised in retained earnings as a movement in equity attributable to Shell plc shareholders.

Emission schemes and related environmental programmes

Emission certificates, biofuel certificates and renewable power certificates (together "environmental certificates") held for trading purposes are recognised at cost or net realisable value, whichever is lower, and classified under inventory.

Emission trading schemes

Emission certificates acquired for compliance purposes are initially recognised at cost and classified under intangible assets. In the schemes where a cap is set for emissions, the associated emission certificates granted are recognised at cost, which may be zero. An emission liability is recognised under other liabilities when actual emissions occur that give rise to an obligation. To the extent the liability is covered by emission certificates held for compliance purposes, the liability is measured with reference to the value of these emission certificates held and for the remaining uncovered portion at market value. The associated expense is presented under "Production and manufacturing expenses". Both the emission certificates and the emission liability are derecognised upon settling the liability with the respective regulator.

Biofuel programmes

Biofuel certificates acquired that are held for compliance purposes are initially recognised at cost under intangible assets. Self-generated biofuel certificates are recognised at nil value, as they primarily offset the obligation. A biofuel liability is recognised under other liabilities when the obligation arises under local regulations. To the extent covered by biofuel certificates held for compliance purposes, the liability is measured with reference to the value of these certificates held and for the remaining uncovered portion at market value. The associated expense is presented under "purchases". Biofuel certificates and the biofuel liability are both derecognised upon settling the liability with the respective regulator.

Notes to the Consolidated Financial Statements continued

2. Significant accounting policies, judgements and estimates continued

Renewable power programmes

Renewable power certificates acquired for compliance purposes are initially recognised at cost as an intangible asset. Self-generated renewable power certificates are generally transferred to the customer upon sales of electricity. A renewable power liability is recognised under other liabilities when electricity sales take place that give rise to an obligation to retire renewable power certificates. The associated cost is recognised in "purchases" in the income statement. If the obligation relates to power consumed in business operations, it is presented in other liabilities with cost reflected in "Production and manufacturing expenses". To the extent covered by renewable power certificates held for compliance purposes, the liability is measured with reference to the value of these renewable power certificates and for the remaining uncovered portion at market value. Renewable power certificates and the renewable power liability are derecognised upon settling the liability with the respective regulator.

Consolidated Statement of Income presentation

Purchases reflect all costs related to the acquisition of inventories and the effects of the changes therein, and include associated costs incurred in conversion into finished or intermediate products. Production and manufacturing expenses are the costs of operating, maintaining and managing production and manufacturing assets. Selling, distribution and administrative expenses include direct and indirect costs of marketing and selling products.

3. Changes to IFRS not yet adopted

Deferred Tax related to Assets and Liabilities arising from a Single Transaction (Amendments to IAS 12 *Income taxes* (IAS 12))

In May 2021, amendments to IAS 12 were published to require companies to recognise deferred tax on particular transactions that, on initial recognition, give rise to equal amounts of taxable and deductible temporary differences. The amendments will typically apply to transactions where assets and liabilities are recognised from a single transaction, such as leases for the lessee and decommissioning and restoration obligations.

The amendments are effective for annual reporting periods beginning on or after January 1, 2023, and should be applied on a modified retrospective basis.

Shell performed an analysis of the impact of these amendments and concluded that these have no significant effect on future financial reporting.

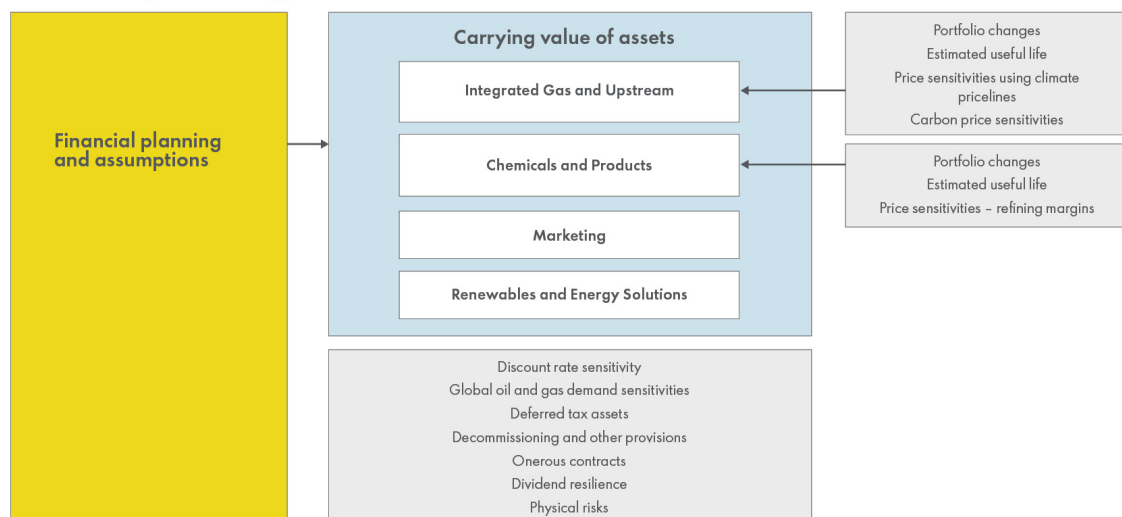
IFRS 17 Insurance contracts (IFRS 17)

IFRS 17 was issued in 2017, with amendments published in 2020 and 2021, and is required to be adopted for annual reporting periods beginning on or after January 1, 2023. The IFRS 17 model combines a current balance sheet measurement of insurance contracts with recognition of profit over the period that services are provided. The general model in the standard requires insurance contract liabilities to be measured using probability-weighted current estimates of future cash flows, an adjustment for risk, and a contractual service margin representing the profit expected from fulfilling the contracts. Effects of changes in the estimates of future cash flows and the risk adjustment relating to future services are recognised over the period services are provided rather than immediately in profit or loss. Shell performed an analysis of the impact of IFRS 17 and concluded that the standard has no significant impact on future financial reporting.

4. Climate change and energy transition

This note describes how Shell has considered climate-related impacts in key areas of the financial statements and how this translates into the valuation of assets and measurement of liabilities as Shell makes progress in the energy transition. The note is structured as follows:

Climate change and energy transition



Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Note 2 Significant accounting policies, judgements and estimates describes uncertainties, including those that have the potential to have a material effect on the Consolidated Balance Sheet in the next 12 months. This note describes the key areas of climate impacts that potentially have short-, medium- and longer-term effects on amounts recognised in the Consolidated Balance Sheet at December 31, 2022. Where relevant, this note contains references to other notes to the Consolidated Financial Statements and aims to provide an overarching summary of the energy transition impact.

In 2021, Shell launched its Powering Progress strategy to become a net-zero emissions business by 2050. The strategy includes targets to reduce absolute emissions from its operations and the energy it buys to run them, compared with 2016 levels. Shell's targets include reducing Scope 1 and 2 emissions by 50% by 2030 and reducing the carbon intensity of energy products sold (Scope 1, 2 and 3 emissions) by 6-8% by 2023, 9-12% by 2024, 9-13% by 2025, 20% by 2030, 45% by 2035, and 100% by 2050.

Financial planning and assumptions

This section provides an overview of key assumptions used for financial planning related to climate change and the energy transition. These assumptions that underpin the amounts recognised in these financial statements -- such as future oil and gas prices, discount rates, future costs of decommissioning and restoration, and deferred tax assets -- take climate change and energy transition into account and are similarly used for impairment testing of carrying amounts of assets. Areas described focus on those most pertinent to Shell's business and how financial planning and assumptions interact with scenarios. Subsequently, the sensitivity of carrying amounts to commodity prices, carbon costs, discount rates and demand, if different assumptions were applied, is described.

There is no one single scenario that underpins the financial statements. Shell scenarios are designed to challenge management's perspectives on the future business environment and stretch management to consider even events that may be only remotely possible. As a result, these scenarios are not intended to be predictions of likely future events or outcomes and are not the basis for Shell's financial statements and Operating Plans.

Shell scenarios and the range of possible outcomes inform the development of Shell's strategy and Shell's view on future oil and gas price outlooks and refining margins. These oil and gas price outlooks are one of the key assumptions that underpin Shell's financial statements. Shell's scenarios inform high-, mid- and low-price outlooks. The mid-price outlook represents management's reasonable best estimate and is the basis for Shell's financial statements, Operating Plans and impairment testing. Impairment testing applies management's reasonable best estimates across the full life cycle of assets.

Shell's targets to reduce absolute Scope 1 and 2 emissions [A] by 50% by 2030, compared with 2016 levels on a net basis, and 20% reduction of net carbon intensity [B] by 2030, have been included in Shell's Operating Plan. The Operating Plan also includes expected costs for evolving carbon regulations (see section "Carbon cost sensitivities" below) based on a forecast of Shell's equity share of emissions from operated and non-operated assets also taking into account the estimated impact of free allowances.

[A] Operational control boundary

[B] GHG emissions based on the energy product sales included in the Net Carbon Intensity (NCI) using equity boundary.

Goodwill, other intangible assets, property, plant and equipment and joint ventures and associates
As from January 1, 2022 segments are aligned with the Powering Progress strategy. (see Note 8)

The carrying value of goodwill, other intangible assets, property plant and equipment, and joint ventures and associates by segment as at December 31, 2022, was as follows:

Carrying value

					\$ billion
	Goodwill	Other intangible assets	Property, plant and equipment	Joint ventures and associates	Total
Integrated Gas	4.9	3.9	60.8	5.6	75.2
Upstream	5.3	0.2	74.5	7.7	87.7
Chemicals and Products	0.3	2.1	38.1	4.2	44.7
Marketing	3.3	1.8	19.1	4.4	28.6
Renewables and Energy solutions	2.2	1.6	3.2	1.9	8.9
Corporate	—	0.1	2.9	0.1	3.1
Total	16.0	9.7	198.6	23.9	248.2

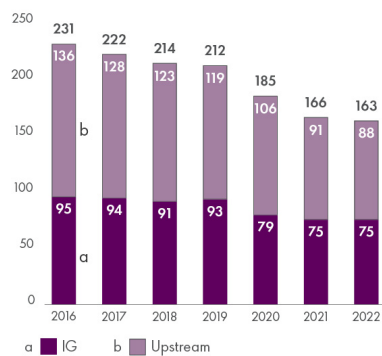
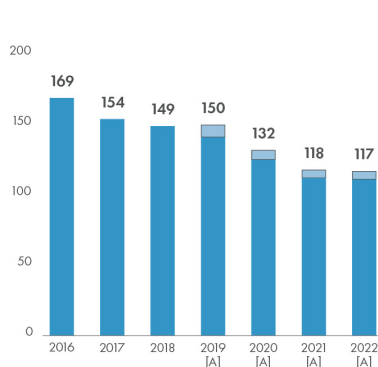
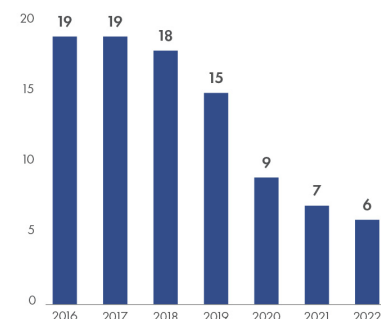
For Integrated Gas and Upstream, sensitivity to commodity prices and carbon prices has been tested (see below) covering the carrying amount of goodwill, other intangible assets, property plant and equipment, and joint ventures and associates. Sensitivity testing was performed applying alternative price scenarios to the forecasted cash flows for the whole period until the end of life of the asset tested. For Chemicals and Products, sensitivity to refining margins has been tested (see below). Marketing and Renewables and Energy Solutions are expected to be resilient through the energy transition with limited exposure of stranded assets.

In addition, sensitivity to changes in the discount rate applied in impairment testing has also been tested (see below).

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Carrying value of Integrated Gas and Upstream assets

Carrying value of Integrated Gas and Upstream assets
\$ billion as at December 31Carrying value of production assets
\$ billion as at December 31Carrying value of exploration and evaluation assets
\$ billion as at December 31

[A] Including right of use assets for the implementation of IFRS 16 Leases in 2019.

Carrying amount of Integrated Gas and Upstream assets

	2016	2017	2018	2019	2020	2021	\$ billion 2022
Integrated Gas	95	94	91	93	79	75	75
Upstream	136	128	123	119	106	91	88
Total at December 31	231	222	214	212	185	166	163

Carrying amount of production assets

	2016	2017	2018	2019	2020	2021	\$ billion 2022
At December 31	169	154	149	141	125	112	111
Right of use assets				9	7	6	6
Total at December 31	169	154	149	150	132	118	117

Carrying amount of exploration and evaluation assets

	2016	2017	2018	2019	2020	2021	\$ billion 2022
At December 31	19	19	18	15	9	7	6

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Within Integrated Gas and Upstream, the assets potentially most sensitive to the energy transition are production assets and exploration and evaluation assets. Both production assets of \$117 billion and exploration and evaluation assets of \$6 billion are recognised within Property, plant and equipment within Integrated Gas and Upstream.

Portfolio changes

Since 2016, the carrying amount of production assets in Integrated Gas and Upstream decreased from \$169 billion as at December 31, 2016, to \$117 billion as at December 31, 2022. Over this period, depreciation was higher than additions for each year, and disposals of property, plant and equipment with a carrying amount of some \$25 billion occurred. The carrying amount of capitalised exploration and evaluation expenses decreased from \$19 billion as at December 31, 2016, to \$6 billion at December 31, 2022. This is the result of final investment decisions, reclassifications to production assets and amounts charged to expenses exceeding additions.

Estimated useful life

The energy transition and the pace at which it progresses may impact the remaining life of assets. Integrated Gas and Upstream assets are generally depreciated using a unit-of-production methodology where depreciation generally depends on production of SEC proved reserves (see Note 2). Based on production plans of existing assets, some 35%, 5% and 0% of SEC proved reserves as at December 31, 2022, would currently be left by 2030, 2040 and 2050, respectively. Based on the unit-of-production depreciation methodology applied, carrying amounts for individual assets are depreciated to nil in the same pattern as the depletion of reserves towards nil. An analysis of Integrated Gas and Upstream production assets of \$117 billion as at December 31, 2022, based on planned reserves depletion shows that these assets would be significantly further depreciated under the unit-of-production method by 2030 and fully depreciated by 2050. This provides a further perspective on the risk of stranded assets carried in the Consolidated Balance Sheet as at December 31, 2022.

Price sensitivities using climate price lines

As noted, in accordance with IFRS, Shell's financial statements are based on reasonable and supportable assumptions that represent management's current best estimate of the range of economic conditions that may exist in the foreseeable future. The mid-price outlook informed by Shell's scenario planning represents management's best estimate. A change of -10% or +10% to the mid-price outlook, as an average percentage over the whole life cycle of assets, would result in around \$2-5 billion (2021: \$12-15 billion) impairment or of some \$2-4 billion (2021: \$6-9 billion) impairment reversal respectively in Integrated Gas and Upstream (see Note 12). Compared with prior year the impact of a 10% change in commodity prices is significantly lower as a result of the higher short- and medium-term commodity prices that both resulted in impairment reversals in 2022 and higher headroom in impairment testing.

The energy transition will continue to bring volatility and there is significant uncertainty as to how commodity prices will develop over the next decades. Some price lines see a structurally lower price during the transition period, while other price lines see structurally higher commodity prices as a result of changes in both supply and demand. As the risk of stranded assets is prevalent with downside price risk in energy transition scenarios, sensitivities have only been undertaken for such downside scenarios. If different price outlooks from external and often normative climate change scenarios were used, this would impact the recoverability of certain assets recognised in the Consolidated Balance Sheet as at December 31, 2022. These external scenarios are not representative of management's mid-price reasonable best estimate.

Sensitivity of carrying amounts to commodity prices described below is under the assumption that all other factors in the models used, such as cost levels, volumes, mid-price CO₂ assumptions and the discount rate, to calculate recoverability of carrying amounts remain unchanged. Sensitivity testing has been performed by applying the alternative commodity price scenarios to cash flows for the whole period until the end of life of the assets tested. The alternative commodity prices were applied in the local cash flow models and thereafter aggregated by segment. Changes to commodity prices are applied because of the significant impact on Shell's business. It should be noted that a significant decrease in long-term forecasted commodity prices would probably lead to further changes, such as in portfolio choices and cost levels.

Sensitivity to changes in commodity prices has been tested as follows:

Priceline 1 – Average prices from three [A] 1.5-2 degrees Celsius external climate change scenarios: in view of the broad range of price outlooks across the various scenarios, the average of three external price outlooks was taken.

[A] The IEA SDS scenario applied in 2021 is no longer published and has therefore been taken out for 2022.

- IHS Markit/ACCS 2022 – under this scenario oil prices (real terms 2022 (RT22)) gradually decrease towards \$36.5 per barrel (/b) in 2039, recovering to \$94.3/b in 2050. Gas prices (RT22) decrease from \$3.7 per million British thermal units (/MMBtu) in 2023 towards 2024 to slightly below \$3/MMBtu for Henry Hub, remaining around that level until 2050. For Europe, prices decrease from \$35/MMBtu in 2023 towards around \$4/MMBtu in 2029, remaining around that level until 2040 and then gradually increasing to a level around \$5/MMBtu in 2050. For Asia, prices decrease towards around \$5/MMBtu in 2029, again gradually increasing from 2045 to a level around \$6/MMBtu in 2050.
- Woodmac WM AET-1.5 degree – under this scenario oil prices (RT22) gradually decrease towards \$27/b in 2050. Gas prices (RT22) decrease from around \$5/MMBtu in 2023 to \$3/MMBtu in 2024, gradually increasing to some \$4/MMBtu in 2045 and again decreasing to some \$3/MMBtu in 2050 for Henry Hub. For Asia and Europe, gas prices (RT22) decrease from around \$30/MMBtu in 2023 to some \$6/MMBtu and \$5/MMBtu respectively in 2031, gradually increasing again to some \$10/MMBtu and some \$8/MMBtu respectively around 2040 and subsequently decreasing to \$6/MMBtu and some \$5/MMBtu respectively in 2050.
- IEA NZE50 – under this scenario oil prices (RT22) gradually decrease towards some \$25/b in 2050. Gas prices (RT22) decrease from some \$3.5/MMBtu in 2023 to around \$2/MMBtu for Henry Hub in 2030, remaining slightly below that level until 2050. For Asia and Europe, gas prices (RT22) decrease from some \$10/MMBtu and \$9/MMBtu respectively in 2023 to some \$6/MMBtu and \$5/MMBtu respectively around 2030, with a decrease towards some \$5/MMBtu and \$4/MMBtu respectively in 2050.

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

This average priceline provides an external view of the development of commodity prices under 1.5-2 degrees Celsius external climate change scenarios over the whole period under review.

Applying this priceline to Integrated Gas assets of \$75 billion (2021: \$65 billion [A]) and Upstream assets of \$88 billion (2021: \$89 billion [A]) as at December 31, 2022, shows recoverable amounts that are \$4-6 billion (2021: \$13-16 billion) and \$1-2 billion (2021: \$14-17 billion) lower, respectively, than the carrying amounts as at December 31, 2022.

[A] In 2022 goodwill and other intangibles were included in the scope for sensitivity testing. In 2021 these assets were not within the scope of sensitivity testing. Based on the 2022 sensitivity testing performed, it is unlikely that if these assets would have been included in the scope for 2021 testing, this would have resulted in a material impact on the outcome of sensitivity testing.

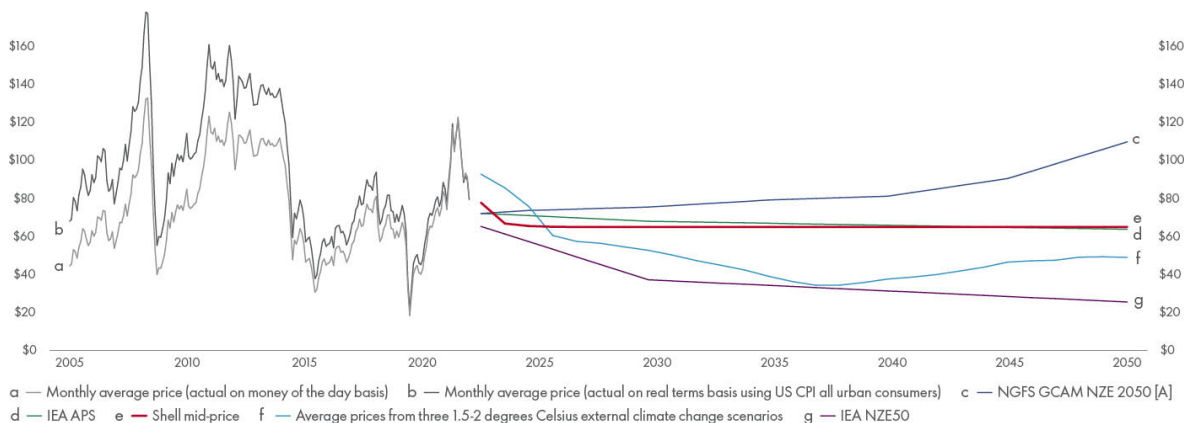
Priceline-2 - Hybrid Shell Plan and IEA NZE50: this priceline applies Shell's mid-price outlook for the next 10 years (see Note 12). Because of the greater uncertainty, the International Energy Agency (IEA) normative Net Zero Emissions scenario for the period after 10years is applied. This weights less price-risk uncertainty to the first 10 reflected in the Operating Plan period and applies more risk to the more uncertain subsequent periods.

Applying this priceline to Integrated Gas assets of \$75 billion (2021: \$65 billion) and Upstream assets of \$88 billion (2021: \$89 billion) as atDecember 31, 2022, shows recoverable amounts that are \$4-6 billion (2021: \$10-12 billion) and \$1-2 billion (2021: \$5-6 billion) lower, respectively, than the carrying amounts as at December 31, 2022.

Priceline-3 - IEA NZE50: this priceline applies the IEA normative Net Zero Emissions scenario over the whole period under review. This priceline has been applied for the first time in the current year in order to also reflect the sensitivity to a pure net-zero emissions scenario from the IEA.

Applying this priceline to Integrated Gas assets of \$75 billion and Upstream assets of \$88 billion as at December 31, 2022, shows recoverable amounts that are \$9-12 billion and \$8-11 billion lower, respectively, than the carrying amounts as at December 31, 2022.

Oil price assumptions



[A] The Network for Greening the Financial System (NGFS) is a group of 65 central banks and supervisors and 83 observers committed to sharing best practices, contributing to the development of climate- and environment-related risk management in the financial sector and mobilising mainstream finance to support the transition toward a sustainable economy. This scenario results from the NGFS GCAM model. This model embodies certain assumptions on the relationships between economic and energy output and climate interactions. This NGFS scenario shows a decline in world oil demand relative to the current policies baseline, in part a response to substitution away from fossil fuels. At the same time prices increase due to supply constraints.
 [B] All figures are presented on RT22 basis unless noted differently.

The graph above shows the oil pricelines on a real-terms basis applied for the period until 2050 for Shell's mid-price outlook in comparison with the IEA announced pledges (IEA APS) scenario, the NGFS GCAM NZE 2050 scenario, the average prices from three 1.5-2 degrees Celsius external climate change scenarios (Priceline 1, above) and the IEA Net Zero Emissions by 2050 scenario (IEA NZE50, Priceline 3 above). The development of future oil prices is uncertain and oil prices have been subject to significant volatility in the past. Future oil prices may be impacted by future changes in macroeconomic factors, available supply, demand, geopolitical and other factors. The pricelines as per the scenarios NGFS GCAM NZE 2050, IEA APS, the average prices from three 1.5-2 degrees Celsius external climate change scenarios and IEA NZE50 differ from Shell's best estimate and view of the future oil price.

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

	2023	2025	2030	2035	2040	RT22 \$/b 2050
Shell mid-price	77.8	65.5	65	65	65	65
Average prices from four 1.5-2 degrees Celsius external climate change scenarios	92.8	75.8	52.7	39.1	37.6	49
IEA NZE50	65.3	57.3	37.2	34.3	31.3	25.5
NGFS GCAM NZE 2050	72.1	73.7	75.5	79.2	81.2	109.8
IEA APS	72.1	71	68	67	65.9	63.8

Sensitivity + 10% to the mid-price outlook

	\$ billion					
	Carrying amount		Sensitivity			
	Dec 31, 2022	Dec 31, 2021 [A]	2022		2021	
Integrated Gas	75	65	2	3	3	5
Upstream	88	89	—	1	3	4
Total	163	154	2	4	6	9

Sensitivity - 10% to the mid-price outlook

	\$ billion					
	Carrying amount		Sensitivity			
	Dec 31, 2022	Dec 31, 2021 [A]	2022		2021	
Integrated Gas	75	65	(2)	(4)	(8)	(10)
Upstream	88	89	—	(1)	(4)	(5)
Total	163	154	(2)	(5)	(12)	(15)

Sensitivity averaged from three below-two-degrees-Celsius external climate scenarios

	\$ billion					
	Carrying amount		Sensitivity			
	Dec 31, 2022	Dec 31, 2021 [A]	2022		2021	
Integrated Gas	75	65	(4)	(6)	(13)	(16)
Upstream	88	89	(1)	(2)	(14)	(17)
Total	163	154	(5)	(8)	(27)	(33)

Sensitivity Hybrid Shell Plan + IEA NZE50

	\$ billion					
	Carrying amount		Sensitivity			
	Dec 31, 2022	Dec 31, 2021 [A]	2022		2021	
Integrated Gas	75	65	(4)	(6)	(10)	(12)
Upstream	88	89	(1)	(2)	(5)	(6)
Total	163	154	(5)	(8)	(15)	(18)

Sensitivity IEA NZE50

	\$ billion			
	Carrying amount		Sensitivity	
	Dec 31, 2022		2022	
Integrated Gas	75		(9)	(12)
Upstream	88		(8)	(11)
Total	163		(17)	(23)

[A] In 2022 goodwill and other intangibles were included in the scope for sensitivity testing. In 2021 these assets were not within the scope of sensitivity testing. Based on the 2022 sensitivity testing performed, it is unlikely that if these assets would have been included in the scope for 2021 testing, this would have resulted in a material impact on the outcome of sensitivity testing.

Carbon price sensitivities

Carbon costs in the Operating Plan

The Operating Plan includes capital expenditure and operating costs to achieve Scope 1 and 2 emission reduction targets (see above). These include asset level abatement project costs that drive efficiencies and reduce emissions, expected costs for evolving carbon regulations based on a forecast of Shell's equity share of emissions and costs of offsets for any residual amounts.

The total capital expenditure for abatement projects in relation to efficiency improvements, energy and chemicals parks transformations and use of renewable power included in the Operating Plan are in excess of \$4 billion. Total yearly carbon emission costs in Shell's Operating Plan gradually increase from some \$0.8 billion in 2023 to some \$1.5 billion in 2032 using the mid-price scenario. The sensitivity of carrying values of assets to changes in carbon prices is described in the section below.

Methods for estimating costs vary depending on the nature of the cost. Abatement projects costs to improve efficiencies and reduce emissions are estimated by applying a bottom-up approach where individual opportunities on an asset-level, project-by-project basis are identified.

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Costs for evolving carbon regulations are based on a forecast of Shell's equity share of emissions and are included in the Operating Plan at Shell's mid-price outlook on a country-by-country basis and represent management's best estimate. In the short and near term, up to 2030, costs for carbon emissions estimates are largely policy driven, through emission trading schemes or taxation levied by governments which currently vary significantly on a country-by-country basis. Beyond 2030 where policy predictions are more challenging, the costs for carbon emissions are estimated based on the expected costs of abatement technologies required for 2050. The costs are estimated to be at \$125 per tonne (RT22) under Shell's mid-price scenario. Under Shell's high-price scenario, the costs are set at \$220 per tonne (RT22), the top of the bioenergy with CCS cost range and the lower end of the direct air capture cost range.

Sensitivity to changes in carbon price assumptions

There is significant uncertainty as to how carbon costs will develop over the next decades. These will depend on policies set by countries and the pace of the energy transition. In accordance with IFRS, Shell's financial statements are based on reasonable and supportable assumptions that represent management's current best estimate which is policy based up to 2030 and then the mid-price outlook beyond 2030. As the risk of stranded assets is prevalent with higher carbon emission prices than anticipated, sensitivity analyses have only been undertaken for such a downside scenario. If the IEA NZE 2050 outlook is applied, this would impact the recoverability of certain assets recognised in the Consolidated Balance Sheet as at December 31, 2022. This scenario is not representative of management's mid-price reasonable best estimate.

Sensitivity of carrying amounts to carbon emission costs as described below is under the assumption that all other factors in the models used to calculate recoverability of carrying amounts remain unchanged. Changes to carbon emission costs are applied for Integrated Gas and Upstream because of the potential impact on Shell's business.

Applying the IEA NZE 2050 carbon price scenario to Integrated Gas assets of \$75 billion and Upstream assets of \$88 billion, up to the end of life of these assets, shows recoverable amounts that are \$2-5 billion and not significantly lower for Upstream than the carrying amounts as at December 31, 2022.

Sensitivity IEA NZE 2050 carbon price scenario

	Carrying amount	Sensitivity	\$ billion
Integrated Gas	75	(2)	(5)
Upstream	88	—	—
Total	163	(2)	(5)

Application of the IEA NZE 2050 carbon price scenario had no significant impact on the carrying value of Upstream assets due to the existing headroom over the carrying value.

For the key regions and countries the following carbon prices per tonne (RT22) have been assumed in the Operating Plan:

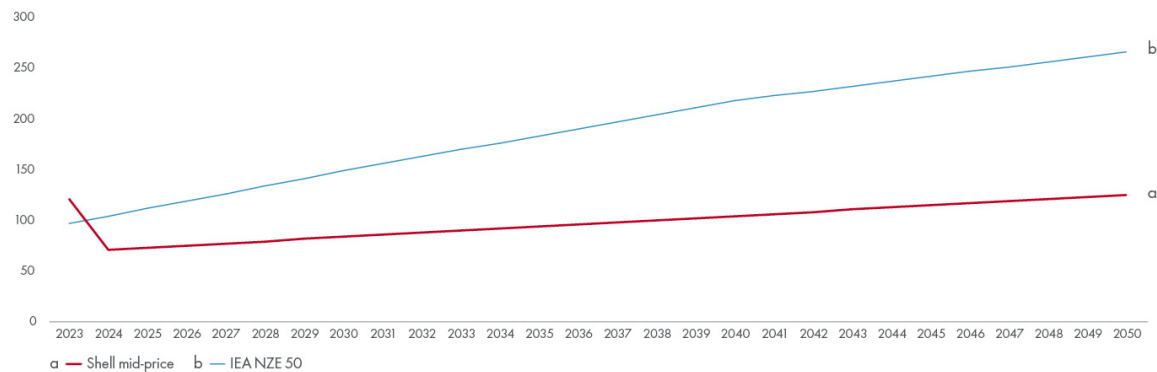
Region	Operating plan period		Subsequent period
	2023-2029	2030-2032	2033-2050
European Union	\$71-\$121	\$84-\$88	\$90-\$125
Canada (Federal)	\$40-\$50	\$54-\$61	\$65-\$125
United States (Federal)	\$0-\$22	\$27-\$37	\$42-\$125
Australia	\$25-\$35	\$36-\$45	\$50-\$125
All other countries	\$0-\$37	\$0-\$49	\$19-\$125

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

The graph below shows the carbon pricelines per tonne for the European Union on an RT22 basis under Shell's mid-price outlook in comparison with the IEA NZE 2050 scenario. The IEA NZE 2050 scenario differs from Shell's best estimate and view of the future CO₂ prices. Sensitivity of carrying amounts to the IEA NZE 2050 carbon price scenario is provided above.

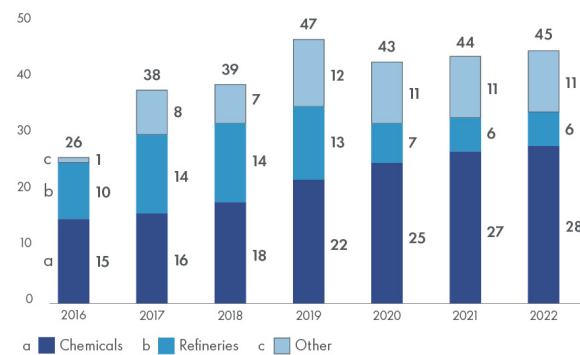
CO₂ prices - European Union
RT22 \$/tonne



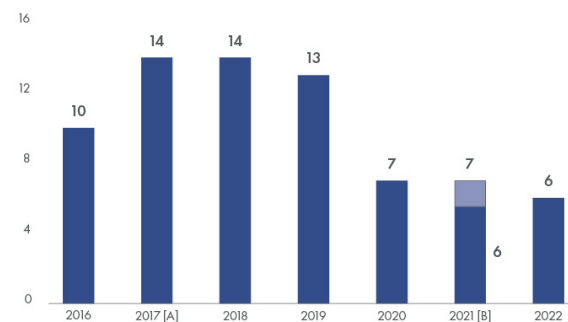
	2023	2025	2030	2035	2040	2050
Shell mid-price	121	73	84	94	104	125
IEA NZE50	97	112	149	177	205	266

Carrying value of Chemicals and Products assets

Carrying value of Chemicals and Products assets
\$ billion as at December 31



Carrying value of refineries
\$ billion as at December 31



[A] In 2017 two refineries were acquired following dissolution of the Motiva joint venture in the USA.
[B] Includes refineries held for sale (\$1.5 billion).

Carrying amount of Chemicals and Production assets

	2016	2017	2018	2019	2020	2021	2022
Chemicals	15	16	18	22	25	27	28
Refineries	10	14	14	13	7	6	6
Other	1	8	7	12	11	11	11
Total at December 31	26	38	39	47	43	44	45

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Carrying amount of refineries

	2016	2017	2018	2019	2020	2021	\$ billion 2022
At December 31	10	14	14	13	7	6	6
Assets classified as held for sale						1	
Total at December 31	10	14	14	13	7	7	6

Within Chemicals and Products, the assets potentially most sensitive to the energy transition are refineries.

Portfolio changes

Since 2016, Shell's Chemicals and Products portfolio has evolved, shifting from 15 refineries at the end of 2016 towards five energy and chemicals parks. During that period Shell assumed the sole ownership of two refineries through the dissolution of the Motiva joint venture, and disposed of, converted or closed nine refineries. The carrying amount of refineries decreased from \$10 billion as at December 31, 2016, to \$6 billion as at December 31, 2022. In line with Shell's strategy, Shell's refining footprint is being transformed into five energy and chemicals parks that will provide feedstocks for the chemicals and lubricants business, as well as other low-carbon energy products, including biofuels and hydrogen. This transformation will involve investments in assets within these energy parks that will be recognised as separate cash-generating units and are expected to be resilient in the energy transition, and hence their carrying amounts may increase.

Estimated useful life

Refineries in the Chemicals and Products segment (carrying amount as at December 31, 2022, \$6 billion (2021: \$6 billion) of which \$5 billion (2021: \$5 billion) relates to refineries in the five energy and chemicals parks (2021: excluding refineries classified as held for sale)) may be impacted under a two-degrees-Celsius or less external climate scenario.

For refineries in Chemicals and Products, depreciation of assets is on a straight-line basis over the life of the assets, starting at the date the asset becomes available for use, over a period of 20 years (see Note 2). Over the course of the energy transition, the current carrying amount of refineries will be fully depreciated, offset by anticipated investments in assets that are expected to be resilient in the energy transition as described above. Based on current depreciation of the carrying amounts as at December 31, 2022, and assuming no further investment, all refineries would be fully depreciated between four and 14 years.

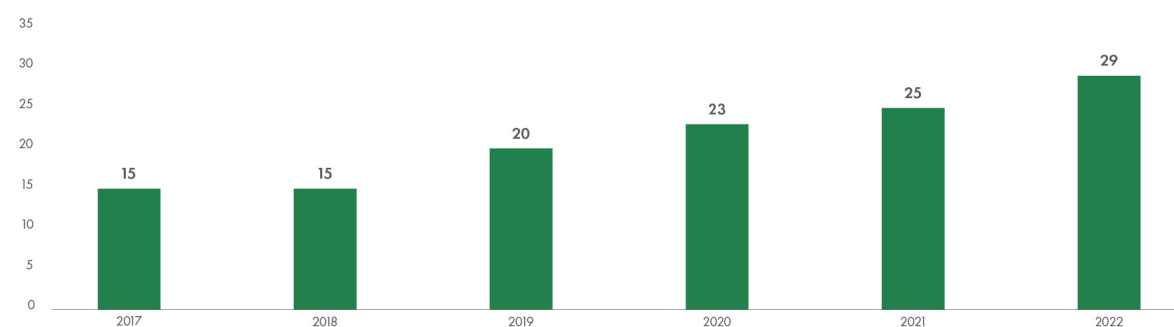
In addition to refineries, further assets of \$39 billion include \$28 billion of assets in relation to Chemicals which are expected to be resilient through the energy transition as chemical products are not produced with the aim to combust and consequently do not generate GHG emissions.

Other assets of \$11 billion includes \$7 billion of assets in relation to trading and supply are also expected to be resilient in the energy transition. Another \$1.6 billion of assets relates to oil sands. Based on production plans for oil sands assets, some 80%, 56% and 31% of SEC proved reserves as at December 31, 2022, would currently be left by 2030, 2040 and 2050, respectively. Taking into consideration the carrying amount as at December 31, 2022 and depreciation under the unit-of-production methodology, this provides a further perspective on the risk of stranded oil sands assets carried in the Consolidated Balance Sheet as at December 31, 2022.

Price sensitivities

Refining margins included in the Operating Plan are at an average of \$6.22. A change of -\$1/bbl or +\$1/bbl to the refining margin outlook period would result in around \$1-3 billion impairment or in some \$1-3 billion impairment reversal respectively in Chemicals and Products (see Note 12).

Carrying value of Marketing assets

Carrying value of Marketing assets
\$ billion as at December 31

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Carrying amount of Marketing assets

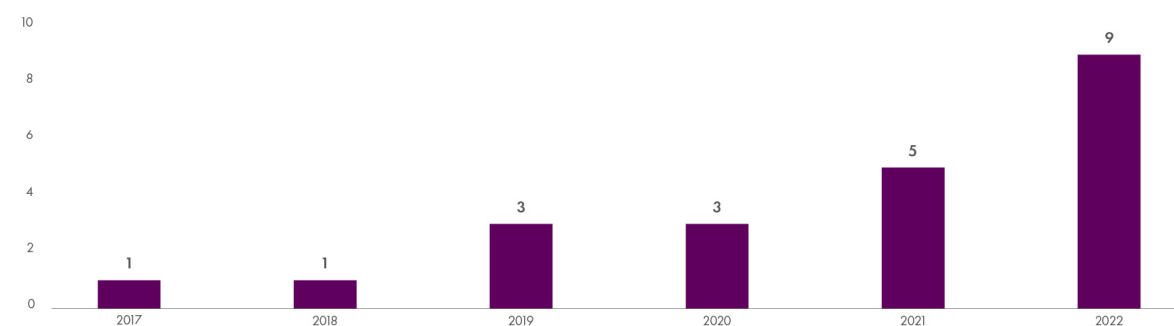
	2017	2018	2019	2020	2021	2022
At December 31	15	15	20	23	25	29

\$ billion

Portfolio changes

Assets in the Marketing segment are expected to be resilient through the energy transition with a change in the product mix as the energy transition progresses. The demand for products sold such as chemicals, lubricants, biofuels, bitumen, electric vehicle charging and convenience retail is not expected to decrease and is expected to increase for a variety of these products in many markets. As a result the carrying value of these assets is not expected to be impacted by the energy transition or lower commodity price scenarios.

Carrying value of Renewables and Energy Solutions assets

Carrying value of Renewables and Energy Solutions assets
\$ billion as at December 31

Carrying amount of Renewables and Energy Solutions assets

	2017	2018	2019	2020	2021	2022
At December 31	1	1	3	3	5	9

\$ billion

Portfolio changes

Assets in the Renewables and Energy Solutions segment are expected to be resilient through the energy transition.

Discount rate sensitivity

The discount rate applied for impairment testing is based on a nominal post-tax weighted average cost of capital (WACC) and is determined at 5% for Power activities and 6.5% for all other businesses. The discount rate includes generic system risk for climate change risk. In addition, cash flow projections applied in individual assets include specific asset risks, including risk of transition. An increase in systematic climate risk could lead to a higher WACC and consequently to a higher discount rate to be applied in impairment testing. An increase of the discount rate applied for impairment testing of 1% under the assumption that all other factors in the models used to calculate recoverability of carrying amounts remain unchanged would lead to a change in the carrying amount of \$1-3 billion for Integrated Gas, and up to \$1 billion in each of the following segments: Upstream, Chemicals and Products and Renewables and Energy Solutions, and no significant impairment in Marketing and Corporate.

Global oil and gas demand sensitivities

A decrease in global demand and unchanged supply of oil and gas would likely lead to a decrease in price (see price sensitivity above). During 2022 Shell's production of oil and gas accounted for 1.5% and 2% of total global production of oil and gas respectively. Changes in global oil and gas demand are therefore not expected to directly impact the ability to sell volumes of oil and gas produced by Shell at market prices.

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued**Deferred tax assets**

In general, it is expected that sufficient deferred tax liabilities and forecasted taxable profits within the planning period of 10 years are available for recovery of the deferred tax assets recognised at December 31, 2022. Integrated Gas and Upstream deferred tax assets recognised are expected to be recovered within the period of production of each asset. For deferred tax assets of \$303 million as at December 31, 2022 (2021: \$711 million) this period extends beyond 10 years. Deferred tax assets in Chemicals and Products and in Marketing expected to be recovered in more than 10 years are \$382 million as at December 31, 2022 (2021: \$854 million). In Chemicals and Products, cash flows beyond 10 years (for a maximum of an additional 10 years) were further risked to determine recoverability of deferred tax assets beyond 10 years (see Note 22).

Decommissioning and other provisions

The energy transition may result in decommissioning and restoration occurring earlier than expected. The risk on the timing of decommissioning and restoration activities for Integrated Gas and Upstream fields is limited, supported by production plans in the foreseeable future (see "Estimated useful life" above). Acceleration of decommissioning and restoration activities has also been reflected in the assessment of the appropriate discount rate. In 2021, the discount rate was revised from a 30-year to a 20-year term in line with the average remaining life of Integrated Gas and Upstream assets. On an undiscounted basis the provision for decommissioning and restoration as at December 31, 2022 was \$33 billion, recognised on a discounted basis in the Consolidated Balance Sheet as at December 31, 2022 at \$20 billion (2021: \$22 billion). Sensitivity to changes in the discount rate is provided in Note 24.

In Chemicals and Products, it was industry practice not to recognise decommissioning and restoration provisions associated with manufacturing facilities. This was on the basis that these assets were considered to have indefinite lives, so it was considered remote that an outflow of economic benefits would be required. In 2020, Shell considered the changed macroeconomic fundamentals, together with Shell's plans to rationalise the Group's manufacturing portfolio. Shell also reconsidered whether it remained appropriate not to recognise decommissioning and restoration provisions for manufacturing facilities. Since 2020, decommissioning and restoration provisions are recognised for certain shorter-lived manufacturing facilities (see Notes 24 and 31). The remaining five energy and chemicals parks are considered longer-lived facilities that are expected to be resilient in the energy transition, and decommissioning would generally be more than 50 years away.

Onerous contracts

Closure or early termination of activities may lead to supply contracts becoming onerous. Onerous contract provisions (see Note 24) have been recognised as at December 31, 2022, to reflect changes in expected future utilisation of certain assets. These include contracts in relation to unused terminals and refineries. The total carrying amount of the provision for onerous contracts as at December 31, 2022 was \$1.5 billion (2021: \$1.7 billion) principally related to contracts in relation to unused terminals and refineries.

Dividend resilience

External stakeholders have requested disclosures on how climate change affects dividend-paying capacity. If a further impairment had been recognised in 2022 using any of the climate change scenarios described above, this would not have impacted the ability to pay dividends in this financial year because of the strong cash flow generation and financial reserves. Had Shell applied the IEA NZE50 scenario (see above), and if this had led to a decrease in the recoverable amount of Integrated Gas and Upstream assets of \$17-23 billion and recognition of an equivalent impairment, this would not have impacted the distributable reserves available to Shell from which to pay dividends in 2022. This is on the basis that such impairment would have resulted in part-realisation of the merger reserve recognised by the Company of \$234 billion as at December 31, 2022.

A forward-looking statement regarding future dividend-paying capacity cannot be provided because of unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements.

Physical risks

Potential physical impacts to Shell's assets, irrespective of cause, are important for Shell to manage.

Climate variability is considered in the design and operation of Shell's assets and infrastructure to minimise the risk of adverse incidents to Shell's employees and contractors, the communities where Shell operates, its equipment and infrastructure. Shell's new projects consider anticipated weather and climatic events in their design and Metocean (meteorology and oceanography) engineering experts are available, if required, to assist Shell's assets and project teams in the evaluation of physical risks.

On an ongoing basis, Shell's assets leverage broad risk and threat management processes to identify and respond to emerging challenges to their ongoing safe, compliant and efficient operation, as required by Shell's HSSE & SP Control Framework.

Notes to the Consolidated Financial Statements continued

5. Emission schemes and related environmental programmes

Emission trading and related schemes

In general, emission trading schemes (ETS) are mandated governmental schemes to control emission levels and enhance clean energy transition, allowing for the trading of emission certificates. In most ETS, governments set an emission cap for one or more sectors. Generally, entities in scope of the scheme are allowed to buy emission certificates to cover shortages or sell surplus emission certificates. In certain countries emissions are priced through a carbon tax. For Shell, the most significant carbon pricing mechanisms are established in Europe, Canada and Singapore.

Biofuel programmes

Biofuel programmes are mandated governmental schemes that set binding national targets on the share of renewables in fuel consumption or measures on reducing GHG emissions by fuel suppliers. Biofuels are blended with existing fuels such as gasoline and diesel to reduce net emissions. The share of biofuel in the total sales mix of fuel is used to comply with regulatory requirements. This can be achieved by the blending of biofuels in refineries and/or distribution depots (self-blending), through import of biofuels (for jurisdictions that grant biofuels certificates at the point of import) or by the purchasing of certificates from third parties (for jurisdictions that have a tradable biofuel certificates mechanism). Biofuel programmes also include regulatory requirements to pay a levy for the combustion of fossil fuels, based on CO₂ emitted – mainly related to the German Fuel Emissions Trading Act (BEHG) applying since January 1, 2021.

Renewable power programmes

Renewable power programmes create a financial incentive to consume power that is sourced from renewable origins or require that a minimum percentage of power sold meets the green definition of the relevant standard. These regulations are typically accompanied by schemes supporting investments in the renewable technology. Renewable power programmes generally use certificates to monitor compliance, where renewable power certificates are granted for each MWh of energy generated that meets the predefined renewable criteria. Shell's compliance obligation under renewable power programmes comes primarily from energy supply and results from regulations applying in Europe, North America and Australia.

Cost of emission schemes and related environmental programmes recognised in the Consolidated Statement of Income

	2022	2021	2020
			\$ million
ETS and related schemes	493	331	150
Biofuels [A]	2,918	2,609	1,137
Renewable power	594	455	364
Total	4,005	3,395	1,651

[A] Represents the cost of biofuel certificates required for compliance purposes over and above those generated from self-blending activities.

Purchased environmental certificates (presented under Other intangible assets, see Note 11) [A]

	ETS and related schemes	Biofuels	Renewable power	Total
				\$ million
At January 1, 2022	284	2,362	101	2,747
Additions	385	1,485	468	2,338
Settlements	(256)	(2,142)	(398)	(2,796)
Other movements	27	(104)	(11)	(88)
At December 31, 2022	440	1,601	160	2,201
At January 1, 2021	157	780	76	1,013
Additions	292	2,450	405	3,147
Settlements	(115)	(754)	(355)	(1,224)
Other movements	(50)	(114)	(25)	(189)
At December 31, 2021	284	2,362	101	2,747

[A] Relates to environmental certificates held for compliance purposes.

Notes to the Consolidated Financial Statements continued

5. Emission schemes and related environmental programmes continued

Obligation (presented under Other payables, see Note 19)

	ETS and related schemes	Biofuels	Renewable power	Total
\$ million				
At January 1, 2022				
Current	(270)	(3,262)	(273)	(3,805)
Non-current	—	(182)	(29)	(211)
	(270)	(3,444)	(302)	(4,016)
Additions	(1,237)	(2,916)	(637)	(4,790)
Additions covered by government grants	776 [A]			776
Settlements	292	2,456	499	3,247
Other movements	(19)	58	34	73
	(188)	(402)	(104)	(694)
At December 31, 2022				
Current	(458)	(3,424)	(350)	(4,232)
Non-current	—	(422)	(56)	(478)
	(458)	(3,846)	(406)	(4,710)
At January 1, 2021				
Current	(154)	(1,549)	(290)	(1,993)
Non-current	—	(54)	(6)	(60)
	(154)	(1,603)	(296)	(2,053)
Additions	(781)	(2,756)	(487)	(4,024)
Additions covered by government grants	456 [A]			456
Settlements	150	755	491	1,396
Other movements	59	160	(10)	209
	(116)	(1,841)	(6)	(1,963)
At December 31, 2021				
Current	(270)	(3,262)	(273)	(3,805)
Non-current	—	(182)	(29)	(211)
	(270)	(3,444)	(302)	(4,016)

[A] Emission certificates that were allocated free of charge at an equivalent fair value at grant date.

Environmental certificates acquired that are held for compliance purposes are recognised at cost under intangible assets. In addition, a portfolio of environmental certificates is held for trading purposes and classified under inventory (see Note 2 and Note 16). Environmental certificates held for trading purposes can be redesignated for compliance purposes and then settle compliance obligations.

Cost recognised in the Consolidated Statement of Income represents the compliance cost associated with emissions or with products sold during the year. The liability at year-end represents the compliance cost recognised over current and past compliance periods to the extent not settled to date. Liabilities are settled in line with compliance periods, which depend on the scheme and may not coincide with the calendar year.

The figures present compliance schemes only, excluding voluntary activities.

6. Withdrawal from Russian oil and gas activities

Following the invasion of Ukraine by Russia, Shell announced in the first quarter of 2022 its intent to:

- withdraw from its ventures in Russia with Gazprom and related entities, and to end its involvement in the Nord Stream 2 pipeline project;
- withdraw from its service station and lubricants operations in Russia; and
- withdraw in a phased manner from its involvement in all Russian hydrocarbons, including crude oil, petroleum products, gas and LNG, aligned with new government guidance.

Since these announcements:

- Shell stopped all spot purchases of Russian crude, liquefied natural gas, and of cargoes of refined products directly exported from Russia. Shell has not renewed any long-term contracts for Russian crude, but was still legally obliged to take delivery of crude bought under contracts that were signed before the invasion.
- All of Shell's long-term third-party purchases of Russian crude have stopped (when contractually allowed and all by the end of 2022).
- All of Shell's contracts to purchase refined products exported from Russia have also ended.
- Shell's two pipeline gas contracts terminated by the end of 2022.

Notes to the Consolidated Financial Statements continued

6. Withdrawal from Russian oil and gas activities continued

- Shell still holds two long-term LNG offtake contracts with Russian entities, accounted for as regular sales and purchase contracts. The counterparty in one of these contracts stopped delivering cargoes to Shell in the third quarter of 2022.
- Shell sold its service station and lubricants operations in Russia in the second quarter of 2022.

These actions led to recognition of net pre-tax charges of \$4,170 million (post-tax: \$3,804 million) in 2022. These were recognised in:

2022	\$ million
Revenue	(468)
Share of profit of joint ventures and associates	(1,614)
Interest and other income/(expenses)	(1,116)
Selling, distribution and administrative expenses	(104)
Depreciation, depletion and amortisation	(695)
Other	(173)
Loss before taxation	(4,170)
Taxation credit	(366)
Loss for the period	(3,804)

In relation to the assets with a potential exposure to Shell's intended withdrawal from all Russian hydrocarbons, including those assets for which the above charges were recognised during the year, there is a \$0.1 billion balance sheet carrying amount as at December 31, 2022.

Further details are provided below.

Integrated Gas**Sakhalin-2**

Shell holds a 27.5% (minus one share) interest in Sakhalin Energy Investment Company Ltd. (SEIC). Other ownership interests were Gazprom 50% (plus one share), Mitsui 12.5% and Mitsubishi 10%. Up to March 31, 2022, this investment was accounted for as an associate applying the equity method. Following the first quarter announcements, the recoverable amount of the investment was estimated as the risk-adjusted dividends declared on Sakhalin's 2021 results, of which the first part was received in April 2022. This resulted in recognition of an impairment charge of \$1,614 million in the first quarter 2022. Significant influence over the Sakhalin-2 investment was lost from April 1, 2022, with the resignation of Shell's executive directors and withdrawal of managerial and technical staff, leading to recognition, without financial impact, of the investment as a financial asset accounted for at fair value from that date, with subsequent changes in fair value recognised in other comprehensive income.

On June 30, 2022, a Russian Presidential Decree was passed requiring the transfer of all licences, rights and obligations of SEIC into a newly-created Russian company (LLC) that would assume the rights and obligations of SEIC. The decree stated that the foreign shareholders would be invited to apply for shares in that entity equivalent to their shareholding in SEIC. Following the receipt of dividends in the second quarter 2022 and the Presidential Decree, appropriate fair value adjustments to the investment value have been recognised, against other comprehensive income.

Shell understands that pursuant to the Presidential Decree, all licences, assets, rights and obligations of SEIC were purportedly transferred to the LLC on August 17, 2022. On September 1, 2022, Shell formally advised the Russian Federation (RFG) that it would not apply for shares in the LLC, that it objected to the purported transfers from SEIC to the LLC and that it reserved all rights and remedies. Shell understands the RFG has commenced a process to sell those shares in the LLC which Shell did not apply for. This process was expected to be completed in the first quarter 2023, but the decree was amended in January 2023 to remove the timeline. Pursuant to the Presidential Decree, the RFG is also expected to conduct an audit of 'the activities of foreign shareholders in SEIC and/or individuals', based on which the RFG will determine the 'amount of damage caused' and 'persons liable to indemnify it'. The carrying value of the investment is zero as at December 31, 2022.

Nord Stream 2

Shell is one of five energy companies which each committed to provide financing and guarantees for up to 10% of the total cost of the project, with the final loan instalments having been made in the second quarter 2020. Following the first quarter 2022 announcements, Shell assessed the recoverability of the loan to Nord Stream 2, leading to a full write-down in the first quarter 2022 of the loan amounting to \$1,126 million. On September 26, 2022, one of the two Nord Stream 2 pipelines ruptured resulting in a gas leak and significant damage. Investigations are now under way to determine the cause of the rupture. The rupture had no financial impact, following the previous full write-down of the loan.

Upstream**Salym**

Shell has a 50% interest in Salym Petroleum Development N.V. (Salym), a joint operation with GazpromNeft (GPN) that is developing the Salym fields in the Khanty Mansiysk Autonomous District of western Siberia. Shell consolidated its share in the joint operation. Following the first quarter announcements, Shell assessed the recoverability of the Salym carrying amounts, leading to full impairment amounting to \$233 million in the first quarter 2022. In July 2022, the Shell directors of Salym resigned. Joint control was lost early in the third quarter 2022 and from that date Salym was accounted for as a financial asset at fair value, with a carrying value of zero. Pursuant to Russian legislative changes and court decisions in the second and third quarter 2022, the Russian branch of Salym was purportedly transformed into a Russian LLC (Salym Petroleum Development Limited Liability Company). All assets, rights and obligations of the Russian branch of Salym were purportedly transferred to that entity, of which Shell, purportedly, automatically held 50%. On March 3, 2023, Shell announced that it had completed the sale of its interest in Salym Petroleum Development Limited Liability Company to a subsidiary of GPN for which an agreement was signed on December 22, 2022.

Notes to the Consolidated Financial Statements continued

6. Withdrawal from Russian oil and gas activities continued

Khanty-Mansiysk Petroleum Alliance partnership

Shell had a 50% interest in the Khanty-Mansiysk Petroleum Alliance partnership. Through this, Shell was a holder of a 50% interest in the CJSC Khanty-Mansiysk Petroleum Alliance. On February 22, 2023, Shell completed the sale of its interest in CJSC Khanty-Mansiysk Petroleum Alliance to a subsidiary of GPN for which an agreement was signed on December 22, 2022.

Gydan

Shell had a 50% interest in LLC Gydan Energy, a joint operation with GazpromNeft to explore and develop blocks in the Gydan peninsula, in north-western Siberia. This project is in the exploration phase, with no production. Following the first quarter announcements, Shell assessed the recoverability of the Gydan carrying amounts, leading to full impairment amounting to \$153 million and other charges of \$35 million in the first quarter 2022. During the second quarter 2022, all rights and obligations for Shell's 50% interest were transferred to GazpromNeft with an insignificant impact on the income statement.

Marketing

Shell Neft's retail network consisted of 240 sites owned by Shell Neft and 171 sites owned by dealers and Shell Neft operated a lubricant blending plant. Shell Neft was a 100% Shell-owned subsidiary and was fully consolidated until the date of the disposal. Following the first quarter 2022 announcements, Shell assessed the recoverability of Shell Neft carrying amounts, resulting in an impairment of non-current assets of \$358 million and other charges of \$236 million. In the second quarter 2022, Shell transferred all shares of Shell Neft to Lukoil leading to net charges of \$83 million, including the release of currency translation losses (\$343 million).

Other

Marked-to-market risk adjustments of \$335 million related to long-term offtake natural gas contracts, an impairment of right-of-use assets of \$114 million and other charges of \$36 million were recognised in the first quarter 2022. In the second quarter 2022, further marked-to-market risk adjustments of \$133 million were recognised following changes demanded to the contractual payment mechanism leading to the suspension by Gazprom of gas deliveries under these long-term offtake contracts. Finally, \$140 million was recognised in income in the second quarter 2022 from the derecognition of lease liabilities following the termination of lease arrangements for which the right-of-use assets were impaired in the first quarter 2022.

In September 2021, Shell signed a binding novation agreement to take over a GasTerra gas supply contract with Gazprom Export LLC (Gazprom), with the transfer to take effect from October 1, 2022. Upon transfer and pursuant to the novation agreement, Shell recognised the transfer of a payable of approximately €1.3 billion (\$1.4 billion) in respect of gas delivered by Gazprom to GasTerra in April and May of 2022. An equivalent receivable from GasTerra was recognised pursuant to the terms of the novation agreement. Gazprom ceased to supply gas to GasTerra at the end of May 2022. The gas supply contract terminated in December 2022.

7. Capital management

Shell manages its businesses to deliver strong cash flows to sustain its strategy and for profitable growth. Management's current priorities for applying Shell's cash are:

Capital discipline

Cash capex within \$23-27 billion

(2021: \$19-22 billion)

- Includes inorganic capex

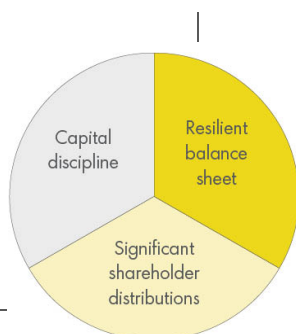
Resilient balance sheet

Targeting AA credit metrics through the cycle

- Continued focus on Net debt reduction in upcycle
- Divest for value
- Invest for value

Significant shareholder distributions

Around 4% annual growth in dividend per share, subject to Board approval (2021: 4%)



Sustainable progressive dividend
Total shareholder distributions ≥ 20-30% [A] of cash flow from operating activities (2021: 20-30%)

Total shareholder distributions (dividends + share buybacks) based on cash generation, macro-outlook and balance sheet trajectory.

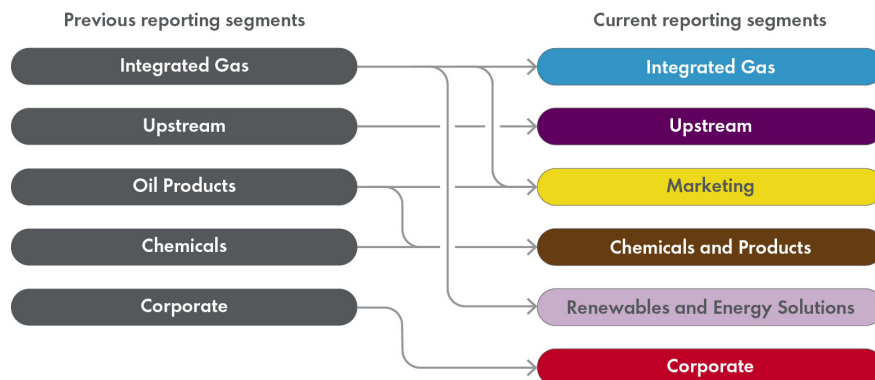
[A] Subject to Board approval and prevailing market conditions.

Notes to the Consolidated Financial Statements continued

8. Segment information

General information

Shell is an international energy company engaged in the principal aspects of the energy and petrochemicals industries and reports its business through segments. With effect from January 1, 2022, the reporting segments are aligned with Shell's Powering Progress strategy. The Renewables and Energy Solutions business is now reported separately from Integrated Gas. Shales assets in Canada are now reported as part of the Integrated Gas segment instead of the Upstream segment. The Oil Products and Chemicals segments are reorganised into two segments – Marketing, and Chemicals and Products. Prior period comparatives have been revised to conform with current year presentation. The reporting segment changes have no impact at a Group level.



The Integrated Gas segment includes liquefied natural gas (LNG), conversion of natural gas into gas-to-liquids (GTL) fuels and other products. The segment includes natural gas and liquids exploration and extraction, and the operation of the upstream and midstream infrastructure necessary to deliver gas and liquids to market as well as the marketing, trading and optimisation of LNG, including LNG as a fuel for heavy-duty vehicles.

The Upstream segment includes exploration and extraction of crude oil, natural gas and natural gas liquids. It also markets and transports oil and gas, and operates the infrastructure necessary to deliver them to the market.

The Marketing segment comprises the Mobility, Lubricants, and Sectors & Decarbonisation businesses. The Mobility business operates Shell's retail network including electric vehicle charging services. The Lubricants business produces, markets and sells lubricants for road transport, and machinery used in manufacturing, mining, power generation, agriculture and construction. The Sectors & Decarbonisation business sells fuels, speciality products and services including low-carbon energy solutions to a broad range of commercial customers including the aviation, marine, commercial road transport and agricultural sectors.

The Chemicals and Products segment includes chemicals manufacturing plants with their own marketing network, and refineries which turn crude oil and other feedstocks into a range of oil products which are moved and marketed around the world for domestic, industrial and transport use. The segment also includes the pipeline business, trading of crude oil, oil products and petrochemicals, and oil sands activities (the extraction of bitumen from mined oil sands and its conversion into synthetic crude oil).

The Renewables and Energy Solutions segment includes Shell's Integrated Power activities, comprising electricity generation, marketing and trading of power and pipeline gas, and digitally enabled customer solutions. The segment also includes production and supply of decarbonised hydrogen, development of commercial carbon capture and storage hubs, as well as trading of carbon credits and investment in nature-based projects that avoid or reduce carbon.

The Corporate segment covers the non-operating activities supporting Shell, comprising Shell's holdings and treasury organisation, its self-insurance activities and its headquarters and central functions. All finance expense and income and related taxes are included in Corporate segment earnings rather than in the earnings of business segments.

Notes to the Consolidated Financial Statements continued

8. Segment information continued

Basis of segmental reporting

Sales between segments are based on prices generally equivalent to commercially available prices. Third-party revenue and non-current assets information by geographical area are based on the country of operation of the Group subsidiaries that report this information. Separate disclosure is provided for the UK as this is the Company's country of domicile.

Segment earnings are presented on a current cost of supplies basis (CCS earnings). On this basis, the purchase price of volumes sold during the period is based on the current cost of supplies during the same period after making allowance for the tax effect. CCS earnings therefore exclude the effect of changes in the oil price on inventory carrying amounts. CCS earnings attributable to Shell plc shareholders is the earnings measure used by the Chief Executive Officer for the purposes of making decisions about allocating resources and assessing performance.

Finance expense and income related to core financing activities, as well as related taxes, are included in the Corporate segment earnings rather than in the earnings of the business segments.

Information by segment on a current cost of supplies basis is as follows:

2022

							\$ million
	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate	Total
Revenue:							
Third-party	54,751	8,352	120,638	144,342	53,190	41	381,314 [A]
Inter-segment	18,412	52,285	606	2,684	6,791	—	80,778
Share of profit/(loss) of joint ventures and associates (CCS basis)	1,219	2,111	237	374	(7)	(4)	3,930
Interest and other income, of which:	(714)	726	(104)	244	57	706	915
Interest income	43	22	—	24	(2)	959	1,046
Net gains on sale and revaluation of non-current assets and businesses	101	437	(186)	282	8	—	642
Other	(858) [B]	267	82	(62)	51	(253)	(773)
Third-party and inter-segment purchases (CCS basis)	37,785	10,666	108,012	127,521	57,024	(28)	340,980
Production and manufacturing expenses	4,907	9,676	810	7,583	2,520	22	25,518
Selling, distribution and administrative expenses	218	233	7,351	3,592	972	517	12,883
Research and development expenses	112	456	222	187	98	—	1,075
Exploration expenses	240	1,472	—	—	—	—	1,712
Depreciation, depletion and amortisation charge, of which:	2,211	10,334	1,900	3,289	777	18	18,529
Impairment losses	115	950	480	356	412	—	2,313 [C]
Impairment reversals	(3,449)	(2,504)	(151)	(73)	—	—	(6,177) [D]
Interest expense	84	345	46	22	2	2,682	3,181
Taxation charge/(credit) (CCS basis)	5,899	14,070	903	935	(303)	(7)	21,497
CCS earnings	22,212	16,222	2,133	4,515	(1,059)	(2,461)	41,562

[A] Includes \$11,708 million of revenue from sources other than from contracts with customers, which mainly comprises the impact of fair value accounting of commodity derivatives. This amount includes both the reversal of prior losses of \$9,815 million related to sales contracts and prior gains of \$7,201 million related to purchase contracts that were previously recognised and where physical settlement has taken place during 2022.

[B] Includes the full write-down of the Nord Stream 2 loan amounting to \$1,126 million. (See Note 6).

[C] Impairment losses comprise Property, plant and equipment (\$1,799 million, see Note 12), Goodwill (\$361 million) and Other intangible assets (\$153 million).

[D] Impairment reversals fully comprise Property, plant and equipment. (See Note 12).

Notes to the Consolidated Financial Statements continued

8. Segment information continued

2021

\$ million

	Integrated Gas [A]	Upstream [A]	Marketing [A]	Chemicals and Products [A]	Renewables and Energy Solutions [A]	Corporate	Total
Revenue:							
Third-party	29,922	9,182	83,494	116,448	22,415	43	261,504 [B]
Inter-segment	8,072	35,789	254	1,890	4,675	—	50,680
Share of profit/(loss) of joint ventures and associates (CCS basis)	1,933	632	385	989	(27)	1	3,913
Interest and other income, of which:	1,596	4,592	278	37	200	353	7,056
Interest income	—	37	3	36	4	431	511
Net gains on sale and revaluation of non-current assets and businesses	1,610	4,130	285	(24)	(6)	—	5,995
Other	(14)	425	(10)	25	202	(78)	550
Third-party and inter-segment purchases (CCS basis)	20,188	9,094	70,745	103,294	26,048	(5)	229,364
Production and manufacturing expenses	4,194	9,797	950	6,815	2,098	(32)	23,822
Selling, distribution and administrative expenses	231	186	6,384	3,375	596	556	11,328
Research and development expenses	101	339	167	157	51	—	815
Exploration expenses	122	1,301	—	—	—	—	1,423
Depreciation, depletion and amortisation charge, of which:	5,908	13,485	1,700	5,485	326	17	26,921
Impairment losses	723	920	129	2,248	45	—	4,065 [C]
Impairment reversals	(204)	(9)	(1)	—	—	—	(214) [D]
Interest expense	71	333	27	44	—	3,132	3,607
Taxation charge/(credit) (CCS basis)	2,648	6,057	903	(210)	(342)	(665)	8,391
CCS earnings	8,060	9,603	3,535	404	(1,514)	(2,606)	17,482

[A] Revised to conform with reporting segment changes applicable from 2022.

[B] Includes \$126 million of revenue from sources other than from contracts with customers, which mainly comprises the impact of fair value accounting of commodity derivatives. This amount includes both the reversal of prior losses of \$4,824 million related to sales contracts and prior gains of \$4,892 million related to purchase contracts that were previously recognised and where physical settlement had taken place during 2021.

[C] Impairment losses mainly comprise Property, plant and equipment (\$3,894 million, see Note 12) and Goodwill (\$167 million).

[D] Impairment reversals fully comprise Property, plant and equipment. (See Note 12).

247

Shell Form 20-F 2022

Notes to the Consolidated Financial Statements continued

8. Segment information continued

2020

							\$ million
	Integrated Gas [A]	Upstream [A]	Marketing [A]	Chemicals and Products [A]	Renewables and Energy Solutions [A]	Corporate	Total
Revenue:							
Third-party	20,865	6,743	55,845	84,657	12,382	51	180,543 [B]
Inter-segment	4,357	21,020	152	1,056	1,597	—	28,182
Share of profit/(loss) of joint ventures and associates (CCS basis)	612	(7)	491	1,064	(50)	(268)	1,842
Interest and other income, of which:	212	541	143	(236)	(197)	406	869
Interest income	—	56	4	25	5	589	679
Net gains on sale and revaluation of non-current assets and businesses	212	54	117	(129)	8	24	286
Other	—	431	22	(132)	(210)	(207)	(96)
Third-party and inter-segment purchases (CCS basis)	10,961	4,471	43,856	71,490	12,129	9	142,916
Production and manufacturing expenses	4,957	10,195	779	6,952	1,091	27	24,001
Selling, distribution and administrative expenses	60	(31)	5,380	3,391	606	475	9,881
Research and development expenses	84	486	147	171	19	—	907
Exploration expenses	616	1,131	—	—	—	—	1,747
Depreciation, depletion and amortisation charge, of which:	19,314	21,079	1,499	10,096	424	32	52,444
Impairment losses	13,464	7,274	44	6,492	180	9	27,463 [C]
Interest expense	78	369	43	16	3	3,580	4,089
Taxation (credit)/charge (CCS basis)	(2,794)	(103)	846	(1,754)	(61)	(982)	(4,848)
CCS earnings	(7,230)	(9,300)	4,081	(3,821)	(479)	(2,952)	(19,701)

[A] Revised to conform with reporting segment changes applicable from 2022.

[B] Includes \$10,008 million of revenue from sources other than from contracts with customers, which mainly comprises the impact of fair value accounting of commodity derivatives. This amount includes both the reversal of prior gains of \$1,136 million related to sales contracts and prior losses of \$539 million related to purchase contracts that were previously recognised and where physical settlement had taken place during 2020.

[C] Impairment losses comprise Property, plant and equipment (\$26,676 million, see Note 12), Goodwill (\$276 million) and Other intangible assets (\$511 million).

Reconciliation of CCS earnings to income for the period

	\$ million		
	2022	2021	2020
Income/(loss) attributable to Shell plc shareholders	42,309	20,101	(21,680)
Income attributable to non-controlling interest	565	529	146
Income/(loss) for the period	42,874	20,630	(21,534)
Current cost of supplies adjustment:			
Purchases	(1,714)	(3,772)	2,359
Taxation	444	808	(585)
Share of profit of joint ventures and associates	(42)	(184)	59
Current cost of supplies adjustment	(1,312)	(3,148)	1,833
Of which:			
Attributable to Shell plc shareholders	(1,196)	(3,029)	1,759
Attributable to non-controlling interest	(116)	(119)	74
CCS earnings	41,562	17,482	(19,701)
Of which:			
CCS earnings attributable to Shell plc shareholders	41,113	17,072	(19,921)
CCS earnings attributable to non-controlling interest	449	410	220

Notes to the Consolidated Financial Statements continued

8. Segment information continued

Information by geographical area is as follows:

2022					
					\$ million
	Europe	Asia, Oceania, Africa	USA	Other Americas	Total
Third-party revenue, by origin	135,975 [A]	126,643	87,085	31,611	381,314
Goodwill, other intangible assets, property, plant and equipment, joint ventures and associates at December 31	40,161 [B]	97,019	59,233	51,794	248,207

[A] Includes \$50,236 million that originated from the UK.

[B] Includes \$20,772 million located in the UK.

2021					
					\$ million
	Europe	Asia, Oceania, Africa	USA	Other Americas	Total
Third-party revenue, by origin	78,549 [A]	87,070	73,647	22,238	261,504
Goodwill, other intangible assets, property, plant and equipment, joint ventures and associates at December 31	38,881 [B]	97,278	58,286	48,595	243,040

[A] Includes \$21,846 million that originated from the UK.

[B] Includes \$21,974 million located in the UK.

2020					
					\$ million
	Europe	Asia, Oceania, Africa	USA	Other Americas	Total
Third-party revenue, by origin	50,138 [A]	65,139	50,856	14,410	180,543
Goodwill, other intangible assets, property, plant and equipment, joint ventures and associates at December 31	38,785 [B]	103,191	62,976	49,909	254,861

[A] Includes \$12,958 million that originated from the UK.

[B] Includes \$23,302 million located in the UK.

9. Interest and other income

			\$ million
	2022	2021	2020
Interest income	1,046	511	679
Dividend income (from investments in equity securities)	216	91	22
Net gains on sale and revaluation of non-current assets and businesses	642	5,995	286
Net foreign exchange (losses)/gains on financing activities	(340)	118	(391)
Other	(649)	341	273
Total	915	7,056	869

In 2022, "Other" includes the full write-down of the Nord Stream 2 loan amounting to \$1,126 million. (See Note 6). The remaining income in "Other" mainly relates to amounts recognised in respect of sublease income from partners in joint operations (2022: \$319 million, 2021: \$313 million, 2020: \$426 million).

In 2021, "Net gains on sale of non-current assets and businesses" arose mainly in respect of gains on the sale of Integrated Gas assets in Australia and Norway, and Upstream assets in the USA and Nigeria.

Notes to the Consolidated Financial Statements continued

10. Interest expense

	2022	2021	2020
Interest incurred and similar charges	1,971	2,086	2,174
Interest expense related to leases	1,724	1,987	2,185
Less: interest capitalised	(950)	(917)	(799)
Other net (gains)/losses on fair value and cash flow hedges of debt	(71)	1	32
Accretion expense	507	450	497
Total	3,181	3,607	4,089

The rate applied in determining the amount of interest capitalised in 2022 was 4.0% (2021: 4.0%; 2020: 4.5%).

11. Goodwill and other intangible assets

2022

	Other intangible assets				Total
	Goodwill	LNG off-take and sales contracts	Environmental certificates	Other	
Cost					
At January 1	16,117	9,833	2,747	6,679	19,259
Additions	1,954	—	2,338	1,263	3,601
Sales, retirements and other movements [A]	(351)	—	(2,749)	459 [C]	(2,290)
Currency translation differences	(163)	—	(135)	(243)	(378)
At December 31	17,557	9,833	2,201	8,158	20,192
Depreciation, depletion and amortisation, including impairments					
At January 1	1,197	5,267	—	4,219	9,486
Charge for the year [B]	360	793	—	532	1,325
Sales, retirements and other movements [A]	—	—	—	(137)	(137)
Currency translation differences	(39)	—	—	(144)	(144)
At December 31	1,518	6,060	—	4,470	10,530
Carrying amount at December 31	16,039	3,773	2,201	3,688 [D]	9,662

[A] Includes the reclassification to assets classified as held for sale. (See Note 18).

[B] Includes impairments as presented in Note 12.

[C] Includes the reclassification from goodwill following the completion of a purchase price allocation in Renewables and Energy Solutions.

[D] Includes other intangible assets from acquisitions, power purchase agreements, retail customer relationships, trademarks and \$583 million related to software.

Notes to the Consolidated Financial Statements continued

11. Goodwill and other intangible assets continued

2021

	Other intangible assets				Total
	Goodwill	LNG off-take and sales contracts	Environmental certificates	Other	
Cost					
At January 1	15,101	10,030	1,013	6,914	17,957
Additions	1,546	—	3,147	527	3,674
Sales, retirements and other movements [A]	(464)	(197)	(1,371)	(607)	(2,175)
Currency translation differences	(66)	—	(42)	(155)	(197)
At December 31	16,117	9,833	2,747	6,679	19,259
Depreciation, depletion and amortisation, including impairments					
At January 1	1,062	4,668		4,618	9,286
Charge for the year [B]	167	796		368	1,164
Sales, retirements and other movements [A]	(23)	(197)		(670)	(867)
Currency translation differences	(9)	—		(97)	(97)
At December 31	1,197	5,267		4,219	9,486
Carrying amount at December 31	14,920	4,566	2,747	2,460 [C]	9,773

[A] Includes the reclassification to assets classified as held for sale. (See Note 18).

[B] Includes impairment as presented in Note 12.

[C] Includes \$456 million related to software.

Goodwill at December 31, 2022, related principally to the acquisition of BG Group plc in 2016, allocated to Integrated Gas (\$4,945 million) and Upstream (\$5,294 million) at the operating segment level, and to Pennzoil-Quaker State Company (\$1,714 million), a lubricants business in the Chemicals and Products segment based largely in North America.

Additions to goodwill in 2022 mainly related to goodwill recognised from acquisitions in Marketing (\$1,178 million) and Renewables and Energy Solutions (\$775 million).

12. Property, plant and equipment

2022 [A]

	Exploration and production				Manufacturing, supply and distribution	Other	Total
	Exploration and evaluation	Production					
			\$ million				
Cost							
At January 1	12,679	285,903	104,182	34,005		436,769	
Additions	1,564	11,954	6,928	7,808		28,254	
Sales, retirements and other movements [B]	(2,469)	(14,541)	(2,548)	(242)		(19,800)	
Currency translation differences	(209)	(6,300)	(1,777)	(1,976)		(10,262)	
At December 31	11,565	277,016	106,785	39,595		434,961	
Depreciation, depletion and amortisation, including impairments							
At January 1	5,580	167,530	55,131	13,596		241,837	
Charge for the year [C]	397	9,709	5,149	2,055		17,310	
Sales, retirements and other movements [B]	(765)	(13,207)	(2,054)	(396)		(16,422)	
Currency translation differences	(50)	(4,370)	(1,325)	(661)		(6,406)	
At December 31	5,162	159,662	56,901	14,594		236,319	
Carrying amount at December 31	6,403	117,354	49,884	25,001		198,642	

[A] Includes right-of-use assets under leases. (See Note 21).

[B] Includes the reclassification to assets classified as held for sale. (See Note 18).

[C] Includes \$6,177 million relating to impairment reversals mainly in Integrated Gas and Upstream (see table 'Impairments' below).

Notes to the Consolidated Financial Statements continued

12. Property, plant and equipment continued

2021 [A]

\$ million

	Exploration and production		Manufacturing, supply and distribution	Other	Total
	Exploration and evaluation	Production			
Cost					
At January 1	14,484	298,882	107,876	32,402	453,644
Additions	1,216	8,942	7,917	3,644	21,719
Sales, retirements and other movements [B]	(3,014)	(20,005)	(9,607)	(455)	(33,081)
Currency translation differences	(7)	(1,916)	(2,004)	(1,586)	(5,513)
At December 31	12,679	285,903	104,182	34,005	436,769
Depreciation, depletion and amortisation, including impairments					
At January 1	5,258	167,711	58,242	12,733	243,944
Charge for the year	1,311	15,800	7,112	1,770	25,993
Sales, retirements and other movements [B]	(999)	(14,590)	(8,624)	(240)	(24,453)
Currency translation differences	10	(1,391)	(1,599)	(667)	(3,647)
At December 31	5,580	167,530	55,131	13,596	241,837
Carrying amount at December 31	7,099	118,373	49,051	20,409	194,932

[A] Includes right-of-use assets under leases. (See Note 21).

[B] Includes the reclassification to assets classified as held for sale. (See Note 18).

Additions in 2022 included an acquisition of an interest in an oil field in South America within Upstream, an acquisition of a renewable energy platform in Asia within Renewables and Energy Solutions and an acquisition of certain fuel and convenience retail sites in North America within Marketing.

The carrying amount of property, plant and equipment at December 31, 2022, included \$27,277 million (2021: \$37,006 million) of assets under construction. This amount excludes exploration and evaluation assets.

The carrying amount of exploration and production assets at December 31, 2022, included rights and concessions in respect of proved and unproved properties of \$7,662 million (2021: \$8,849 million). Exploration and evaluation assets principally comprise rights and concessions in respect of unproved properties and capitalised exploration drilling costs.

Approaches applied to determine an alternative reserves base for the purpose of calculating depreciation include management's expectations of the future oil and gas prices rather than yearly average prices and using total proved reserves to provide a phasing of periodic depreciation charges that more appropriately reflects the expected utilisation of the assets concerned. (See Note 2)

At December 31, 2022, there were no assets for which management's expectations of the future oil and gas prices were applied rather than yearly average prices (carrying amount of such assets at December 31, 2021: \$1,634 million). If no alternative reserves base had been used for those assets, the pre-tax depreciation charge for the years ended December 31, 2021, and December 31, 2020, would have been respectively \$1,184 million and \$1,012 million higher.

The carrying amount of assets at December 31, 2022, for which total proved reserves were applied rather than total proved developed reserves for the calculation of depreciation, was \$26,129 million (2021: \$17,462 million). If no alternative reserves base had been used for those assets, the pre-tax depreciation charge for the year ended December 31, 2022, would have been \$792 million higher (2021: \$1,168 million, 2020: \$2,476 million).

Contractual commitments for the purchase and lease of property, plant and equipment at December 31, 2022, amounted to \$6,693 million (2021: \$5,984 million).

Notes to the Consolidated Financial Statements continued

12. Property, plant and equipment continued

Impairments	\$ million		
	2022	2021	2020
Impairment losses			
Exploration and production	868	1,533	20,155
Manufacturing, supply and distribution	474	2,340	6,490
Other	457	21	31
Total [A]	1,799	3,894	26,676
Impairment reversals			
Exploration and production	5,954	213	—
Manufacturing, supply and distribution	72	—	—
Other	151	1	—
Total [A]	6,177	214	—

[A] See Note 8.

Impairment losses in 2022 mainly related to the withdrawal from Russia (\$854 million, see Note 6), the classification of an Upstream asset as held for sale (\$320 million) and an impairment of capital expenditure additions in fully impaired sites in Chemicals and Products (\$257 million).

The recognition of impairment reversals in 2022 resulted from the reversals of impairment losses recognised previously. These were mainly triggered by the revision of Shell's mid- and long-term commodity price assumptions reflecting the current energy market demand and supply fundamentals. They are related to: i) Integrated Gas for \$3,449 million, mainly relating to the Queensland Curtis LNG asset; and ii) Upstream for \$2,504 million, mainly related to two offshore projects in Brazil and an asset in the US Gulf of Mexico.

Impairment losses in 2021 were predominantly triggered by the reclassifications to assets held for sale, or portfolio developments. They were mainly related to three refineries in the USA within Chemicals and Products impaired on classification as held for sale (\$1,537 million), and exploration and evaluation assets both within Integrated Gas (\$600 million) and Upstream (\$373 million).

Impairment losses in 2020 were mainly triggered by Shell's revision of the mid- and long-term commodity price and refining margin outlook reflecting the expected effects of the macroeconomic environment and the COVID-19 pandemic as well as energy market demand and supply fundamentals. The impairment losses for exploration and production assets related primarily to Integrated Gas (\$11,539 million), including the Queensland Curtis LNG and Prelude floating LNG operations, and Upstream (\$8,629 million), including assets in the Gulf of Mexico, unconventional assets in North America, offshore assets in Brazil and Europe and a project in Nigeria (OPL 245). The impairment losses for manufacturing, supply and distribution related primarily to Chemicals and Products (\$6,493 million), including assets in Europe and the shutdown of the Convent oil products manufacturing facility in the USA.

For impairment testing purposes, the respective carrying amounts of property, plant and equipment and intangible assets were compared with their value in use. Cash flow projections used in the determination of value in use were made using management's forecasts of commodity prices, market supply and demand, potential costs associated with operational GHG emissions, product margins including forecast refining margins and expected production volumes (see Note 2).

The discount rate is based on a nominal post-tax weighted average cost of capital (WACC) of 5% (2021: 5%) for Power activities and a nominal post-tax WACC of 6.5% (2021: 6.5%) for all other businesses. Prior to 2021 the rate used by Shell was 6% for all activities and was based on a pre-tax discount rate reflecting the marginal cost of debt, current market assessments of the time value of money and residual risk. The change in 2021 in the discount rate to a nominal post-tax WACC has been reflected in a commensurate manner in the risk adjustments to post-tax cash flow projections. The impact of the change in the 2021 impairment valuation technique was not material compared with the previous impairment valuation technique. The pre-tax discount rate used for goodwill testing ranged between 5-12% (2021: 7-11%), see Note 11.

Oil and gas price assumptions applied for impairment testing are reviewed and, where necessary, adjusted on a periodic basis. Reviews include comparison with available market data and forecasts that reflect developments in demand such as global economic growth, technology efficiency, policy measures and, in supply, consideration of investment and resource potential, cost of development of new supply, and behaviour of major resource holders. The near-term commodity price assumptions applied in impairment testing in 2022 were as follows:

Notes to the Consolidated Financial Statements continued

12. Property, plant and equipment continued

Commodity price assumptions [A]

2022	2023	2024	2025	2026
Brent crude oil (\$/b)	80	70	70	71
Henry Hub natural gas (\$/MMBtu)	4.00	3.50	3.50	3.98
2021	2022	2023	2024	2025
Brent crude oil (\$/b)	60	60	60	63
Henry Hub natural gas (\$/MMBtu)	2.75	2.75	2.75	3.00

[A] Money of the day.

For periods after 2026, the real-terms price assumptions applied were: \$65 per barrel (/b) (2021: \$60/b) for Brent crude oil, \$4.00 per million British thermal units (/MMBtu) (2021: \$3.00/MMBtu) for Henry Hub natural gas.

The main sensitivities in relation to impairment are the commodity price assumptions in Integrated Gas and Upstream, refining margins in Chemicals and Products and discount rates in all segments. A change of -10% or +10% in the commodity price assumptions over the entire cash flow projection period would ceteris paribus result in some \$2-5 billion impairment or some \$2-4 billion impairment reversal, respectively, in Integrated Gas and Upstream. Refining margins included in the Operating Plan are at an average of \$6.22/bbl. A change of -\$1/bbl or

+\$1/bbl long-term refining margins over the entire cash flow projection period would ceteris paribus result in some \$1-3 billion impairment or some \$1-3 billion impairment reversal, respectively, in Chemicals and Products. A change of +1% in the discount factor would ceteris paribus result in some \$1-3 billion impairment in Integrated Gas, up to \$1 billion impairment in each of the following segments: Upstream, Chemicals and Products and Renewables and Energy Solutions, and would have no significant impact on Marketing and Corporate.

Capitalised exploration drilling costs

	2022	2021	2020
At January 1	3,015	3,654	5,668
Additions pending determination of proved reserves	1,298	1,024	1,016
Amounts charged to expense	(881)	(639)	(815)
Reclassifications to productive wells on determination of proved reserves	(531)	(577)	(1,385)
Other movements	10	(447)	(830)
At December 31	2,911	3,015	3,654

	Projects		Wells	
	Number	\$ million	Number	\$ million
Between 1 and 5 years	11	819	24	549
Between 6 and 10 years	9	797	32	848
Between 11 and 15 years	1	3	10	210
Between 16 and 20 years	4	193	11	205
Total	25	1,812	77	1,812

Exploration drilling costs capitalised for periods greater than one year at December 31, 2022, analysed according to the most recent year of activity, are presented in the table above. These comprise \$443 million relating to six projects where drilling activities were under way or firmly planned for the future, and \$1,369 million relating to 19 projects awaiting development concepts.

Notes to the Consolidated Financial Statements continued

13. Joint ventures and associates

Shell share of comprehensive income of joint ventures and associates

	2022			2021			\$ million 2020		
	Joint ventures	Associates	Total [A]	Joint ventures	Associates	Total	Joint ventures	Associates	Total
Income for the period	2,589	1,383 [A]	3,972 [A]	1,955	2,142	4,097	629	1,154	1,783
Other comprehensive income/(loss) for the period	21	—	21	(106)	—	(106)	76	1	77
Comprehensive income for the period	2,610	1,383	3,993	1,849	2,142	3,991	705	1,155	1,860

[A] Includes an impairment charge of \$1,614 million related to Sakhalin-2. (See Note 6).

Carrying amount of interests in joint ventures and associates

	Dec 31, 2022			\$ million Dec 31, 2021		
	Joint ventures	Associates	Total	Joint ventures	Associates	Total
Net assets	17,056	6,808	23,864	15,767	7,648	23,415

Transactions with joint ventures and associates

	2022 [A]		2021 [A]		\$ million 2020
	2022 [A]	2021 [A]	2022 [A]	2021 [A]	2020
Sales and charges to joint ventures and associates	12,230	8,509	12,230	8,509	5,426
Purchases and charges from joint ventures and associates	22,286	13,584	22,286	13,584	8,262

[A] Includes 29% (2021: 26%) of sales and 16% (2021: 16%) purchases in transactions with one joint venture operating in the oil trading business.

These transactions principally comprise sales and purchases of goods and services in the ordinary course of business. Related balances outstanding at December 31, 2022, and 2021, are presented in Notes 15 and 19.

Other arrangements in respect of joint ventures and associates

	\$ million	
	Dec 31, 2022	Dec 31, 2021
Commitments to make purchases from joint ventures and associates [A]	1,234	1,437
Commitments to provide debt or equity funding to joint ventures and associates	567	533

[A] Commitments to make purchases from joint ventures and associates mainly relate to contracts associated with LNG processing fees and transportation capacity. Shell has other purchase obligations related to joint ventures and associates that are not fixed or determinable and are principally intended to be resold in a short period of time through sales agreements with third parties. These include long-term LNG and natural gas purchase commitments and commitments to purchase refined products or crude oil at market prices. Shell has stopped all spot purchases of Russian crude, LNG, and of cargoes of refined products directly exported from Russia. (See Note 6).

Notes to the Consolidated Financial Statements continued

14. Investments in securities

Investments in securities

	\$ million	
	Dec 31, 2022	Dec 31, 2021
Equity securities:	1,533	1,710
Equity securities at fair value through other comprehensive income	1,533	1,710
Debt securities:	1,829	2,087
Debt securities at amortised cost	21	4
Debt securities at fair value through other comprehensive income	1,308	1,306
Debt securities at fair value through profit or loss	500	777
Total	3,362	3,797
At fair value		
Measured by reference to prices in active markets for identical assets	1,884	1,909
Measured by reference to other observable inputs	158	177
Measured using predominantly unobservable inputs	1,299	1,707
Total	3,341	3,793
At cost	21	4
Total	3,362	3,797

As at December 31, 2022, investments included equity securities comprising interests in which Shell has no significant influence, debt securities principally comprising a portfolio required to be held by the Company's internal insurance entities as security for their activities, and assets held in escrow in relation to the Group's UK pension arrangements.

Investments in securities measured using predominantly unobservable inputs [A]

	\$ million	
	2022	2021
At January 1	1,707	1,505
(Losses)/gains recognised in other comprehensive income	(206)	44
Purchases	142	299
Sales	(37)	(17)
Other movements	(307)	(124)
At December 31	1,299	1,707

[A] Based on expected dividend flows, adjusted for country and other risks as appropriate and discounted to their present value.

"Other movements" in 2022 includes a reclassification to property, plant and equipment, as a result of obtaining title to assets in a project in Asia.

Notes to the Consolidated Financial Statements continued

15. Trade and other receivables

	Dec 31, 2022		\$ million Dec 31, 2021	
	Current	Non-current	Current	Non-current
Trade receivables	39,334	—	34,717	—
Lease receivables	206	1,090	228	1,285
Other receivables	9,737	3,247	8,240	3,761
Amounts due from joint ventures and associates	2,722	423	1,048	499
Prepayments and deferred charges	14,511	2,160	8,975	1,520
Total	66,510	6,920	53,208	7,065

The fair value of financial assets included above approximates the carrying amount and was determined from predominantly unobservable inputs.

Other receivables at December 31, 2022, include receivables from certain governments in their capacity as joint arrangement partners of \$717 million (2021: \$1,225 million), after provisions for impairments, that are overdue in part or in full. Recoverability and timing thereof are subject to uncertainty, however, the ultimate risk of default on the carrying amount is considered to be low. Other receivables at December 31, 2022, also included current income tax receivables of \$363 million (2021: \$550 million) and non-current income tax receivables of \$469 million (2021: \$366 million).

Provisions for impairments deducted from trade and other receivables amounted to \$1,510 million at December 31, 2022 (2021: \$1,497 million).

Allowance for expected credit losses - trade receivables

Shell uses a provision matrix to calculate expected credit losses (ECLs) for trade receivables. The provision matrix is initially based on Shell's historical observed default rates. Shell calculates the ECL to adjust the historical credit loss experienced with forward-looking information.

The ECL at December 31, 2022, is \$214 million (2021: \$155 million), which represents 0.45-0.54% (2021: 0.45-0.51%) of all trade receivables.

A loss allowance provision of \$841 million (2021: \$876 million) was established, in addition to all other impairments to trade receivables as at December 31, 2022, that are outside of the provision matrix calculations.

Lease receivables

Lease contracts where Shell is the lessor are classified as finance leases or operating leases. Receivables for lease contracts classified as finance leases are as follows:

	\$ million	
	Dec 31, 2022	Dec 31, 2021
Less than one year	257	278
Between 1 and 5 years	792	852
5 years and later	532	715
Total undiscounted lease payments receivable	1,581	1,845
Unearned finance income	270	339
Net investment in leases	1,311	1,506

In addition, at December 31, 2022, Shell is entitled to future contractual payments under operating leases of \$389 million (2021: \$431 million).

16. Inventories

	\$ million	
	Dec 31, 2022	Dec 31, 2021
Oil, gas and chemicals	27,823	22,145
Environmental certificates	2,557	1,727
Materials	1,514	1,386
Total	31,894	25,258

Inventories at December 31, 2022, include write-downs to net realisable value of \$2,705 million (2021: \$592 million).

Notes to the Consolidated Financial Statements continued

17. Cash and cash equivalents

	\$ million	
	Dec 31, 2022	Dec 31, 2021
Cash	6,608	5,849
Short-term bank deposits	5,147	4,416
Money market funds, reverse repos and other cash equivalents	28,491	26,705
Total	40,246	36,970

In 2022, cash continued to be invested with an emphasis on capital preservation. Information about credit risk is presented in Note 25. Included in cash and cash equivalents at December 31, 2022, were amounts totalling \$156 million (2021: \$113 million) subject to currency controls or other legal restrictions.

18. Assets held for sale

	Dec 31, 2022			\$ million Dec 31, 2021		
	Current	Non-current	Total	Current	Non-current	Total
Intangible assets	—	—	—	—	116	116
Property, plant and equipment	—	2,526	2,526	—	896	896
Joint ventures and associates	—	94	94	—	—	—
Investments in securities	—	128	128	—	—	—
Trade and other receivables	44	51	95	349	71	420
Inventories	8	—	8	528	—	528
Assets classified as held for sale	52	2,799	2,851	877	1,083	1,960
Debt	3	1	4	257	199	456
Trade and other payables	256	22	278	235	140	375
Deferred tax	—	—	—	—	41	41
Retirement benefits	—	—	—	—	108	108
Decommissioning and other provisions	134	971	1,105	10	219	229
Income taxes payable	8	—	8	44	—	44
Liabilities directly associated with assets classified as held for sale	401	994	1,395	546	707	1,253

At December 31, 2022, assets held for sale mainly related to three Upstream projects. All transactions that resulted in the reclassification of assets held for sale at December 31, 2022, are expected to be completed in 2023.

In 2022, Shell ceased to classify one asset within Chemicals and Products as held for sale as it no longer met the assets-held-for-sale criteria. All other assets classified as held for sale at December 31, 2021, were sold in 2022.

19. Trade and other payables

	Dec 31, 2022		\$ million Dec 31, 2021	
	Current	Non-current	Current	Non-current
Trade payables	42,632	—	34,136	—
Other payables [A]	10,059	3,148	9,617	1,675
Sales taxes, excise duties and similar levies	3,270	—	3,522	—
Amounts due to joint ventures and associates	8,441	31	4,793	36
Accruals and deferred income	14,955	253	11,105	364
Total	79,357	3,432	63,173	2,075

[A] Includes obligations under environmental compliance schemes of \$4,710 million as at December 31, 2022 (2021: \$4,016 million). (See Note 5).

The fair value of financial liabilities included above approximates the carrying amount and was determined from predominantly unobservable inputs.

Other payables include amounts due to joint arrangement partners and in respect of other project-related items.

Information about offsetting, collateral and liquidity risk is presented in Note 25.

Notes to the Consolidated Financial Statements continued

20. Debt

Debt

	Dec 31, 2022			\$ million Dec 31, 2021		
	Debt (excluding lease liabilities)	Lease liabilities [A]	Total	Debt (excluding lease liabilities)	Lease liabilities [A]	Total
Current debt:	4,620	4,381	9,001	4,080	4,138	8,218
Short-term debt	1,026	—	1,026	515	—	515
Long-term debt due within 1 year	3,594	4,381	7,975	3,565	4,138	7,703
Non-current debt	51,532	23,262	74,794	57,499	23,369	80,868
Total	56,152	27,643	83,795	61,579	27,507	89,086

[A] Further analysis of lease liabilities is provided in Note 21.

Net debt

	\$ million (Asset)/liability				
	Current debt	Non-current debt	Derivative financial instruments	Cash and cash equivalents (see Note 17)	Net debt
At January 1, 2022	8,218	80,868	440	(36,970)	52,556
Cash flow	(7,618)	(254)	(1,799)	(4,012)	(13,683)
Lease additions [A]	1,111	4,077	—	—	5,188
Other movements	7,560	(7,883)	1,393	—	1,070
Currency translation differences and foreign exchange (gains)/losses	(270)	(2,014)	1,254	736	(294)
At December 31, 2022	9,001	74,794	1,288	(40,246)	44,837
At January 1, 2021	16,899	91,115	(798)	(31,830)	75,386
Cash flow	(17,887)	(1,842) [B]	(1,165)	(5,679)	(26,573)
Lease additions [A]	899	2,889	—	—	3,788
Other movements	8,655	(9,034)	688	—	309
Currency translation differences and foreign exchange (gains)/losses	(348)	(2,260)	1,715	539	(354)
At December 31, 2021	8,218	80,868	440	(36,970)	52,556

[A] Further analysis of lease liabilities is provided in Note 21.

[B] Includes \$3,500 million of early repayment of non-current debt.

Borrowing facilities and amounts undrawn

	Facility		\$ million Amount undrawn	
	Dec 31, 2022	Dec 31, 2021	Dec 31, 2022	Dec 31, 2021
CP programmes	20,000	20,000	20,000	20,000
EMTN programme	unlimited	unlimited	N/A	N/A
US shelf registration	unlimited	unlimited	N/A	N/A
Committed credit facilities	9,920	9,920	9,920	9,920

Notes to the Consolidated Financial Statements continued

20. Debt continued

Shell has access to international debt capital markets via two commercial paper (CP) programmes, a Euro medium-term note (EMTN) programme and a US universal shelf (US shelf) registration. Issuances under the CP programmes are supported by a committed credit facility and cash.

Under the CP programmes, Shell can issue debt of up to \$10,000 million with maximum maturities ranging between 183 days and 364 days depending on the form of the notes issued; and \$10,000 million with maturities not exceeding 397 days.

The EMTN programme is updated each year, most recently in September 2022. During 2022, no debt was issued under this programme (2021: no debt issued).

The US shelf registration provides Shell with the flexibility to issue debt securities, ordinary shares, preferred shares and warrants. The registration is updated every three years and was last updated in March 2021. During 2022, no debt was issued under the US shelf registration (2021: \$1,500 million).

On December 13, 2019, Shell refinanced its revolving credit facilities (RCF), which are linked to the Secured Overnight Financing Rate (SOFR), at pre-agreed margins. In December 2022, Shell renewed the short-dated tranche of the facility of \$1,920 million to expire in 2023 (2021: expiring in 2022) with two further one year bank extension options, that would take final maturity to 2025. The additional RCF tranches are: \$320 million expiring in 2025 (2021: expiring in 2025) and \$7,680 million expiring in 2026 (2021: expiring in 2026), a total RCF of \$9,920 million. The terms and availability are not conditional on Shell's financial ratios nor its financial credit ratings. The interest and fees paid on these facilities are linked to Shell's progress towards reaching its short-term Net Carbon Footprint intensity target.

The following tables compare contractual cash flows for debt excluding lease liabilities at December 31 with the carrying amount in the Consolidated Balance Sheet. Contractual amounts reflect the effects of changes in foreign exchange rates; differences from carrying amounts reflect the effects of discounting, premiums and, where fair value hedge accounting is applied, fair value adjustments. Interest is estimated assuming interest rates applicable to variable-rate debt remain constant and there is no change in aggregate principal amounts of debt other than repayment at scheduled maturity, as reflected in the table.

2022

	Contractual payments							Difference from carrying amount	Carrying amount
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later	Total		
Bonds	3,365	4,184	6,054	3,817	2,400	35,005	54,825	(1,210)	53,615
Bank and other borrowings	1,229	335	64	156	63	704	2,551	(14)	2,537
Total (excluding interest)	4,594	4,519	6,118	3,973	2,463	35,709	57,376	(1,224)	56,152
Interest	1,669	1,574	1,463	1,314	1,233	14,757	22,010		

2021

	Contractual payments							Difference from carrying amount	Carrying amount
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later	Total		
Bonds	3,423	3,376	4,362	6,310	3,882	38,327	59,680	578	60,258
Bank and other borrowings	646	452	36	9	143	35	1,321	—	1,321
Total (excluding interest)	4,069	3,828	4,398	6,319	4,025	38,362	61,001	578	61,579
Interest	1,637	1,587	1,524	1,416	1,268	15,642	23,074		

Interest rate swaps have been entered into against certain fixed rate debt affecting the effective interest rate on these balances (see Note 25).

The fair value of debt excluding lease liabilities at December 31, 2022, was \$51,959 million (2021: \$67,066 million), mainly determined from the prices quoted for those securities.

Notes to the Consolidated Financial Statements continued

21. Leases

Shell has lease contracts in Integrated Gas and Upstream, principally for floating production storage and offloading units, subsea equipment, drilling and ancillary equipment, service vessels, LNG vessels and land and buildings; in Marketing, principally for land and retail sites; in Chemicals and Products, principally for plant pipeline and machinery, tankers and storage capacity; in Renewables and Energy Solutions, principally for power generation, storage capacity and land; and in Corporate, principally for land and buildings. Shell's obligations under its leases are secured on the leased assets.

Right-of-use assets

Right-of-use assets are included in property, plant and equipment for the following amounts:

2022

	\$ million				
	Exploration and production		Manufacturing, supply and distribution	Other [B]	Total
	Exploration and evaluation	Production			
Cost					
At January 1	5	14,322	15,748	8,031	38,106
Additions	—	1,088	2,305	2,111	5,504
Sales, retirements and other movements [A]	(5)	(569)	(1,530)	319	(1,785)
Currency translation differences	—	(166)	(60)	(562)	(788)
At December 31	—	14,675	16,463	9,899	41,037
Depreciation, depletion and amortisation, including impairments					
At January 1	—	7,935	5,946	2,273	16,154
Charge for the year	—	1,182	2,223	797	4,202
Sales, retirements and other movements [A]	—	(751)	(1,444)	23	(2,172)
Currency translation differences	—	(91)	(30)	(143)	(264)
At December 31	—	8,275	6,695	2,950	17,920
Carrying amount at December 31	—	6,400	9,768	6,949	23,117

[A] Includes the reclassification of right-of-use assets to assets held for sale. (See Note 18).

[B] "Other" mainly includes lease contracts for retail sites, land and buildings in Marketing, Renewables and Energy Solutions and Corporate.

2021

	\$ million				
	Exploration and production		Manufacturing, supply and distribution	Other [A]	Total
	Exploration and evaluation	Production			
Cost					
At January 1	5	14,440	14,526	7,384	36,355
Additions	—	311	2,149	1,420	3,880
Sales, retirements and other movements	—	(365)	(868)	(259)	(1,492)
Currency translation differences	—	(64)	(59)	(514)	(637)
At December 31	5	14,322	15,748	8,031	38,106
Depreciation, depletion and amortisation, including impairments					
At January 1	—	6,997	5,013	1,793	13,803
Charge for the year	—	1,373	2,060	783	4,216
Sales, retirements and other movements	—	(400)	(1,093)	(157)	(1,650)
Currency translation differences	—	(35)	(34)	(146)	(215)
At December 31	—	7,935	5,946	2,273	16,154
Carrying amount at December 31	5	6,387	9,802	5,758	21,952

[A] Includes the reclassification of right-of-use assets to assets held for sale. (See Note 18).

[B] "Other" mainly includes lease contracts for retail sites, land and buildings in Marketing, Renewables and Energy Solutions and Corporate.

Notes to the Consolidated Financial Statements continued

21. Leases continued

Lease arrangements

Lease liabilities are secured on the leased assets.

Shell also has certain lease contracts of items with lease terms of 12 months or less. For these lease contracts, Shell applies the "short-term lease" recognition exemption. Lease expenses not included in the measurement of lease liability are:

Lease expenses not included in the measurement of lease liability

	2022	2021
		\$ million
Expense relating to short-term leases	552	644
Expense relating to variable lease payments	1,251	1,172

The total cash outflow in respect of leases representing repayment of principal and payment of interest in 2022 was \$6,280 million (2021: \$6,777 million), recognised in the Consolidated Statement of Cash Flows within Cash flows from financing activities.

The future lease payments under lease contracts and the carrying amounts at December 31, by payment date are as follows:

2022

	Contractual lease payments	Interest	\$ million Lease liabilities
Less than 1 year	5,914	1,533	4,381
Between 1 and 5 years	15,624	4,655	10,969
5 years and later	17,935	5,642	12,293
Total	39,473 [A]	11,830	27,643

[A] Future cash outflows in respect of leases may differ from lease liabilities recognised due to future decisions that may be taken by Shell in respect of the use of leased assets. These decisions may result in variable lease payments being made. In addition, Shell may reconsider whether it will exercise extension options or termination options, where future reconsideration is not reflected in the lease liabilities. There is no exposure to these potential additional payments in excess of the recognised lease liabilities until these decisions have been taken by Shell.

2021

	Contractual lease payments	Interest	\$ million Lease liabilities
Less than 1 year	5,805	1,667	4,138
Between 1 and 5 years	15,889	4,972	10,917
5 years and later	18,309	5,857	12,452
Total	40,003	12,496	27,507

Notes to the Consolidated Financial Statements continued

22. Taxation

Taxation charge	\$ million		
	2022	2021	2020
Current tax:			
Charge in respect of current period	16,383	7,254	3,272
Adjustments in respect of prior periods	(947)	(719)	(56)
Total	15,436	6,535	3,216
Deferred tax:			
Relating to the origination and reversal of temporary differences, tax losses and credits	5,196	2,971	(9,063)
Relating to changes in tax rates and legislation	785	10	(16)
Adjustments in respect of prior periods	524	(317)	430
Total	6,505	2,664	(8,649)
Total taxation charge/(credit)	21,941	9,199	(5,433)

Adjustments in respect of prior periods relate to events in the current period and reflect the effects of changes in rules, facts or other factors compared with those used in establishing the current tax position or deferred tax balance in prior periods. In 2022, this included a release of a tax provision in Nigeria of \$543 million (2021: \$628 million).

Adjustments in respect of changes in tax rates and legislation principally relate to the introduction of the UK Energy Profits Levy Act 2022 (EPL) on July 14, 2022.

Current tax charge in respect of current period includes the European Union (EU) "Council Regulation on an emergency intervention to address high energy prices" (EU solidarity contribution). This resulted in a charge of \$528 million recognised in the taxation charge and \$940 million recognised in the Shell share of comprehensive income of joint ventures and associates (see Note 13).

On August 16, 2022, the Inflation Reduction Act (IRA) was enacted in the USA. As from 2023, under the IRA a Corporate Minimum Tax on Book Earnings (BMT) applies a 15% tax on adjusted financial statement income. The enactment of the IRA had no impact in 2022.

Reconciliation of applicable tax charge at statutory tax rates to taxation charge	\$ million		
	2022	2021	2020
Income/(loss) before taxation	64,815	29,829	(26,967)
Less: share of profit of joint ventures and associates	(3,972)	(4,097)	(1,783)
Income/(loss) before taxation and share of profit of joint ventures and associates	60,843	25,732	(28,750)
Applicable tax charge/(credit) at standard statutory tax rates	22,170	10,097	(8,330)
Adjustments in respect of prior periods	(424)	(1,036)	374
Tax effects of:			
Incentives for investment and development	(1,388)	(467)	(557)
Expenses not deductible for tax purposes	849	893	1,239
Changes in tax rates and legislation	785	10	(16)
(Recognition)/derecognition of deferred tax assets	(457)	(113)	1,458
Income not subject to tax at standard statutory rates	234	90	6
Exchange rate differences	(102)	53	339
Disposals	39	(328)	(34)
Other reconciling items	235	—	88
Taxation charge/(credit)	21,941	9,199	(5,433)

Tax rates			
	2022	2021	2020
Weighted average of statutory tax rates	36%	39%	29%
Effective tax rate based on income before taxation	34%	31%	20%
Effective tax rate based on Income before taxation excluding share of profit of joint ventures and associates	36%	36%	19%

Notes to the Consolidated Financial Statements continued

22. Taxation continued

Compared with 2021, the decrease in the weighted average of statutory tax rates reflects a lower proportion of earnings in the Upstream segment subject to relatively higher tax rates.

2022 – Deferred tax

	\$ million					
	Decommissioning and other provisions	Property, plant and equipment	Tax losses and credits carried forward	Retirement benefits	Other	Total
Deferred tax asset						
At January 1, 2022	6,562	4,993	10,518	2,744	4,545	29,362
(Charge)/credit to income	(217)	(1,261)	(3,434)	(66)	160	(4,818)
Currency translation differences	(303)	(63)	(426)	(40)	(109)	(941)
Other comprehensive income	—	—	18	(618)	70	(530)
Other	7	621	(230)	(43)	161	516
At December 31, 2022	6,049	4,290	6,446	1,977	4,827	23,589
Deferred tax liability						
At January 1, 2022		(23,144)		(2,736)	(3,603)	(29,483)
(Charge)/credit to income		(1,503)		93	(277)	(1,687)
Currency translation differences		380		287	170	837
Other comprehensive income		4		(870)	18	(848)
Other		(555)		37	(261)	(779)
At December 31, 2022		(24,818)		(3,189)	(3,953)	(31,960)
Net deferred tax liability at December 31, 2022						(8,371)
Deferred tax asset/liability as presented in the balance sheet at December 31, 2022						
Deferred tax asset						7,815
Deferred tax liability						(16,186)

2021 – Deferred tax

	\$ million					
	Decommissioning and other provisions	Property, plant and equipment	Tax losses and credits carried forward	Retirement benefits	Other	Total
Deferred tax asset						
At January 1, 2021	6,567	5,232	12,496	3,774	5,084	33,153
(Charge)/credit to income	63	(163)	(1,669)	(537)	(395)	(2,701)
Currency translation differences	(64)	(75)	(252)	(72)	(46)	(509)
Other comprehensive income	(3)	—	64	(435)	(74)	(448)
Other	(1)	(1)	(121)	14	(24)	(133)
At December 31, 2021	6,562	4,993	10,518	2,744	4,545	29,362
Deferred tax liability						
At January 1, 2021		(23,801)		(673)	(2,831)	(27,305)
Credit/(charge) to income		566		319	(848)	37
Currency translation differences		71		114	48	233
Other comprehensive income		(18)		(2,481)	4	(2,495)
Other		38		(15)	24	47
At December 31, 2021		(23,144)		(2,736)	(3,603)	(29,483)
Net deferred tax asset at December 31, 2021						(121)
Deferred tax asset/liability as presented in the balance sheet at December 31, 2021						
Deferred tax asset						12,426
Deferred tax liability						(12,547)

The presentation in the balance sheet takes into consideration the offsetting of deferred tax assets and deferred tax liabilities within the same tax jurisdiction, where this is permitted. The overall deferred tax position in a particular tax jurisdiction determines if a deferred tax balance related to that jurisdiction is presented within deferred tax assets or deferred tax liabilities.

Notes to the Consolidated Financial Statements continued

22. Taxation continued

Other movements in deferred tax assets and liabilities principally related to acquisitions, sales of non-current assets and businesses.

The deferred tax category "Other" primarily includes deferred tax positions in respect of leases, financial assets and liabilities, inventories, intangible assets other goodwill and investments in subsidiaries, joint ventures and associates.

The deferred tax category "Plant, property and equipment" includes deferred tax positions in respect of tangible fixed assets and investments in partnerships in the USA which are considered pass-through entities by its parent for tax purposes.

Deferred tax assets of \$7,815 million (2021: \$12,426 million) are recognised only to the extent it is considered probable that those assets will be recoverable. This involves an assessment of when those assets are likely to be recovered, and a judgement as to whether or not there will be sufficient taxable profits available to offset the assets. It is considered probable based on business forecasts that such taxable profits will be available. For Marketing as well as Chemicals and Products, additional judgement is required; in some jurisdictions the assessment of forecasted taxable profits resulting in deferred tax asset recognition of \$382 million (2021: \$854 million) extends for an additional 10 years beyond Shell's regular 10-year planning horizon. In those situations, additional risking has been applied to the forecast of taxable profits. For Integrated Gas and Upstream, deferred tax assets recognised are expected to be recovered within the period of production of each asset. For deferred tax assets of \$303 million (2021: \$711 million) as at December 31, 2022, this period extends beyond 10 years.

The amount of deferred tax assets which are dependent on future taxable profits not arising from the reversal of existing deferred tax liabilities, and which relate to tax jurisdictions where Shell has suffered a loss in the current or preceding year, was \$4,202 million at December 31, 2022 (2021: \$10,195 million). The decrease compared with 2021 is primarily attributable to the utilisation of deferred tax assets in 2022 and a higher number of entities which have generated profit in both the current and preceding year.

Unrecognised taxable temporary differences associated with undistributed retained earnings of investments in subsidiaries, joint ventures and associates amounted to \$5,521 million at December 31, 2022 (2021: \$5,680 million). These retained earnings are subject to withholding tax upon distribution.

Unrecognised deductible temporary differences, unused tax losses and credits carried forward amounted to \$32,491 million at December 31, 2022 (2021: \$37,410 million), including amounts of \$28,199 million (2021: \$31,349 million) that are subject to time limits for utilisation of five years or later, or are not time limited.

Furthermore, there are unrecognised losses for Petroleum Resource Rent Tax (PRRT) in Australia which due to the annual augmentation increased to \$43,832 million as at the end of the most recent PRRT fiscal year, June 30, 2022 (June 30, 2021: \$42,511 million).

23. Retirement benefits

Retirement benefits are provided in most of the countries where Shell has operational activities. Shell offers these benefits through funded and unfunded defined benefit plans and defined contribution plans. The most significant pension plans are in the Netherlands, UK and USA.

Other post-employment benefits (OPEB) comprising retirement health care and life insurance are also provided in certain countries. The most significant OPEB plan is in the USA.

Financial position

	Dec 31, 2022	\$ million Dec 31, 2021
Obligations	(73,481)	(107,336)
Plan assets	76,756	104,495
Asset ceilings	(371)	(13)
Surplus/(deficit)	2,904	(2,854)
Retirement benefits in the Consolidated Balance Sheet:		
Non-current assets	10,200	8,471
Non-current liabilities:	(7,296)	(11,325)
Non-current liabilities - Pensions	(4,417)	(6,458)
Non-current liabilities - OPEB	(2,879)	(4,867)
Total	2,904	(2,854)

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued

Retirement benefit expense

	2022	2021	\$ million 2020
Defined benefit plans:			
Current service cost, net of plan participants' contributions	1,100	1,385	1,359
Interest expense on defined pension benefit obligations	1,584	1,223	1,683
Interest income on plan assets	(1,732)	(1,160)	(1,657)
Interest expense on OPEB obligations	120	128	145
Current OPEB service cost	57	60	72
Other [A]	246	(343)	(174)
Total	1,375	1,293	1,428
Defined contribution plans	420	403	423
Total retirement benefit expense	1,795	1,696	1,851

[A] Mainly related to plan amendments and curtailments on pension and OPEB plans.

Retirement benefit expenses are presented principally within production and manufacturing expenses and selling, distribution and administrative expenses in the Consolidated Statement of Income. Interest income on plan assets is calculated using the same rate as that applied to the related defined benefit obligations for each plan to determine interest expense.

Remeasurements

	2022	2021	\$ million 2020
Actuarial gains/(losses) on obligations:			
Due to changes in financial assumptions on pensions [A]	28,840	1,915	(9,500)
Due to changes in financial assumptions on OPEB [A]	527	59	(650)
Due to experience adjustments on pensions [B]	(2,956)	136	616
Due to experience adjustments on OPEB [B] [C]	1,480	322	188
Due to changes in demographic assumptions on pensions [D]	27	(320)	1,310
Due to changes in demographic assumptions on OPEB [D]	25	(111)	65
Total	27,943	2,001	(7,971)
Return on plan assets (shortage)/in excess of interest income	(20,612)	8,185	4,509
Other movements	(349)	5	7
Total remeasurements	6,982	10,191	(3,455)

[A] Mainly relates to changes in the discount rate and inflation assumptions.

[B] Experience adjustments arise from differences between the actuarial assumptions made in respect of the year and actual outcomes.

[C] Includes \$782 million to reflect the impact of prescription drug rebates.

[D] Mainly relates to updates in mortality assumptions.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued

Defined benefit plan obligations

2022

	Pension benefits				Other post-employment benefits	Total
	The Netherlands	UK	USA	Rest of the world [A]	OPEB [B]	
	\$ million, except where indicated					
At January 1	35,340	29,913	19,003	18,213	4,867	107,336
Current service cost	286	259	282	261	57	1,145
Interest expense	298	489	417	380	120	1,704
Actuarial gains	(8,806)	(9,793)	(3,730)	(3,582)	(2,032)	(27,943)
Benefit payments	(942)	(1,124)	(1,088)	(771)	(178)	(4,103)
Other movements	374	130	(91)	(154)	37	296
Currency translation differences	(1,942)	(2,083)	—	(937)	8	(4,954)
At December 31	24,608	17,791	14,793	13,410	2,879	73,481
Comprising:						
Funded pension plans	24,608	17,474	13,925	11,258		67,265
Weighted average duration	17 years	15 years	12 years	13 years		15 years
Unfunded pension plans		317	868	2,152		3,337
Weighted average duration		15 years	9 years	12 years		11 years
Unfunded OPEB plans					2,879	2,879
Weighted average duration					14 years	14 years

[A] Includes pension plans in Germany (\$3,477 million) and Canada (\$3,482 million) as the largest pension plans in the rest of the world.

[B] Mainly related to post-retirement medical benefits in the USA.

2021

	Pension benefits				Other post-employment benefits	Total
	The Netherlands	UK	USA	Rest of the world [A]	OPEB [B]	
	\$ million, except where indicated					
At January 1	37,268	32,269	20,367	20,520	5,368	115,792
Current service cost	377	323	339	339	60	1,438
Interest expense	155	376	357	335	128	1,351
Actuarial (gains)/losses	1,477	(1,418)	(695)	(1,095)	(270)	(2,001)
Benefit payments	(979)	(1,306)	(1,220)	(870)	(200)	(4,575)
Other movements	(27)	3	(145)	(167)	(187)	(523)
Currency translation differences	(2,931)	(334)	—	(849)	(32)	(4,146)
At December 31	35,340	29,913	19,003	18,213	4,867	107,336
Comprising:						
Funded pension plans	35,340	29,440	17,874	15,341		97,995
Weighted average duration	19 years	19 years	12 years	17 years		18 years
Unfunded pension plans		473	1,129	2,872		4,474
Weighted average duration		18 years	9 years	14 years		13 years
Unfunded OPEB plans					4,867	4,867
Weighted average duration					14 years	14 years

[A] Includes pension plans in Germany (\$4,988 million) and Canada (\$4,740 million) as the largest pension plans in rest of the world.

[B] Mainly related to post-retirement medical benefits in the USA.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued

Defined benefit plan assets

2022

	\$ million, except where indicated				Total
	Pension benefits				
	The Netherlands	UK	USA	Rest of the world [A]	
At January 1	37,096	33,720	18,055	15,624	104,495
Return on plan assets in excess of interest income	(6,576)	(8,682)	(3,523)	(1,831)	(20,612)
Interest income	314	552	406	460	1,732
Employer contributions	228	54	408	41	731
Plan participants' contributions	11	16	—	5	32
Benefit payments	(942)	(1,124)	(1,088)	(735)	(3,889)
Other movements	(9)	150	(15)	(184)	(58)
Currency translation differences	(2,136)	(2,723)	—	(816)	(5,675)
At December 31	27,986	21,963	14,243	12,564	76,756

[A] Includes pension plans in Germany (\$2,538 million) and Canada (\$3,497 million) as the largest pension plans in the rest of the world.

2021

	\$ million, except where indicated				Total
	Pension benefits				
	The Netherlands	UK	USA	Rest of the world [A]	
At January 1	37,673	32,193	17,046	15,766	102,678
Return on plan assets in excess of interest income	3,199	2,575	1,377	1,034	8,185
Interest income	158	376	308	318	1,160
Employer contributions	170	266	559	(58) [B]	937
Plan participants' contributions	13	19	—	7	39
Benefit payments	(979)	(1,306)	(1,220)	(821)	(4,326)
Other movements	(6)	(13)	(15)	(13)	(47)
Currency translation differences	(3,132)	(390)	—	(609)	(4,131)
At December 31	37,096	33,720	18,055	15,624	104,495

[A] Includes pension plans in Germany (\$3,282 million) and Canada (\$4,325 million) as the largest pension plans in the rest of world.

[B] Includes the netted amount of \$294 million received from the captive structure in relation to the pension plans reinsured in rest of the world.

Type of pension assets

	2022	2021
Quoted in active markets:		
Equities	13%	22%
Debt securities	70%	53%
Real estate	—%	1%
Other	1%	—%
Unquoted		
Equities	13%	10%
Debt securities	2%	4%
Real estate	7%	6%
Investment funds	4%	3%
Debt repurchase agreements [A]	(14)%	—%
Cash	4%	1%

[A] 'Debt repurchase agreements' are mainly related to UK member defined pension plans to fund liability-driven investments. In addition to these contracts, derivatives including interest rate and inflation swaps are used in the principal defined benefit plan in the Netherlands for liability matching strategies.

Employer contributions to funded defined benefit pension plans are based on actuarial valuations in accordance with local regulations and are estimated to be \$836 million in 2023.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued

Characteristics of significant defined benefit and defined contribution plans and regulatory framework

The Netherlands

The principal defined benefit pension plan in the Netherlands is a funded career-averaged pension arrangement with retired employees drawing benefits as an annuity, with a surplus of \$3,378 million reported as at December 31, 2022, (2021: \$1,756 million surplus). Whilst the plan was closed to employees hired or rehired after July 1, 2013, it currently remains open for ongoing accrual for existing active members. 23% (2021: 26%) of the overall defined benefit liability in the Netherlands relates to active members. From July 1, 2013, onwards new employees in the Netherlands are entitled to membership of a defined contribution pension plan.

In line with Dutch regulations, the defined benefit pension plan has a joint Trustee Board with trustee representatives nominated by the Company, the Central Staff Council and retired members. The defined benefit pension plan also has an Accountability Council comprised of members nominated by the company, the Central Staff Council and retired members. Furthermore, there is a Supervisory Committee which includes external experts from the pension industry to oversee management, compliance and operations of the fund. The defined contribution pension plan has a one-tier Trustee Board with an independent chair, and trustee representatives nominated by the company and the Central Staff Council (currently no retired members in the fund to act as trustee) as well as two executive board members. The defined contribution fund also has an Accountability Council comprised of members nominated by the company and the Central Staff Council.

The Dutch House of Representatives approved a new regulatory framework for pensions in the Netherlands in December 2022. The regulatory framework for pensions is subject to approval by the Dutch Senate. The new regulation would have to be implemented by January 2027. When effective, these regulatory changes will have an impact on both the defined benefit pension plan and the defined contribution pension plan. As a consequence, such changes would have an impact on the Dutch pension plans which requires consent of the Central Staff Council.

UK

The three largest defined benefit pension plans for employees in the UK are funded final salary pension arrangements with retired employees mainly drawing benefits as an annuity with the option to take a portion as a lump sum. The three plans are separate and independent plans and cannot be netted against each other. In total, the plans reported a surplus of \$4,172 million as at December 31, 2022 (2021: surplus of \$3,807 million), which is after netting of unfunded plans of \$317 million (2021: \$473 million) which are reported as non-current liabilities on the balance sheet. All three plans were closed to new employees hired or rehired, however, two plans currently remain open for ongoing accrual for existing active members. 17% (2021: 20%) of the overall defined benefit liability in the UK relates to active members. From March 1, 2013, onwards new employees in the UK are entitled to membership of a defined contribution pension plan.

In line with UK regulations, the principal defined benefit pension plan is governed by a corporate trustee whose board is comprised of four trustee directors nominated by the company including the chair and four member-nominated trustee directors. The defined contribution pension plan is governed by a corporate trustee whose board is comprised of three company-nominated directors including the chair and two member-nominated trustee directors. The trustees are responsible for administering the plans in line with the Trust Deed and Regulations, including setting the investment strategy for the pension plans' assets and paying member benefits, and are required to act in the best interests of the members of the pension plans.

USA

The principal defined benefit pension plan in the USA is a funded final average pay pension plan with a surplus of \$318 million reported as at December 31, 2022 (2021: \$182 million surplus). After retirement, all retirees can choose to draw their benefits as an annuity, whereas others also have the choice to take their benefit in a lump sum. There is also an unfunded defined benefit pension plan with a deficit of \$868 million (2021: \$1,129 million deficit). The benefits under this plan are taken primarily in a lump sum. In addition, the company provides a defined contribution benefit plan. The funded defined benefit, unfunded defined benefit, and together with Shell's defined contribution pension plans are subject to the provisions of the Employee Retirement Income Security Act (ERISA). 24% (2021: 24%) of the overall defined liability of the funded defined benefit plan in the USA relates to active members.

Both the funded defined benefit pension plan and the defined contribution pension plan are governed by trustees who are appointed by the Plan Sponsor and are named fiduciaries with respect to the plans. The trustees are generally responsible for investment-related matters, appointing the Plan Administrator, maintaining general oversight and deciding appeals of participants.

USA OPEB

The company also sponsors "other post-retirement employee benefits" (OPEB) mainly in the USA. The OPEB plans in the USA provide medical, dental, and vision benefits as well as life insurance benefits to eligible retired employees. The plans are unfunded, and the company and retirees share the costs with a deficit of \$2,135 million reported as at December 31, 2022 (2021: \$4,067 million deficit). The plan that provides post-retirement medical benefits in the USA is closed to employees hired or rehired on or after January 1, 2017. Certain life insurance benefits are paid by the company.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued

Significant funding requirements:

- Additional contributions to the Dutch defined benefit pension plan would be required if the 12-month rolling average local funding percentage falls below 105% for six months or more. At the most recent (2022) funding valuation the local funding percentage was above this level.
- There are no set minimum statutory funding requirements for the UK plans. A professional qualified independent actuary, appointed by the trustee board, undertakes a local funding valuation typically every three years. The most recent completed funding valuation for the principal defined benefit plan was undertaken as at December 31, 2020, and revealed a funding ratio of 103% and therefore no sponsor contributions (except for salary sacrifice contributions) were payable under the schedule of contributions.
- Under the Pension Protection Act, US pension plans are subject to minimum required contribution levels based on the funding position. No contributions are required based on the most recent funding valuation.

Associated risks to which retirement benefits are exposed

There are inherent risks associated with defined benefit pension and OPEB plans. These risks are related to various assumptions made on valuation of the liabilities and the cash funding requirement of the underlying plans. Volatility in capital markets or government policies, and the resulting consequences for investment performance, interest and inflation rates, as well as changes in assumptions for mortality, retirement age or pensionable remuneration at retirement, could result in significant changes to the funding level of future liabilities, and in case of a shortfall, there could be a requirement to make substantial cash contributions (depending on the applicable local regulations).

These inherent risks are managed by a pension forum, chaired by the Chief Financial Officer, which oversees Shell's pension strategy, policy and operations. The forum is supported by a risk committee in reviewing the results of the assurance process with respect to the pension risk.

Investment strategies

Long-term investment strategies of plans are generally determined by the relevant pension plan trustees using a structured asset/liability modelling approach to define the asset mix that best meets the objectives of optimising returns within agreed risk levels while maintaining adequate funding levels.

Principal and actuarial assumptions

The principal assumptions applied in determining the present value of defined benefit obligations and their bases were as follows:

- rates of increase in pensionable remuneration, pensions in payment and health-care costs: historical experience and management's long-term expectation;
- discount rates: prevailing long-term AA corporate bond yields, chosen to match the currency and duration of the relevant obligation; and
- mortality rates: published standard mortality tables for the individual countries concerned adjusted for Shell experience where statistically significant.

The weighted averages for those assumptions and related sensitivity information at December 31, 2022 are presented below. Sensitivity information indicates by how much the defined benefit obligations would increase or decrease if a given assumption were to increase or decrease with no change in other assumptions. The sensitivity analyses may not be representative of an actual change in the defined benefit obligation as it is unlikely that changes in assumptions would occur in isolation from one another. The weighted averages are at nominal terms and based on market expectations at December 31, 2022.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued

\$ million, except where indicated
Effect of using alternative assumptions

	Assumptions used at nominal rates		Range of assumptions	Increase/(decrease) in defined benefit obligations			
	Dec 31, 2022	Dec 31, 2021		Dec 31, 2022		Dec 31, 2021	
Rate of increase in pensionable remuneration [A]	4.0%	3.4%	-1% to +1%	(833)	921	(1,519)	1,672
of which the Netherlands	3.3%	2.8%					
of which UK	4.1%	3.6%					
of which USA	4.6%	4.1%					
Rate of increase in pensions in payment	2.1%	2.0%	-1% to +1%	(5,542)	6,657	(9,908)	12,171
of which the Netherlands	2.6%	2.2%					
of which UK	3.0%	3.0%					
of which USA	—%	—%					
Discount rate for pension plans	4.5%	2.0%	-1% to +1%	10,522	(8,328)	18,954	(14,599)
of which the Netherlands	3.7%	1.2%					
of which UK	4.8%	1.9%					
of which USA	5.0%	2.9%					
Inflation rate for defined benefit obligation [B]	2.2%	2.1%	-1% to +1%	(6,002)	7,271	(10,691)	13,325
of which the Netherlands	2.6%	2.2%					
of which UK	3.1%	3.2%					
Expected age at death for persons aged 60:							
Men	87 years	87 years	-1 year to +1 year	(1,130)	1,103	(1,946)	1,937
of which the Netherlands	88 years	88 years					
of which UK	87 years	88 years					
of which USA	85 years	85 years					
Women	89 years	89 years	-1 year to +1 year	(993)	1,077	(1,863)	1,972
of which the Netherlands	89 years	89 years					
of which UK	90 years	90 years					
of which USA	86 years	86 years					
Rate of increase in health-care costs [C]	6.4%	6.2%	-1% to +1%	(298)	372	(513)	630
Discount rate for health-care plans [C]	5.7%	2.9%	-1% to +1%	401	(309)	678	(539)

[A] Based on active members.

[B] Excluding US funds in the weighted average inflation rate, because of the insignificant impact on the defined benefit obligation.

[C] Mainly related to post-retirement health-care benefits in the USA.

Notes to the Consolidated Financial Statements continued

24. Decommissioning and other provisions

	\$ million						
	Decommissioning and restoration	Onerous contracts	Legal	Environmental	Redundancy	Other	Total
At January 1, 2022							
Current	871	653	270	332	410	802	3,338
Non-current	21,213	1,029	1,141	847	235	1,339	25,804
	22,084	1,682	1,411	1,179	645	2,141	29,142
Additions	618	620	314	178	226	832	2,788
Amounts charged against provisions	(672)	(661)	(272)	(211)	(372)	(333)	(2,521)
Accretion expense	483	13	16	12	1	5	530
Disposals and liabilities classified as held for sale	(1,228)	(66)	(21)	(2)	—	(7)	(1,324)
Remeasurements and other movements	(182)	(139)	(44)	(78)	(155)	(354)	(952)
Currency translation differences	(818)	35	(3)	(27)	(21)	(74)	(908)
	(1,799)	(198)	(10)	(128)	(321)	69	(2,387)
At December 31, 2022							
Current	856	277	224	321	171	1,061	2,910
Non-current	19,429	1,207	1,177	730	153	1,149	23,845
	20,285	1,484	1,401	1,051	324	2,210	26,755
At January 1, 2021							
Current	900	532	521	273	673	723	3,622
Non-current	22,081	1,207	1,229	952	265	1,382	27,116
	22,981	1,739	1,750	1,225	938	2,105	30,738
Additions	1,040	229	197	153	991	752	3,362
Amounts charged against provisions	(662)	(264)	(340)	(154)	(733)	(292)	(2,445)
Accretion expense	405	14	11	9	1	10	450
Disposals and liabilities classified as held for sale	(819)	—	(5)	(17)	(1)	(27)	(869)
Remeasurements and other movements	(609)	(36)	(196)	(11)	(512)	(339)	(1,703)
Currency translation differences	(252)	—	(6)	(26)	(39)	(68)	(391)
	(897)	(57)	(339)	(46)	(293)	36	(1,596)
At December 31, 2021							
Current	871	653	270	332	410	802	3,338
Non-current	21,213	1,029	1,141	847	235	1,339	25,804
	22,084	1,682	1,411	1,179	645	2,141	29,142

The amount and timing of settlement in respect of these provisions are uncertain and dependent on various factors that are not always within management's control. Reviews of estimated future decommissioning and restoration costs and the discount rate applied are carried out regularly. The discount rate applied at December 31, 2022, was 3.25% (2021: 2%). An increase of 0.5% or a decrease of 0.5% in the discount rate could result in a decrease of \$1.2 billion (2021: \$1.5 billion) or an increase of \$1.3 billion (2021: \$1.7 billion) of decommissioning and restoration provisions, respectively. Such increase or decrease will be reflected in the carrying amount of the related asset. Where applicable that carrying amount is to be tested for impairment.

In 2022, there was a decrease of \$3,309 million in the decommissioning and restoration provision as a result of the change in the discount rate, partly offset by an increase in the provision resulting from changes in cost estimates of \$3,009 million, reported within remeasurements and other movements.

Other provisions at December 31, 2022, include amounts recognised in respect of employee benefits.

Notes to the Consolidated Financial Statements continued

24. Decommissioning and other provisions continued

The decommissioning and restoration provision at December 31, 2022, is expected to be utilised within:

	\$ million Dec 31, 2022
Between 1 to 5 years	4,219
Between 6 to 10 years	3,882
11 years and later	12,184
Total	20,285

25. Financial instruments

Financial instruments in the Consolidated Balance Sheet include investments in securities (see Note 14), cash and cash equivalents (see Note 17), finance debt (see Note 20) and derivative contracts.

Risks

In the normal course of business, financial instruments of various kinds are used for the purposes of managing exposure to interest rate, foreign exchange and commodity price movements.

Treasury standards are applicable to all subsidiaries and each subsidiary is required to adopt a treasury policy consistent with these standards. These policies cover: financing structure; interest rate and foreign exchange risk management; insurance; counterparty risk management; and use of derivative contracts. Wherever possible, treasury operations are carried out through specialist regional organisations without removing from each subsidiary the responsibility to formulate and implement appropriate treasury policies.

Apart from forward foreign exchange contracts to meet known commitments, the use of derivative contracts by most subsidiaries is not permitted by their treasury policy.

Other than in exceptional cases, the use of external derivative contracts is confined to specialist trading and central treasury organisations that have appropriate skills, experience, supervision, control and reporting systems.

Shell's operations expose it to market, credit and liquidity risk, as described below.

Market risk

Market risk is the possibility that changes in interest rates, foreign exchange rates or the prices of crude oil, natural gas, LNG, refined products, chemical feedstocks, power and environmental certificates will adversely affect the value of assets, liabilities or expected future cash flows.

Interest rate risk

Most debt is raised from central borrowing programmes. Shell's policy continues to be to have debt principally denominated in dollars and to maintain a largely floating interest rate exposure profile; however, Shell has issued a significant amount of fixed rate debt in recent years, taking advantage of historically low interest rates available in debt markets. As a result, the majority of the debt portfolio at December 31, 2022, is at fixed rates and this reduces Shell's adverse exposure to rising floating dollar interest rates (see Note 2).

The financing of most subsidiaries is structured on a floating-rate basis, and any further interest rate risk management is only applied under exceptional circumstances.

On the basis of the floating-rate net cash position at December 31, 2022, (both issued and hedged), and assuming other factors (principally foreign exchange rates and commodity prices) remained constant and that no further interest rate management action was taken, an increase in interest rates of 1% would have increased 2022 income before taxation by \$234 million (2021: \$174 million increase).

The carrying amounts and maturities of debt and borrowing facilities are presented in Note 20. Interest expense is presented in Note 10.

Foreign exchange risk

Many of the markets in which Shell operates are priced, directly or indirectly, in dollars. As a result, the functional currency of most Integrated Gas and Upstream entities and those with significant cross-border business is the dollar. For Chemicals and Products entities, the functional currency is typically the local currency. Consequently, Shell is exposed to varying levels of foreign exchange risk when an entity enters into transactions that are not denominated in its functional currency, when foreign currency monetary assets and liabilities are translated at the balance sheet date and as a result of holding net investments in operations that are not dollar-functional. Each entity is required to adopt treasury policies that are designed to measure and manage its foreign exchange exposures by reference to its functional currency.

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

Foreign exchange gains and losses arise in the normal course of business from the recognition of receivables and payables and other monetary items in currencies other than an entity's functional currency. Foreign exchange risk may also arise in connection with capital expenditure. For major projects, an assessment is made at the final investment decision stage of whether to hedge any resulting exposure.

Assuming other factors (principally interest rates and commodity prices) remained constant and that no further foreign exchange risk management action were taken, a 10% appreciation against the dollar at December 31 of the main currencies to which Shell is exposed would have the following effects:

	\$ million			
	Increase/(decrease) in income before taxation		Increase in net assets	
	2022	2021	2022	2021
10% appreciation against the dollar of:				
Sterling	(168)	(180)	894	738
Euro	124	(123)	1,486	601
Malaysian ringgit	65	119	313	399
Australian dollar	(65)	(3)	837	591
Canadian dollar	(44)	(44)	1,575	1,439

The above sensitivity information was calculated by reference to carrying amounts of assets and liabilities at December 31 only. The effect on income before taxation arises in connection with monetary balances denominated in currencies other than an entity's functional currency; the effect on net assets arises principally from the translation of assets and liabilities of entities that are not dollar-functional.

Foreign exchange gains and losses included in income are presented in Note 9.

Commodity price risk

Certain subsidiaries have a mandate to trade crude oil, natural gas, LNG, refined products, chemical feedstocks, power and environmental certificates, and to use commodity derivative contracts (forwards, futures, swaps and options) as a means of managing price and timing risks arising from this trading activity. In effecting these transactions, the entities concerned operate within procedures and policies designed to ensure that risks, including those relating to the default of counterparties, are managed within authorised limits. A department that is independent from Shell's traders monitors market risk exposures daily.

Value-at-risk (VAR) techniques based on variance/covariance or Monte Carlo simulation models are used to make a statistical assessment of the market risk arising from possible future changes in market values for commodity positions held by these subsidiaries over a 1-day holding period and within a 95% confidence level. The calculation of potential changes in fair value takes into account positions, the history of price movements and the correlation of these price movements. Models are regularly reviewed against actual fair value movements to ensure integrity is maintained. The VAR average and year-end positions in respect of commodities traded in active markets, which are presented in the table below, are calculated on a diversified basis in order to reflect the effect of offsetting risk within combined portfolios. 2022 was a year of high market volatility driving higher VAR than historic levels. As a result, Shell operated with enhanced risk management protocols.

Value-at-risk (pre-tax)

	\$ million			
	2022		2021	
	Average	Year-end	Average	Year-end
Global oil	72	56	26	30
North America gas and power	18	23	12	15
Europe gas and power	54	40	11	13
Australia gas and power	12	12	8	6
Environmental certificates	10	13	8	10

Furthermore, commodity derivative hedge contracts are used to partially mitigate price volatility on future LNG sales and purchases.

As contracts to buy and sell physical LNG are accounted for on an accrual basis (see Note 2) and commodity derivatives are accounted for on a fair-value basis, this creates an accounting mismatch over periods. The fair value accounting of commodity derivatives can result in gains or losses in the income statement, which for Adjusted Earnings are part of identified items.

These derivative contracts are based on a mix of European and North American gas price indices, global crude price indices and Asian LNG price indices. In 2022, Shell has seen high volatility in these markets and volumes of financial derivatives increased. On that basis, a sensitivity analysis has been performed for a 50% price increase or decrease of this basket of derivative contracts at year-end 2022, which would result in a gain or loss of \$2.7 billion (pre-tax) in the income statement (2021: \$0.3 billion).

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

Credit risk

Policies are in place to ensure that sales of products are made to customers with appropriate creditworthiness. These policies include credit analysis and monitoring of trading partners against counterparty credit limits. Credit information is regularly shared between business and finance functions, with dedicated teams in place to quickly identify and respond to cases of credit deterioration. Mitigation measures are defined and implemented for higher-risk business partners and customers, and include shortened payment terms, collateral or other security posting and vigorous collections. In addition, policies limit the amount of credit exposure to any individual financial institution. Elevated commodity prices, mainly in relation to strategic long-term deals in the gas portfolios resulted in a material concentration of credit risk representing around 25% of total Shell net credit exposure after offsetting for cash collateral and other instruments held.

Surplus cash is invested in a range of short-dated, secure and liquid instruments including short-term bank deposits, money market funds, reverse repos and similar instruments. The portfolio of these investments is diversified to avoid concentrating risk in any one instrument, country or counterparty. Management monitors the investments regularly and adjusts the investment portfolio in light of new market information where necessary to ensure credit risk is effectively diversified.

In commodity trading, counterparty credit risk is managed within a framework of credit limits with utilisation being regularly reviewed. Credit risk exposure is monitored and the acceptable level of credit exposure is determined by a credit committee. Credit checks are performed by a department independent of traders, and are undertaken before contractual commitment. Where appropriate, netting arrangements, credit insurance, prepayments and collateral are used to manage specific risks.

Shell routinely enters into offsetting, master netting and similar arrangements with trading and other counterparties to manage credit risk. Where there is a legally enforceable right of offset under such arrangements and Shell has the intention to settle on a net basis or realise the asset and settle the liability simultaneously, the net asset or liability is recognised in the Consolidated Balance Sheet, otherwise assets and liabilities are presented gross. These amounts, as presented net and gross within trade and other receivables, trade and other payables and derivative financial instruments in the Consolidated Balance Sheet at December 31, were as follows:

2022

	\$ million					
	Gross amounts before offset	Amounts offset	Amounts offset	Amounts not offset		Net amounts
			Net amounts as presented	Cash collateral received/pledged	Other offsetting instruments	
Assets:						
Within trade receivables	28,259	17,200	11,059	292	495	10,272
Within derivative financial instruments	56,154	34,685	21,469	1,904	4,563	15,002
Liabilities:						
Within trade payables	29,981	17,200	12,781	608	495	11,678
Within derivative financial instruments	58,991	34,710	24,281	4,788	3,364	16,129

2021

	\$ million					
	Gross amounts before offset	Amounts offset	Amounts offset	Amounts not offset		Net amounts
			Net amounts as presented	Cash collateral received/pledged	Other offsetting instruments	
Assets:						
Within trade receivables	20,561	11,937	8,624	164	283	8,177
Within derivative financial instruments	48,813	39,819	8,994	902	3,098	4,994
Liabilities:						
Within trade payables	19,347	11,935	7,412	61	283	7,068
Within derivative financial instruments	54,534	40,350	14,184	697	3,109	10,378

Amounts not offset principally relate to contracts where the intention to settle on a net basis was not clearly established at December 31.

The carrying amount of financial assets pledged as collateral for liabilities or contingent liabilities at December 31, 2022, presented within trade and other receivables, was \$11,133 million (2021: \$6,968 million). The carrying amount of collateral held at December 31, 2022, presented within trade and other payables, was \$1,648 million (2021: \$1,909 million). Collateral mainly relates to initial margins held with commodity exchanges and over-the-counter counterparty variation margins. Some derivative contracts are fully cash collateralised, thereby eliminating both counterparty risk and the Group's own non-performance risk.

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

Liquidity risk

Liquidity risk is the risk that suitable sources of funding for Shell's business activities may not be available. Management believes that it has access to sufficient debt funding sources (capital markets) and to undrawn committed borrowing facilities to meet foreseeable requirements. Information about borrowing facilities is presented in Note 20.

Interbank Offered Rate (IBOR) reform

USD London Interbank Offered Rate (LIBOR) is the most significant IBOR for Shell. USD LIBOR will cease to be representative after June 30, 2023. Significant IBOR exposures, disaggregated by tenure at December 31, 2022, are as follows:

	\$ million		
	December 31, 2022		
	Non-derivative financial assets - carrying value	Non-derivative financial liabilities - carrying value	Derivatives - Nominal amount
USD LIBOR (1 month)	34		
USD LIBOR (3 months)	1,898	1,176	4,754
USD LIBOR (6 months)	238		
Cross-currency interest rate swaps:			
EUR Fixed to USD LIBOR (3 months)			8,311
GBP Fixed to USD LIBOR (3 months)			1,078
CHF Fixed to USD LIBOR (3 months)			1,359
MYR LIBOR (3 months) to USD LIBOR (3 months)			360
Total	2,170	1,176	15,862

Shell has established a Group-wide IBOR Transition Project, with oversight from the Group Treasurer. The project spans all business lines and has cross-functional senior governance which includes Legal, IT and Finance, including treasury, tax and accounting experts. Shell put in place detailed plans, processes and procedures to support the transition of the affected portfolio including making changes to systems, processes and risk management, as well as related tax and accounting implications. Shell is confident that it has the operational capability to process the transitions to risk-free rates for those interest rate benchmarks such as USD LIBOR that will cease to be representative after June 30, 2023.

Derivative contracts and hedges

Derivative contracts are used principally as hedging instruments, however, because hedge accounting is not always applied, movements in the carrying amounts of derivative contracts that are recognised in income are not always matched in the same period by the recognition of the income effects of the related hedged items.

Carrying amounts, maturities and hedges

The carrying amounts of derivative contracts at December 31, designated and not designated as hedging instruments for hedge accounting purposes, were as follows:

2022

	Assets			Liabilities			\$ million
	Designated	Not designated	Total	Designated	Not designated	Total	Net
Interest rate swaps	—	1	1	169	—	169	(168)
Forward foreign exchange contracts	—	907	907	—	996	996	(89)
Currency swaps and options	31	24	55	2,925	5	2,930	(2,875)
Commodity derivatives	—	23,676	23,676	—	22,858	22,858	818
Other contracts	—	380	380	—	389	389	(9)
Total	31	24,988	25,019	3,094	24,248	27,342	(2,323)

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

2021

							\$ million	
	Assets			Liabilities			Net	
	Designated	Not designated	Total	Designated	Not designated	Total		
Interest rate swaps	237	—	237	24	14	38	199	
Forward foreign exchange contracts	—	456	456	—	280	280	176	
Currency swaps and options	277	22	299	860	33	893	(594)	
Commodity derivatives	12	10,979	10,991	—	15,732	15,732	(4,741)	
Other contracts	—	201	201	—	255	255	(54)	
Total	526	11,658	12,184	884	16,314	17,198	(5,014)	

As part of Shell's normal business, commodity derivative hedge contracts are entered into for mitigation of future purchases, sales and inventory. Net gains before tax on derivative contracts, excluding those accounted for as hedges, were \$1,331 million in 2022 (2021: \$8,377 million losses; 2020: \$3,295 million gains).

Certain contracts, mainly to hedge price risk relating to forecast commodity transactions, were designated in cash flow hedging relationships and are presented after the offset of related margin balances with exchanges. Contracts to hedge foreign exchange risks were also designated in cash flow hedging relationships and the net carrying amount of these contracts at December 31, 2022, was a liability of \$828 million (2021: \$173 million liability). See Note 28 for the accumulated balance recognised within other comprehensive income.

Certain interest rate and currency swaps were designated in fair value hedges, principally in respect of debt for which the net carrying amount of the related derivative contracts, net of accrued interest, at December 31, 2022, was a liability of \$2,191 million (2021: \$250 million liability).

In 2022, €3 billion (2021: €3 billion) of debt instruments were designated as hedges of net investments in foreign operations, relating to the foreign exchange risk arising between certain intermediate holding companies and their subsidiaries. See Note 28 for the accumulated balance recognised within other comprehensive income.

In the course of trading operations, certain contracts are entered into for delivery of commodities that are accounted for as derivatives. The resulting price exposures are managed by entering into related derivative contracts. These contracts are managed on a fair value basis and the maximum exposure to liquidity risk is the undiscounted fair value of derivative liabilities.

For a minority of commodity derivatives contracts, carrying amounts cannot be derived from quoted market prices or other observable inputs, in which case fair value is estimated using valuation techniques such as Black-Scholes, option spread models and extrapolation using quoted spreads with assumptions developed internally based on observable market activity.

Other contracts include certain contracts that are held to sell or purchase commodities and others containing embedded derivatives, which are required to be recognised at fair value because of pricing or delivery conditions, even though they were entered into to meet operational requirements. These contracts are expected to mature in 2023-2025, with certain contracts having early termination rights (for either party). Valuations are derived from other observable inputs.

The contractual maturities of derivative liabilities at December 31 compare with their carrying amounts in the Consolidated Balance Sheet as follows:

2022

	Contractual maturities							Difference from carrying amount [A]	Carrying amount	\$ million
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later	Total			
	Interest rate swaps	120	50	2	1	1	1			
Forward foreign exchange contracts	629	294	18	(1)	(2)	(3)	935	61	996	
Currency swaps and options	582	554	750	588	507	1,353	4,334	(1,404)	2,930	
Commodity derivatives	17,273	3,678	1,203	515	270	793	23,732	(874)	22,858	
Other contracts	212	148	22	1	1	—	384	5	389	
Total	18,816	4,724	1,995	1,104	777	2,144	29,560	(2,218)	27,342	

[A] Mainly related to the effect of discounting.

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

2021

	Contractual maturities						Total	Difference from carrying amount [A]	Carrying amount
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later			
Interest rate swaps	13	13	5	4	3	4	42	(4)	38
Forward foreign exchange contracts	170	40	114	—	—	—	324	(44)	280
Currency swaps and options	321	150	159	287	356	808	2,081	(1,188)	893
Commodity derivatives	12,614	1,401	783	274	158	531	15,761	(29)	15,732
Other contracts	222	34	—	—	—	—	256	(1)	255
Total	13,340	1,638	1,061	565	517	1,343	18,464	(1,266)	17,198

[A] Mainly related to the effect of discounting.

Fair value measurements

The net carrying amounts of derivative contracts held at December 31, categorised according to the predominant source and nature of inputs used in determining the fair value of each contract, were as follows:

2022

	Prices in active markets for identical assets/liabilities	Other observable inputs	Unobservable inputs	Total
				\$ million
Interest rate swaps	—	(168)	—	(168)
Forward foreign exchange contracts	—	(89)	—	(89)
Currency swaps and options	—	(2,875)	—	(2,875)
Commodity derivatives	68	(1,161)	1,911	818
Other contracts	—	(7)	(2)	(9)
Total	68	(4,300)	1,909	(2,323)

2021

	Prices in active markets for identical assets/liabilities	Other observable inputs	Unobservable inputs	Total
				\$ million
Interest rate swaps	—	199	—	199
Forward foreign exchange contracts	—	176	—	176
Currency swaps and options	—	(594)	—	(594)
Commodity derivatives	41	(5,171)	389	(4,741)
Other contracts	6	(60)	—	(54)
Total	47	(5,450)	389	(5,014)

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

Net carrying amounts of derivative contracts measured using predominantly unobservable inputs

	\$ million	
	2022	2021
At January 1	389	1,077
Net gains/(losses) recognised in revenue	1,190	(569)
Purchases	886	440
Sales	(623)	(442)
Settlements	46	(32)
Recategorisations (net)	17	(87)
Currency translation differences	4	2
At December 31	1,909	389

Included in net gains/(losses) recognised in revenue in 2022 were unrealised net gains totalling \$449 million relating to assets and liabilities held at December 31, 2022 (2021: \$175 million losses).

Unrecognised day one gains or losses

Certain long-term commodity contracts extend to periods where observable pricing data are limited and their value may include estimates. Where this is more than an insignificant part of the overall contract valuation, any gains or losses will be deferred. Valuation techniques are further described in Note 2. The unrecognised gains on these derivative contracts at December 31, 2022, were as follows:

	\$ million	
	2022	2021
At January 1	1,024	968
Movements	596	56
At December 31	1,620	1,024

26. Share capital

Issued and fully paid ordinary shares of €0.07 each [A]

	Number of shares		Nominal value		\$ million
	A	B	A	B	Ordinary shares
At January 1, 2022	4,101,239,499	3,582,892,954	345	296	641
Repurchases of shares before assimilation	—	(34,106,548)	—	(3)	(3)
Assimilation of ordinary A and B shares into ordinary shares	(4,101,239,499)	(3,548,786,406)	7,650,025,905	(345)	(293)
Repurchases of B shares on January 27 and 28, 2022, cancelled as ordinary shares on February 2 and 3, 2022			(507,742)		—
Repurchases of shares after assimilation			(646,014,770)		(54)
At December 31, 2022			7,003,503,393		584
At January 1, 2021	4,101,239,499	3,706,183,836	345	306	651
Repurchases of shares	—	(123,290,882)	—	(10)	(10)
At December 31, 2021	4,101,239,499	3,582,892,954	345	296	641

[A] Share capital at December 31, 2022, and 2021, also included 50,000 issued and fully paid sterling deferred shares of £1 each.

On January 29, 2022, as part of the Simplification announced on December 20, 2021, the Company's A and B shares were assimilated into a single line of ordinary shares. This is reflected in the above table.

At the Company's Annual General Meeting (AGM) on May 24, 2022, the Board was authorised to allot ordinary shares in the Company, and to grant rights to subscribe for or to convert any security into ordinary shares in the Company, up to an aggregate nominal amount of €177.0 million (representing 2,530 million ordinary shares of €0.07 each), and to list such shares or rights on any stock exchange. This authority expires at the earlier of the close of business on August 24, 2023, and the end of the AGM to be held in 2023, unless previously renewed, revoked or varied by the Company in a general meeting.

Notes to the Consolidated Financial Statements continued

26. Share capital continued

At the May 24, 2022, AGM, shareholders granted the Company the authority to repurchase (i) up to 758 million ordinary shares "on-market" (excluding any treasury shares), less the number of ordinary shares purchased or committed to be purchased in terms of the buyback contracts ("off-market"), made under the authority in (ii); and (ii) up to 758 million ordinary shares off-market, less any on-market purchases made under the authority in (i).

In the case of both on-market and off-market purchases of the ordinary shares, the minimum price, exclusive of expenses, which may be paid for an ordinary share is €0.07 and the maximum price, exclusive of expenses, which may be paid for an ordinary share is the higher of: (i) an amount equal to 5% above the average market value for an ordinary share for the five business days immediately preceding the date of the purchase; and (ii) the higher of the price of the last independent trade and the highest current independent bid in relation to ordinary shares on the trading venues where the purchase is carried out. The authorities for both on-market and off-market purchases of the ordinary shares will expire at the earlier of the close of business on August 24, 2023, and the end of the AGM of the Company to be held in 2023. Ordinary shares purchased by the Company pursuant to these authorities will either be cancelled or held in treasury. Treasury shares are shares in the Company which are owned by the Company itself.

27. Share-based compensation plans and shares held in trust

Share-based compensation expense

	2022	2021	\$ million 2020
Equity-settled [A]	807	539	359

[A] On an incidental basis awards may be cash-settled, where an equity settlement is not possible under local regulations.

The principal share-based employee compensation plans are the PSP and LTIP. Awards of shares and American Depositary Shares (ADS) of the Company under the PSP and LTIP are granted upon certain conditions to eligible employees. The actual number of shares that may vest ranges from 0% to 200% of the awards, depending on the outcomes of prescribed performance conditions over a three-year period beginning on January 1 of the award year.

Share awards

	Number of A shares (million)	Number of B shares (million)	Number of ordinary shares (million) [A]	Number of ADSs (million)	Weighted average remaining contractual life (years)
At January 1, 2022	38	12		9	1.2
Assimilation of ordinary A and B shares into ordinary shares	(38)	(12)	50		
Granted			22	4	
Vested			(16)	(3)	
Forfeited			(2)	(1)	
At December 31, 2022			54	9	1.1
At January 1, 2021	29	10		8	1.0
Granted	20	6		4	
Vested	(9)	(3)		(2)	
Forfeited	(2)	(1)		(1)	
At December 31, 2021	38	12		9	1.2

[A] On January 29, 2022, as part of the Simplification announced on December 20, 2021, the Company's A and B shares were assimilated into a single line of ordinary shares.

Other plans offer eligible employees opportunities to acquire shares and ADSs of the Company or receive cash benefits measured by reference to the Company's share price.

Shell employee share ownership trusts and trust-like entities purchase the Company's shares in the open market to meet delivery commitments under employee share plans. At December 31, 2022, they held a total of 23.9 million ordinary shares (2021: A shares: 15.6 million and B shares: 4.5 million) and 4.5 million ADSs (2021: 4.5 million).

Notes to the Consolidated Financial Statements continued

28. Other reserves

Other reserves attributable to Shell plc shareholders

						\$ million
	Merger reserve	Share premium reserve	Capital redemption reserve	Share plan reserve	Accumulated other comprehensive income	Total
At January 1, 2022	37,298	154	139	964	(19,646)	18,909
Other comprehensive income attributable to Shell plc shareholders	—	—	—	—	2,024	2,024
Transfer from other comprehensive income	—	—	—	—	(34)	(34)
Repurchases of shares	—	—	57	—	—	57
Share-based compensation	—	—	—	176	—	176
At December 31, 2022	37,298	154	196	1,140	(17,656)	21,132
At January 1, 2021	37,298	154	129	906	(25,735)	12,752
Other comprehensive income attributable to Shell plc shareholders	—	—	—	—	6,134	6,134
Transfer from other comprehensive income	—	—	—	—	(45)	(45)
Repurchases of shares	—	—	10	—	—	10
Share-based compensation	—	—	—	58	—	58
At December 31, 2021	37,298	154	139	964	(19,646)	18,909
At January 1, 2020	37,298	154	123	1,049	(24,173)	14,451
Other comprehensive loss attributable to Shell plc shareholders	—	—	—	—	(1,832)	(1,832)
Transfer from other comprehensive income	—	—	—	—	270	270
Repurchases of shares	—	—	6	—	—	6
Share-based compensation	—	—	—	(143)	—	(143)
At December 31, 2020	37,298	154	129	906	(25,735)	12,752

The merger reserve and share premium reserve were established as a consequence of the Company becoming the single parent company of Royal Dutch Petroleum Company and The "Shell" Transport and Trading Company, plc, now The Shell Transport and Trading Company Limited, in 2005. The merger reserve increased in 2016 following the issuance of shares for the acquisition of BG Group plc.

The capital redemption reserve was established in connection with repurchases of shares of the Company.

The share plan reserve is in respect of equity-settled share-based compensation plans (see Note 27). The movement comprises the net of the charge for the year and the release as a result of vested awards.

Notes to the Consolidated Financial Statements continued

28. Other reserves continued

Accumulated other comprehensive income comprises the following:

Accumulated other comprehensive income attributable to Shell plc shareholders

	Currency translation differences	Equity instruments remeasurements	Debt instruments remeasurements	Cash flow hedging (losses)/gains	Net investment hedging (losses)/gains	Deferred cost of hedging	Retirement benefits remeasurements	Total
At January 1, 2022	(9,563)	1,294	3	(536)	(2,144)	(226)	(8,474)	(19,646)
Recognised in other comprehensive income	(3,422)	(524)	(90)	426	180	64	6,982	3,616
Reclassified to income	437	—	12	(636)	—	81	—	(106)
Reclassified to the balance sheet	—	—	—	(81)	—	—	—	(81)
Reclassified to retained earnings	—	(32)	—	—	—	—	(2)	(34)
Tax on amounts recognised/reclassified	(1)	33	—	59	—	55	(1,516)	(1,370)
Total, net of tax	(2,986)	(523)	(78)	(232)	180	200	5,464	2,025
Share of joint ventures and associates	30	(283)	—	244	—	—	30	21
Other comprehensive income/(loss) for the period	(2,956)	(806)	(78)	12	180	200	5,494	2,046
Less: non-controlling interest	(71)	(1)	—	—	—	—	16	(56)
Attributable to Shell plc shareholders	(3,027)	(807)	(78)	12	180	200	5,510	1,990
At December 31, 2022	(12,590)	487	(75)	(524)	(1,964)	(26)	(2,964)	(17,656)
At January 1, 2021	(8,175)	1,144	31	(485)	(2,439)	(187)	(15,624)	(25,735)
Recognised in other comprehensive income	(1,841)	180	(23)	88	295	(145)	10,191	8,745
Reclassified to income	368	—	(5)	(38)	—	92	—	417
Reclassified to the balance sheet	—	—	—	(13)	—	—	—	(13)
Reclassified to retained earnings	—	(45)	—	—	—	—	—	(45)
Tax on amounts recognised/reclassified	60	(35)	—	(16)	—	14	(2,993)	(2,970)
Total, net of tax	(1,413)	100	(28)	21	295	(39)	7,198	6,134
Share of joint ventures and associates	(36)	50	—	(72)	—	—	(48)	(106)
Other comprehensive income/(loss) for the period	(1,449)	150	(28)	(51)	295	(39)	7,150	6,028
Less: non-controlling interest	61	—	—	—	—	—	—	61
Attributable to Shell plc shareholders	(1,388)	150	(28)	(51)	295	(39)	7,150	6,089
At December 31, 2021	(9,563)	1,294	3	(536)	(2,144)	(226)	(8,474)	(19,646)
At January 1, 2020	(9,415)	793	8	(233)	(2,016)	(287)	(13,023)	(24,173)
Recognised in other comprehensive income	1,204	68	31	(9)	(423)	17	(3,455)	(2,567)
Reclassified to income	(28)	—	(8)	(173)	—	94	—	(115)
Reclassified to the balance sheet	—	—	—	16	—	—	—	16
Reclassified to retained earnings	—	169	—	—	—	—	101	270
Tax on amounts recognised/reclassified	3	(4)	—	6	—	(11)	753	747
Total, net of tax	1,179	233	23	(160)	(423)	100	(2,601)	(1,649)
Share of joint ventures and associates	51	118	—	(92)	—	—	—	77
Other comprehensive (loss)/income for the period	1,230	351	23	(252)	(423)	100	(2,601)	(1,572)
Less: non-controlling interest	10	—	—	—	—	—	—	10
Attributable to Shell plc shareholders	1,240	351	23	(252)	(423)	100	(2,601)	(1,562)
At December 31, 2020	(8,175)	1,144	31	(485)	(2,439)	(187)	(15,624)	(25,735)

Notes to the Consolidated Financial Statements continued

29. Dividends

Interim dividends

	\$ per share			\$ million		
	2022	2021 [A]	2020 [A]	2022	2021 [B]	2020 [B]
Cash:						
March	0.24	0.1665	0.47	1,829	1,290	3,482
June	0.25	0.1735	0.16	1,850	1,331	1,239
September	0.25	0.24	0.16	1,818	1,854	1,236
December	0.25	0.24	0.1665	1,786	1,846	1,313
Total	0.99	0.82	0.9565	7,283	6,321	7,270

[A] In 2021 and 2020 Shell plc declared equal amounts of dividends per A and B share as presented in the table for those years.

[B] Dividends paid on A share totalled in 2021: \$3,330 million and in 2020: \$3,860 million; dividends paid on B share totalled in 2021: \$2,991 million and in 2020: \$3,410 million.

On February 2, 2023, the Directors announced a further interim dividend in respect of 2022 of \$0.2875 per ordinary share. The total dividend is estimated to be \$1,998 million and is payable on March 27, 2023, to shareholders on the register at February 17, 2023.

Shareholders will be able to elect to receive their dividends in US dollars, sterling or euros.

30. Earnings per share

	2022	2021	2020
Income/(loss) attributable to Shell plc shareholders (\$ million)	42,309	20,101	(21,680)
Weighted average number of shares used as the basis for determining:			
Basic earnings per share (million of shares)	7,347.5	7,761.7	7,795.6
Diluted earnings per share (million of shares)	7,410.5	7,806.8	7,795.6

Basic earnings per share are calculated by dividing the income attributable to Shell plc shareholders for the year by the weighted average number of shares outstanding during the year. The weighted average number of shares outstanding excludes shares held in trust.

Diluted earnings per share are based on the same income figures. The weighted average number of shares outstanding during the year is increased by dilutive shares related to share-based compensation plans. If the inclusion of potentially issuable shares could decrease diluted loss per share, the potentially issuable shares are excluded from the weighted average number of shares outstanding used to calculate diluted earnings per share.

31. Legal proceedings and other contingencies

General

In the ordinary course of business, Shell subsidiaries are subject to a number of contingencies arising from litigation and claims brought by governmental authorities, including tax authorities, and private parties. The operations and earnings of Shell subsidiaries continue, from time to time, to be affected to varying degrees by political, legislative, fiscal and regulatory developments, including those relating to the protection of the environment and indigenous groups in the countries in which they operate. The industries in which Shell subsidiaries are engaged are also subject to physical risks of various types.

The amounts claimed in relation to such events and, if such claims against Shell were successful, the costs of implementing the remedies sought in the various cases could be substantial. Based on information available to date and taking into account that in some cases it is not practicable to estimate the possible magnitude or timing of any resultant payments, management believes that the foregoing are not expected to have a material adverse impact on Shell's Consolidated Financial Statements. However, there remains a high degree of uncertainty around these contingencies, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

In certain divestment transactions, liabilities related to decommissioning and restoration are de-recognised upon transfer of these obligations to the buyer. For certain of these obligations Shell has issued guarantees to third parties and continues to be liable in case the primary obligor is not able to meet its obligation. These potential obligations arising from issuance of these guarantees are assessed to be remote.

Decommissioning and restoration of manufacturing facilities

Prior to 2020, in line with industry practice, Shell's policy had been not to recognise decommissioning and restoration provisions associated with manufacturing facilities in Oil Products and Chemicals. This was on the basis that these assets were considered to have indefinite lives and, therefore, that it was considered remote that an outflow of economic benefits would be required.

In 2020, the changed macroeconomic fundamentals were considered, together with Shell's plans to rationalise the Group's manufacturing portfolio. It was also reconsidered whether it remained appropriate not to recognise decommissioning and restoration provisions for manufacturing facilities.

Notes to the Consolidated Financial Statements continued

31. Legal proceedings and other contingencies continued

It was concluded that the assumption of indefinite lives for manufacturing facilities was no longer appropriate, and the need for either recognition of decommissioning and restoration provisions or contingent liability disclosure was reviewed. In 2020, provisions had been recognised for certain shorter-lived manufacturing facilities, but for the remaining longer-lived facilities, where decommissioning would generally be more than 50 years away, it was concluded that, while there is a present obligation that has arisen from past events, the amount of the obligation cannot be measured with sufficient reliability. This conclusion was reached on the basis that the settlement dates are indeterminate; and that other estimates, such as extremely long-term discount rates for which there is no observable measure, are not reliable. Consequently, a decommissioning and restoration obligation exists that cannot be recognised or quantified and that is disclosed as a contingent liability.

Pesticide litigation

Shell USA, Inc. (Shell USA), along with another agricultural chemical pesticide manufacturer and several distributors, has been sued by public and quasi-public water purveyors, water storage districts, and private landowners alleging responsibility for groundwater contamination caused by applications of chemical pesticides. There are approximately 34 such cases currently pending, four claims made but not yet filed, and an active subpoena for records. These matters assert various theories of strict liability and negligence, seeking to recover actual damages, including drinking well treatment and remediation costs. Most assert claims for punitive damages. While Shell USA continues to vigorously defend these actions, in January 2018 an environmental regulatory standard became effective in the State of California, where a majority of the suits are pending. The 2018 standard requires public water systems state-wide to perform quarterly or monthly sampling of their drinking water sources for a chemical contained in certain pesticides. Water systems deemed out of compliance with the regulatory standard must take corrective action to resolve the exceedance or take the potable water source out of service. In response to this regulatory standard, Shell USA monitors the sampling results to determine the number of wells potentially impacted. Based on the claims asserted and Shell USA's history with regard to amounts paid to resolve varying actions, management does not expect the outcome of the matters pending at December 31, 2022, to have a material adverse impact on Shell. However, there remains a high degree of uncertainty regarding the potential outcome of some of these pending lawsuits, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

Climate change litigation

In the USA, 22 lawsuits filed by several municipalities and/or states against oil and gas companies, one industry group, and Shell plc are pending as of December 31, 2022. The plaintiffs seek damages for a variety of claims including harm to their public and private infrastructure from rising sea levels and other alleged impacts of climate change caused by the defendants' fossil fuel products. In the Netherlands, in a case against Shell brought by a group of environmental non-governmental organisations (eNGOs) and individual claimants, the Court found that while Shell is not currently acting unlawfully, Shell must reduce the aggregate annual volume of CO₂ emissions of Shell Group operations and energy-carrying products sold across Scopes 1, 2 and 3 by 45% (net) by the end of 2030 relative to its 2019 emissions levels (the "Dutch Court Order"). For Scopes 2 and 3, this is a significant best-efforts obligation. Shell has appealed that ruling. Management believes the outcome of these matters should be resolved in a manner favourable to Shell, but there remains a high degree of uncertainty regarding the ultimate outcome of these lawsuits, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

In the UK, the environmental law group ClientEarth sent a pre-action letter in March 2022 threatening to commence, purportedly on behalf of Shell plc, a legal claim in the UK courts against Shell plc's Board of Directors (known as a "derivative action") regarding the way in which the Directors have allegedly handled "climate change related risk". On February 8, 2023, ClientEarth filed the claim with the English High Court against Shell plc and the current Board of Directors. The claim does not seek monetary relief but asks the Court to order the Directors to: (i) adopt and implement a different strategy to manage climate risk in compliance with their statutory duties; and (ii) comply immediately with the Dutch Court Order. The High Court must grant permission for ClientEarth to proceed with this claim.

Louisiana coast litigation

The State of Louisiana and multiple local governments have initiated 43 lawsuits against more than 200 oil and gas companies, claiming either current or historical oil and gas operations caused or contributed to contamination, land loss and the erosion of the Louisiana coastline. Shell entities are named in 14 of the suits. Although the State and local parishes fail to claim specified amounts, these claims represent potentially material matters. The cases are of first impression, arise out of an untested 1980 Louisiana statute and represent a novel attempt to render illegal operations that federal and state agencies permitted and authorised at the time. In late 2022, certain jurisdictional questions were decided by a federal appeals court in New Orleans, which resulted in the cases being remanded from federal court back to state court. While disappointed, management believes the outcome of these matters should ultimately be resolved in a manner favourable to Shell; there remains a high degree of uncertainty, however, concerning the scope of the claims and the ultimate outcomes, as well as their potential effects on future operations, earnings, cash flows, reputation and Shell's financial condition.

NAM (Groningen gas field) litigation

Since 1963, NAM – a joint venture between Shell and ExxonMobil (50%:50%) – has been producing gas from the Groningen field, the largest gas field in Western Europe. After smaller tremors in the 1990s and the late 2000s, an earthquake measuring 3.6 on the Richter scale occurred in 2012, causing damage to properties in the affected area, and the area continues to experience tremor/earthquake-type events. NAM has received more than 100,000 claims for physical damage to property – the majority of which have been successfully settled. The Dutch State has taken over the damage-claim-handling from NAM for all claim categories (strengthening, physical damage to property, housing value loss, emotional damages and loss of living enjoyment), while NAM remains financially responsible. In February 2022, NAM commenced arbitral proceedings against the State to get clarity on these financial responsibilities. NAM still faces a declining number of claims in civil litigation from claimants who elect not to use the government arrangement or from claims pre-dating the governmental arrangements. These claims include but are not limited to housing claims where NAM was found liable for value loss, emotional damages and loss of living enjoyment and other civil litigation matters.

There remains a high degree of uncertainty concerning the ultimate outcomes and their potential effects on future operations, earnings, cash flows, reputation and Shell's financial condition.

Notes to the Consolidated Financial Statements continued

31. Legal proceedings and other contingencies continued

Nigerian litigation

Shell subsidiaries and associates operating in Nigeria are parties to various environmental, non-environmental and contractual disputes brought in the courts of Nigeria, England and the Netherlands. These disputes are at different stages in litigation, including at the appellate stage, where judgements have been rendered against Shell entities in some of these disputes. If taken at face value, the aggregate amount of these judgements could be seen as material. Management, however, believes that once the outcomes of these matters are ultimately determined, the overall outcome of these disputes will be favourable to Shell. However, there remains a high degree of uncertainty regarding these cases, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

OPL 245

On January 27, 2017, the Nigeria Federal High Court issued an Interim Order of Attachment for Oil Prospecting Licence 245 (OPL 245), pending the conclusion of the investigation. SNEPCO applied for and was granted a discharge of this order on constitutional and procedural grounds. Also in Nigeria, in March 2017, criminal charges alleging official corruption and conspiracy to commit official corruption were filed against SNEPCO, one current Shell employee and third parties including ENI SpA and one of its subsidiaries. Those proceedings are in abeyance. In January 2020, criminal charges alleging disobeying direction of law related to tax waivers were filed in Nigeria against Shell Nigeria Ultra Deep Ltd., SNEPCO, and third parties including Nigeria Agip Exploration Limited (NAE). Those proceedings are ongoing. In March 2017, parties alleging to be shareholders of Malabu Oil and Gas Company Ltd. (Malabu) filed two actions to challenge the 2011 settlement and the award of OPL 245 to SNEPCO and an ENI SpA subsidiary by the Federal Government of Nigeria. Both actions are currently stayed awaiting the outcome of appeals filed against procedural decisions. Those appeal proceedings are ongoing. On May 8, 2018, Human Environmental Development Agenda (HEDA) sought permission from the Federal High Court of Nigeria to apply for an order to direct the Attorney General of the Federation to revoke OPL 245 on grounds that the entire Malabu transaction in relation to the OPL is unconstitutional, illegal and void as it was obtained through fraudulent and corrupt practice. On July 3, 2019, the Nigerian Federal High Court upheld objections from SNEPCO and NAE and struck the lawsuit filed by HEDA. The suit was struck because of the statute of limitations and lack of jurisdiction to hear the matter. HEDA has appealed the judgement, which is ongoing.

On December 12, 2018, the Federal Republic of Nigeria (FRN) issued a claim form in the UK against Shell and six of its subsidiaries, ENI SpA and two of its subsidiaries, Malabu as well as two other entities for the amount of \$1,092 million plus damages for having participated in a fraudulent and corrupt scheme leading to the acquisition by Shell and ENI corporate defendants in 2011 of OPL 245. The Shell entities were served with proceedings in April and May 2019, following which they, and other defendants, challenged the jurisdiction of the English courts. Following a hearing in April 2020, the English High Court rendered judgement in May 2020, dismissing the claims in England and refusing the FRN's request for permission to appeal. In September 2020, the UK Court of Appeal also refused the FRN's permission to appeal, meaning the case is now concluded.

On February 14, 2017, Shell plc received a notice of request for indictment from the Milan public prosecutor with respect to this matter. On December 20, 2017, Shell plc and four former Shell employees including one former executive were remanded to trial in Milan. On May 14, 2018, a trial commenced in the Court of Milan. The FRN was admitted as a civil claimant by a court decision on July 20, 2018. On September 18, 2018, Shell was joined to the proceedings as the civilly responsible party for the damages caused by the alleged illegal acts of the four former Shell employees. Three other Shell entities (Shell UK Ltd, Shell Petroleum Development Company of Nigeria Ltd. and Shell Exploration and Production Africa Ltd.) also joined the proceedings as responsible civile for their respective former employees at that phase of the proceedings. On March 17, 2021, the Court of Milan acquitted the Shell entities and four former Shell employees of all charges on the grounds that there was no case to answer. The Court of Milan published the full grounds for its decision on June 9, 2021. The Milan public prosecutor and the FRN appealed the decision to the Court of Appeal. On July 19, 2022, the Milan public prosecutor withdrew its appeal, meaning the criminal case is closed and the acquittal of all defendants is final. On November 11, 2022, the Court of Appeal rejected the FRN's appeal and ordered the FRN to pay legal costs. The Court of Appeal issued the full grounds for its decision on January 20, 2023.

On September 20, 2018, a guilty judgement was filed by the Milan Judge of the Preliminary Hearing in a separate OPL 245 fast-track trial of two individuals, neither of whom worked for or on behalf of Shell. That decision was appealed to the Court of Appeal which rendered its judgement on June 24, 2021, acquitting both individuals. Separate OPL 245 pre-trial criminal proceedings are pending against another individual who also did not work for or on behalf of Shell.

On October 2, 2019, the US Department of Justice (DOJ) informed Shell that it was closing its inquiry into Shell in relation to OPL 245. It is understood that the decision was based on the facts available to the DOJ, including ongoing legal proceedings in Europe. On April 22, 2020, the United States Securities and Exchange Commission notified us that it had also closed its inquiry into Shell in relation to OPL 245. On July 21, 2022, the Dutch Public Prosecutor's office announced it had dismissed its investigation into bribery allegations related to OPL 245.

On October 24, 2022, Re:Common, HEDA and Corner House announced that they filed a complaint at the Court of Appeal in The Hague, pursuant to Article 12 of the Dutch Code for Criminal Procedure, challenging the decision by the DPP to dismiss its investigation. There remains a high degree of uncertainty around the OPL 245 matters and contingencies discussed above, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition. Accordingly, at this time, it is not practicable to estimate the magnitude and timing of any possible obligations or payments. Any violation of anti-bribery, anti-corruption or anti-money laundering legislation could have a material adverse effect on Shell plc's earnings, cash flows and financial condition.

Notes to the Consolidated Financial Statements continued

32. Employees

Employee costs

	2022	2021	\$ million 2020
Remuneration	10,509	9,038	9,128
Social security contributions	860	819	793
Retirement benefits (see Note 23)	1,795	1,696	1,851
Share-based compensation (see Note 27)	807	539	359
Total [A]	13,971	12,092	12,131

[A] Excludes employees seconded to joint ventures and associates.

Average employee numbers [A]

	2022	2021	Thousand 2020
Integrated Gas	6	6	6
Upstream	12	13	15
Marketing	17	14	15
Chemicals and Products	21	22	23
Renewables and Energy Solutions	4	3	3
Corporate	27	25	25
- of which Shell Business Service Centre (SBSC)	20	19	18
Total [B]	87	83	87

[A] Employee numbers, including comparatives, have been updated from full time equivalents (FTE) to headcount.

[B] Excludes employees seconded to joint ventures and associates (2022: 2,000 employees; 2021: 2,000 employees; 2020: 2,000 employees).

33. Directors and Senior Management

Remuneration of Directors of the Company

	2022	2021	\$ million 2020
Emoluments	12	12	6
Value of released awards under long-term incentive plans	7	5	6
Employer contributions to pension plans	1	1	1

Emoluments comprise salaries and fees, annual bonuses (for the period for which performance is assessed) and other benefits. The value of released awards under long-term incentive plans for the period is in respect of the performance period ending in that year. In 2022, retirement benefits were accrued in respect of qualifying services under defined benefit plans by one Director.

Further information on the remuneration of the Directors can be found in the Directors' Remuneration Report on pages 166-170.

Directors and Senior Management expense

	2022	2021	\$ million 2020
Short-term benefits	33	27	14
Retirement benefits	2	3	3
Share-based compensation	17	16	17
Termination and related amounts	1	2	2
Total	53	48	36

Directors and Senior Management comprise members of the Executive Committee and the Non-executive Directors of the Company.

Short-term benefits comprise salaries and fees, annual bonuses delivered in cash and shares (for the period for which performance is assessed), other benefits and employer social security contributions.

Notes to the Consolidated Financial Statements continued

34. Auditor's remuneration

	\$ million		
	2022	2021	2020
Fees in respect of the audit of the Consolidated and Parent Company Financial Statements, including audit of consolidation returns	45	39	36
Other audit fees, principally in respect of audits of accounts of subsidiaries	18	18	17
Total audit fees	63	57	53
Audit-related fees	3	3	3
Fees in respect of other non-audit services	3	3	2
Total	69	63	58

In addition, the auditor provided audit services to retirement benefit plans for employees of subsidiaries. Remuneration paid by those benefit plans amounted to \$1 million in 2022 (2021: \$1 million; 2020: \$1 million).

35. Post-balance sheet events

On January 30, 2023, Shell announced that it will reduce the size of its Executive Committee from nine to seven members. Under the changes, which are expected to take effect on July 1, 2023, Shell's Integrated Gas and Upstream businesses will be combined to form a new Integrated Gas and Upstream Directorate and the Downstream business will be combined with Renewables and Energy Solutions to form a new Downstream and Renewables Directorate. Separately, the Strategy, Sustainability and Corporate Relations Directorate will be discontinued. The changes announced will not affect Shell's financial reporting segments for the year ending December 31, 2023, which remain unchanged.

On February 2, 2023, Shell announced the commencement of a \$4 billion share buyback programme covering an aggregate contract term of approximately three months (the "programme"). The purpose of the programme is to reduce the issued share capital of the Company. All shares repurchased as part of the programme will be cancelled. It is intended that, subject to market conditions, the programme will be completed prior to the Company's First Quarter 2023 results announcement, scheduled for May 4, 2023. The Company has entered into an arrangement with a single broker consisting of three irrevocable, non-discretionary contracts, to enable the purchase of ordinary shares.

On February 20, 2023, Shell completed the acquisition of 100% of the shares of Nature Energy Biogas A/S ("Nature Energy") from Davidson Kempner Capital Management LP, Pioneer Point Partners and Sampension for cash consideration of nearly \$2 billion. Based in Denmark, Nature Energy is a producer of Renewable Natural Gas from agricultural, industrial, and household wastes. In Shell's First Quarter 2023 Consolidated Statement of Cash Flows, the cash consideration paid will be reflected as an outflow through 'Cash flow from investing activities'. Measurement is now underway of the fair value of the net assets acquired and any goodwill to be recognised as a result of the acquisition. The acquisition of Nature Energy will be reported through the Marketing operating segment.

On February 28, 2023, Shell completed the sale of its 100% interest in Shell Onshore Ventures LLC, which holds a 51.8% membership interest in Aera Energy LLC, to IKAV. The total consideration is \$2 billion with additional contingent payments based on oil prices and has an effective date of October 1, 2021.

Supplementary information – oil and gas (unaudited)

About this section

The purpose of this section is to comply with the requirements of the Financial Accounting Standards Board (FASB) "Extractive Activities – Oil and Gas (Topic 932)". Extractive activities for this purpose include exploration and production activities to extract oil, condensates, natural gas liquids, oil sands and natural gas from their natural reservoirs.

In Shell, extractive activities, or oil and gas exploration and production activities, are undertaken within the Integrated Gas, the Upstream and the Chemicals and Products (includes oil sands) segments. Shell's extractive activities do not represent the full extent of Integrated Gas, Upstream and Chemicals and Products activities, and exclude GTL, some LNG activities, trading and optimisation, as well as other non-extractive activities. As a result, the information in this extractive activities section is not suitable for modelling Shell's integrated businesses, for which we refer to the segment information. Full segment information to the Consolidated Financial Statements is available on pages 245-249.

The information set out on pages 288-306 is referred to as "unaudited" as a means of clarifying that it is not covered by the audit opinion of the independent registered public accounting firm that has audited and reported on the Consolidated Financial Statements.

Proved reserves

Proved reserves estimates are calculated pursuant to the US Securities and Exchange Commission (SEC) Rules and the FASB's Topic 932. Proved reserves can be either developed or undeveloped. The definitions used are in accordance with the SEC Rule 4–10 (a) of Regulation S-X. We include proved reserves associated with future production that will be consumed in operations.

Proved reserves shown are net of any quantities of crude oil or natural gas that are expected to be (or could be) taken as royalties in kind. Proved reserves outside North America include quantities that will be settled as royalties in cash. Proved reserves include certain quantities of crude oil or natural gas that will be produced under arrangements that involve Shell subsidiaries, joint ventures and associates in risks and rewards but do not transfer title of the product to those entities.

Subsidiaries' proved reserves at December 31, 2022, were divided into 75% developed and 25% undeveloped on a barrel of oil equivalent basis. For the Shell share of joint ventures and associates, the proved reserves at December 31, 2022, were divided into 48% developed and 52% undeveloped on a barrel of oil equivalent basis.

Proved reserves are recognised under various forms of contractual agreements. Shell's proved reserves volumes at December 31, 2022, present in agreements such as production-sharing contracts (PSC), tax/variable royalty contracts or other forms of economic entitlement contracts, where the Shell share of reserves can vary with commodity prices, were 1,920 million barrels of crude oil and natural gas liquids, and 10,202 thousand million standard cubic feet (scf) of natural gas.

Proved reserves cannot be measured exactly because estimation of reserves involves subjective judgement (see "Risk factors" on page 24 and our "Proved reserves assurance process" below). These estimates remain subject to revision and are unaudited supplementary information.

Proved reserves assurance process

A central group of reserves experts, who on average have around 27 years' experience in the oil and gas industry, undertake the primary assurance of the proved reserves bookings. This group of experts is part of the Resources Assurance and Reporting (RAR) organisation within Shell. A Vice President with 37 years' experience in the oil and gas industry currently heads the RAR organisation. He is a member of the Society of Petroleum Engineers, Society of Petroleum Evaluation Engineers and holds a BA in mathematics from Oxford University and an MEng in Petroleum Engineering from Heriot-Watt University. The RAR organisation reports directly to an Executive Vice President of Finance, who is a member of the Upstream Reserves Committee (URC). The URC is a multidisciplinary committee consisting of senior representatives from the Finance, Legal, Integrated Gas and Upstream organisations. The URC reviews and endorses all major (larger than 20 million barrels of oil equivalent) proved reserves bookings and debookings and endorses the total aggregated proved reserves. Final approval of all proved reserves bookings remains with Shell's CEO, and all proved reserves bookings are reviewed by Shell's Audit Committee. The Internal Audit function also provides secondary assurance through audits of the control framework.

Crude oil, natural gas liquids, synthetic crude oil and bitumen

Shell subsidiaries' proved reserves of crude oil, natural gas liquids (NGLs), synthetic crude oil and bitumen at the end of the year; their share of the proved reserves of joint ventures and associates at the end of the year; and the changes in such reserves during the year are set out on pages 289-292. Significant changes in these proved reserves are discussed below (except where specific disclosures are prohibited), where "revisions and reclassifications" are changes based on new information that resulted from development drilling, production history, and changes in economic factors.

Supplementary information – oil and gas (unaudited) continued

Proved reserves 2022–2021

Shell subsidiaries

Canada

- The increase of 240 million barrels in purchases was mainly in Jackpine Mine.

South America

- The increase of 55 million barrels in purchases was in Atapu in Brazil.

Proved reserves 2021–2020

Shell subsidiaries

Asia

- The net increase of 121 million barrels in revisions and reclassifications was mainly in Kashagan and Upper Salym.

USA

- The net increase of 119 million barrels in revisions and reclassifications was mainly in Mars and Stones.
- The decrease of 136 million barrels in sales in place was in Permian.
- The increase of 55 million barrels in extensions and discoveries was mainly in Whale Dev.

Canada

- The net decrease of 90 million barrels in revisions and reclassifications was mainly in Jackpine Mine and Muskeg River mine.

South America

- The net increase of 325 million barrels in revisions and reclassifications half of which was mainly in Mero.
- The increase of 103 million barrels in extensions and discoveries was mainly in Mero.

Europe

- The increase of 67 million barrels in revisions and reclassifications was mainly in Schiehallion and Val d'Agri.

Africa

- The decrease of 53 million barrels in revisions and reclassifications was mainly in Nigeria.

Supplementary information – oil and gas (unaudited) continued

Proved developed and undeveloped reserves 2022

	Million barrels										
	Europe	Asia	Oceania	Africa	North America			South America	Total		
					USA	Canada	Synthetic crude oil		Oil and NGL	Synthetic crude oil	All products
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	208	1,521	80	265	610	5	533	1,131	3,820	533	4,353
Revisions and reclassifications	16	34	11	(18)	48	(1)	(25)	47	137	(25)	112
Improved recovery	—	—	—	—	—	—	—	32	32	—	32
Extensions and discoveries	5	13	24	—	7	1	—	11	61	—	61
Purchases of minerals in place	—	12	—	—	—	—	240	55	67	240	307
Sales of minerals in place	—	(1)	—	—	—	—	—	—	(1)	—	(1)
Production [A]	(37)	(168)	(9)	(29)	(122)	(1)	(17)	(138)	(504)	(17)	(521)
At December 31	192	1,411	106	218	543	4	731	1,138	3,612	731	4,343
Shell share of joint ventures and associates											
At January 1	7	217	—	—	—	—	—	4	228	—	228
Revisions and reclassifications	(3)	(23)	—	—	—	—	—	1	(25)	—	(25)
Improved recovery	—	—	—	—	—	—	—	—	—	—	—
Extensions and discoveries	—	—	—	—	—	—	—	4	4	—	4
Purchases of minerals in place	—	159	—	—	—	—	—	—	159	—	159
Sales of minerals in place	—	—	—	—	—	—	—	—	—	—	—
Production	(1)	(26)	—	—	—	—	—	(2)	(29)	—	(29)
At December 31	3	327	—	—	—	—	—	7	337	—	337
Total [B]	195	1,738	106	218	543	4	731	1,145	3,949	731	4,680
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31							365			365	365

[A] Includes 1 million barrels consumed in operations for synthetic crude oil.

[B] As announced on February 28, 2023, Shell completed the sale of its 100% interest in Shell Onshore Ventures LLC, which holds a 51.8% membership interest in Aera Energy LLC, to IKAV. As of December 31, 2022, we had proved reserves of 112 million barrels in crude oil. For more information See Note 35 on page 287.

Proved developed reserves 2022

	Million barrels										
	Europe	Asia	Oceania	Africa	North America			South America	Total		
					USA	Canada	Synthetic crude oil		Oil and NGL	Synthetic crude oil	All products
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	140	1,348	71	218	397	2	533	786	2,962	533	3,495
At December 31	140	999	73	187	356	3	731	831	2,589	731	3,320
Shell share of joint ventures and associates											
At January 1	7	197	—	—	—	—	—	4	208	—	208
At December 31	3	154	—	—	—	—	—	7	164	—	164

Proved undeveloped reserves 2022

	Million barrels										
	Europe	Asia	Oceania	Africa	North America			South America	Total		
					USA	Canada	Synthetic crude oil		Oil and NGL	Synthetic crude oil	All products
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	68	173	9	47	213	3	—	345	858	—	858
At December 31	52	412	33	31	187	1	—	307	1,023	—	1,023
Shell share of joint ventures and associates											
At January 1	—	20	—	—	—	—	—	—	20	—	20
At December 31	—	173	—	—	—	—	—	—	173	—	173

Supplementary information – oil and gas (unaudited) continued

Proved developed and undeveloped reserves 2021

	Million barrels											
	Europe	Asia	Oceania	Africa	North America			South America	Total			
					USA	Canada	Synthetic crude oil		Oil and NGL	Oil and NGL	Synthetic crude oil	All products
					Oil and NGL	Oil and NGL						
Shell subsidiaries												
At January 1	178	1,573	73	379	728	15	644	815	3,761	644	4,405	
Revisions and reclassifications	67	121	18	(53)	119	—	(90)	325	597	(90)	507	
Improved recovery	—	—	—	—	9	—	—	21	30	—	30	
Extensions and discoveries	4	11	—	1	55	1	—	103	175	—	175	
Purchases of minerals in place	—	—	—	—	—	—	—	—	—	—	—	
Sales of minerals in place	—	—	—	(21)	(136)	(8)	—	—	(165)	—	(165)	
Production [A]	(41)	(184)	(11)	(41)	(165)	(3)	(21)	(133)	(578)	(21)	(599)	
At December 31	208	1,521	80	265	610	5	533	1,131	3,820	533	4,353	
Shell share of joint ventures and associates												
At January 1	6	210	—	—	—	—	—	—	216	—	216	
Revisions and reclassifications	2	40	—	—	—	—	—	4	46	—	46	
Improved recovery	—	—	—	—	—	—	—	—	—	—	—	
Extensions and discoveries	—	—	—	—	—	—	—	2	2	—	2	
Purchases of minerals in place	—	—	—	—	—	—	—	—	—	—	—	
Sales of minerals in place	—	—	—	—	—	—	—	—	—	—	—	
Production	(1)	(33)	—	—	—	—	—	(2)	(36)	—	(36)	
At December 31	7	217	—	—	—	—	—	4	228	—	228	
Total [B]	215	1,738	80	265	610	5	533	1,135	4,048	533	4,581	
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	—	—	—	—	—	—	267	—	—	267	267	

[A] Includes 1 million barrels consumed in operations for synthetic crude oil.

[B] As of December 31, 2021, we had proved reserves of 93 million barrels in crude oil relating to activities in Russia.

Proved developed reserves 2021

	Million barrels											
	Europe	Asia	Oceania	Africa	North America			South America	Total			
					USA	Canada	Synthetic crude oil		Oil and NGL	Oil and NGL	Synthetic crude oil	All products
					Oil and NGL	Oil and NGL						
Shell subsidiaries												
At January 1	103	1,417	69	316	539	12	644	674	3,130	644	3,774	
At December 31	140	1,348	71	218	397	2	533	786	2,962	533	3,495	
Shell share of joint ventures and associates												
At January 1	6	192	—	—	—	—	—	1	199	—	199	
At December 31	7	197	—	—	—	—	—	4	208	—	208	

Proved undeveloped reserves 2021

	Million barrels											
	Europe	Asia	Oceania	Africa	North America			South America	Total			
					USA	Canada	Synthetic crude oil		Oil and NGL	Oil and NGL	Synthetic crude oil	All products
					Oil and NGL	Oil and NGL						
Shell subsidiaries												
At January 1	76	156	5	63	189	3	—	141	633	—	633	
At December 31	68	173	9	47	213	3	—	345	858	—	858	
Shell share of joint ventures and associates												
At January 1	—	18	—	—	—	—	—	—	18	—	18	
At December 31	—	20	—	—	—	—	—	—	20	—	20	

Supplementary information – oil and gas (unaudited) continued

Proved developed and undeveloped reserves 2020

	Million barrels										
	Europe	Asia	Oceania	Africa	North America			South America	Total		
					USA	Canada	Synthetic crude oil		Oil and NGL	Oil and NGL	Synthetic crude oil
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	274	1,551	121	395	982	18	607	1,033	4,374	607	4,981
Revisions and reclassifications	(46)	181	(41)	42	(116)	(2)	57	(82)	(63)	57	(6)
Improved recovery	—	—	—	—	—	—	—	—	—	—	—
Extensions and discoveries	—	14	—	—	27	7	—	—	48	—	48
Purchases of minerals in place	—	9	—	—	—	—	—	—	9	—	9
Sales of minerals in place	(1)	—	—	—	—	—	—	—	(1)	—	(1)
Production [A]	(49)	(182)	(7)	(58)	(165)	(9)	(20)	(136)	(606)	(20)	(626)
At December 31	178	1,573	73	379	728	15	644	815	3,761	644	4,405
Shell share of joint ventures and associates											
At January 1	12	271	—	—	—	—	—	—	283	—	283
Revisions and reclassifications	(5)	(27)	—	—	—	—	—	—	(32)	—	(32)
Improved recovery	—	—	—	—	—	—	—	—	—	—	—
Extensions and discoveries	—	—	—	—	—	—	—	1	1	—	1
Purchases of minerals in place	—	—	—	—	—	—	—	—	—	—	—
Sales of minerals in place	—	—	—	—	—	—	—	—	—	—	—
Production	(1)	(34)	—	—	—	—	—	(1)	(36)	—	(36)
At December 31	6	210	—	—	—	—	—	—	216	—	216
Total	184	1,783	73	379	728	15	644	815	3,977	644	4,621
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	—	—	—	—	—	—	322	—	—	322	322

[A] Includes 1 million barrels consumed in operations for synthetic crude oil.

Proved developed reserves 2020

	Million barrels										
	Europe	Asia	Oceania	Africa	North America			South America	Total		
					USA	Canada	Synthetic crude oil		Oil and NGL	Oil and NGL	Synthetic crude oil
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	156	1,403	106	314	641	15	607	675	3,310	607	3,917
At December 31	103	1,417	69	316	539	12	644	674	3,130	644	3,774
Shell share of joint ventures and associates											
At January 1	11	240	—	—	—	—	—	—	251	—	251
At December 31	6	192	—	—	—	—	—	1	199	—	199

Proved undeveloped reserves 2020

	Million barrels										
	Europe	Asia	Oceania	Africa	North America			South America	Total		
					USA	Canada	Synthetic crude oil		Oil and NGL	Oil and NGL	Synthetic crude oil
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	118	149	15	80	341	3	—	358	1,064	—	1,064
At December 31	76	156	5	63	189	3	—	141	633	—	633
Shell share of joint ventures and associates											
At January 1	1	31	—	—	—	—	—	—	32	—	32
At December 31	—	18	—	—	—	—	—	—	18	—	18

Supplementary information – oil and gas (unaudited) continued

Natural gas

Shell subsidiaries' proved reserves of natural gas at the end of the year, their share of the proved reserves of joint ventures and associates at the end of the year, and the changes in such reserves during the years are set out on pages 293-296. Significant changes in these proved reserves are discussed below (except where specific disclosures are prohibited).

Volumes are not adjusted to standard heat content. Apart from integrated projects, volumes of gas are reported on an "as-sold" basis. The price used to calculate future revenue and cash flows from proved gas reserves is the contract price or the 12-month average on "as-sold" volumes. Volumes associated with integrated projects are those measured at a designated transfer point between the upstream and downstream portions of the integrated project. Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

Proved reserves 2022–2021

Shell subsidiaries

Asia

- The increase of 682 thousand million scf in purchases was mainly in Oman.
- The increase of 581 thousand million scf in extensions and discoveries was mainly in Marjoram and Rosmari in Malaysia.
- The decrease of 906 thousand million scf in revisions and reclassifications was mainly due to higher prices resulting in a lower reserves entitlement in production-sharing contracts.

Oceania

- The increase of 959 thousand million scf in revisions and reclassifications was mainly in Surat QGC in Australia.
- The increase of 453 thousand million scf in extensions and discoveries was due to FID of Crux in Australia.

Canada

- The decrease of 540 thousand million scf in revisions and reclassifications was mainly in Groundbirch in Canada.

South America

- The increase of 288 thousand million scf in revisions and reclassifications was mainly in Trinidad and Tobago.

Shell share of joint ventures and associates

Asia

- The decrease of 776 thousand million scf in revisions and reclassifications was mainly in Lunskeye in Russia.

Proved reserves 2021–2020

Shell subsidiaries

Asia

- The increase of 559 thousand million scf in extensions and discoveries was mainly in Jerun and Timi.

Oceania

- The increase of 1,905 thousand million scf in revisions and reclassifications was mainly in Surat QGC, Janzlo and Prelude.

Europe

- The increase of 838 thousand million scf in revisions and reclassifications was mainly in Ormen Lange.

South America

- The increase of 535 thousand million scf in revisions and reclassifications mainly in Dolphin, Starfish and Mero.
- The increase of 357 thousand million scf in extensions and discoveries was mainly in Cassra and Bounty.

Shell share of joint ventures and associates

Asia

- The increase of 313 thousand million scf in revisions and reclassifications was mainly in South West Ampa.

Supplementary information – oil and gas (unaudited) continued

Proved developed and undeveloped reserves 2022

	Thousand million standard cubic feet							Total
	Europe	Asia	Oceania	Africa	North America		South America	
					USA	Canada		
Shell subsidiaries								
At January 1	2,991	9,573	5,307	2,016	615	1,540	1,753	23,795
Revisions and reclassifications	131	(906)	959	15	22	(540)	288	(31)
Improved recovery	—	—	—	—	—	—	—	—
Extensions and discoveries	64	581	453	—	10	81	81	1,270
Purchases of minerals in place	—	682	—	—	—	—	33	715
Sales of minerals in place	—	(53)	—	—	—	—	—	(53)
Production [A]	(302)	(799)	(770)	(190)	(126)	(125)	(336)	(2,648)
At December 31	2,884	9,078	5,949	1,841	521	956	1,819	23,048
Shell share of joint ventures and associates								
At January 1	312	3,560	71	—	—	—	6	3,949
Revisions and reclassifications	(3)	(776)	45	—	—	—	1	(733)
Improved recovery	—	—	—	—	—	—	—	—
Extensions and discoveries	—	—	77	—	—	—	3	80
Purchases of minerals in place	—	2,549	—	—	—	—	—	2,549
Sales of minerals in place	—	—	—	—	—	—	—	—
Production [B]	(134)	(325)	(24)	—	—	—	(3)	(486)
At December 31	175	5,008	169	—	—	—	7	5,359
Total [C]	3,059	14,086	6,118	1,841	521	956	1,826	28,407
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	—	—	—	—	—	—	—	—

[A] Includes 228 thousand million standard cubic feet consumed in operations.

[B] Includes 31 thousand million standard cubic feet consumed in operations.

[C] As announced on February 28, 2023, Shell completed the sale of its 100% interest in Shell Onshore Ventures LLC, which holds a 51.8% membership interest in Aera Energy LLC, to IKAV. As of December 31, 2022, we had proved reserves of 31 Thousand million standard cubic feet. See Note 35 on page 287.

Proved developed reserves 2022

	Thousand million standard cubic feet							Total
	Europe	Asia	Oceania	Africa	North America		South America	
					USA	Canada		
Shell subsidiaries								
At January 1	2,532	8,789	4,089	981	373	757	1,301	18,822
At December 31	2,460	6,698	4,111	984	275	712	1,582	16,822
Shell share of joint ventures and associates								
At January 1	265	3,097	71	—	—	—	6	3,439
At December 31	175	2,261	129	—	—	—	7	2,572

Proved undeveloped reserves 2022

	Thousand million standard cubic feet							Total
	Europe	Asia	Oceania	Africa	North America		South America	
					USA	Canada		
Shell subsidiaries								
At January 1	459	784	1,218	1,035	242	783	452	4,973
At December 31	424	2,380	1,838	857	246	244	237	6,226
Shell share of joint ventures and associates								
At January 1	47	463	—	—	—	—	—	510
At December 31	—	2,747	40	—	—	—	—	2,787

Supplementary information – oil and gas (unaudited) continued

Proved developed and undeveloped reserves 2021

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America			Total
					USA	Canada	South America	
Shell subsidiaries								
At January 1	2,442	9,927	4,176	2,363	801	1,295	1,128	22,132
Revisions and reclassifications	838	(37)	1,905	(63)	90	123	535	3,391
Improved recovery	—	—	—	—	5	—	4	9
Extensions and discoveries	1	559	—	126	158	277	357	1,477
Purchases of minerals in place	1	—	—	—	—	—	—	1
Sales of minerals in place	—	—	—	(122)	(225)	(37)	—	(384)
Production [A]	(291)	(876)	(774)	(288)	(214)	(118)	(271)	(2,831)
At December 31	2,991	9,573	5,307	2,016	615	1,540	1,753	23,795
Shell share of joint ventures and associates								
At January 1	262	3,678	41	—	—	—	1	3,982
Revisions and reclassifications	210	313	51	—	—	—	3	577
Improved recovery	—	—	—	—	—	—	—	—
Extensions and discoveries	—	—	—	—	—	—	2	2
Purchases of minerals in place	—	—	—	—	—	—	—	—
Sales of minerals in place	—	—	—	—	—	—	—	—
Production [B]	(160)	(431)	(21)	—	—	—	—	(612)
At December 31	312	3,560	71	—	—	—	6	3,949
Total [C]	3,303	13,133	5,378	2,016	615	1,540	1,759	27,744
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	—	—	—	—	—	—	—	—

[A] Includes 232 thousand million standard cubic feet consumed in operations.

[B] Includes 41 thousand million standard cubic feet consumed in operations.

[C] As of December 31, 2021, we had proved reserves of 980 thousand million cubic feet in natural gas relating to activities in Russia.

Proved developed reserves 2021

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America			Total
					USA	Canada	South America	
Shell subsidiaries								
At January 1	1,590	9,675	3,656	1,341	670	720	924	18,576
At December 31	2,532	8,789	4,089	981	373	757	1,301	18,822
Shell share of joint ventures and associates								
At January 1	227	3,175	42	—	—	—	1	3,445
At December 31	265	3,097	71	—	—	—	6	3,439

Proved undeveloped reserves 2021

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America			Total
					USA	Canada	South America	
Shell subsidiaries								
At January 1	852	252	520	1,022	132	575	203	3,556
At December 31	459	784	1,218	1,035	242	783	452	4,973
Shell share of joint ventures and associates								
At January 1	35	502	—	—	—	—	—	537
At December 31	47	463	—	—	—	—	—	510

Supplementary information – oil and gas (unaudited) continued

Proved developed and undeveloped reserves 2020

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America			Total
					USA	Canada	South America	
Shell subsidiaries								
At January 1	2,998	10,618	8,360	2,608	1,868	1,281	1,259	28,992
Revisions and reclassifications	(209)	249	(3,512)	93	(319)	59	162	(3,477)
Improved recovery	—	—	—	—	—	—	—	—
Extensions and discoveries	—	2	33	5	66	122	—	228
Purchases of minerals in place	—	—	—	—	—	—	—	—
Sales of minerals in place	(28)	(29)	—	—	(542)	—	—	(599)
Production [A]	(319)	(913)	(705)	(343)	(272)	(167)	(293)	(3,012)
At December 31	2,442	9,927	4,176	2,363	801	1,295	1,128	22,132
Shell share of joint ventures and associates								
At January 1	595	4,198	36	—	—	—	—	4,829
Revisions and reclassifications	(200)	(62)	27	—	—	—	1	(234)
Improved recovery	—	—	—	—	—	—	—	—
Extensions and discoveries	—	1	—	—	—	—	1	2
Purchases of minerals in place	—	—	—	—	—	—	—	—
Sales of minerals in place	—	—	—	—	—	—	—	—
Production [B]	(133)	(459)	(22)	—	—	—	(1)	(615)
At December 31	262	3,678	41	—	—	—	1	3,982
Total	2,703	13,605	4,219	2,363	801	1,295	1,128	26,114
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	—	—	—	—	—	—	—	—

[A] Includes 225 thousand million standard cubic feet consumed in operations.

[B] Includes 42 thousand million standard cubic feet consumed in operations.

Proved developed reserves 2020

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America			Total
					USA	Canada	South America	
Shell subsidiaries								
At January 1	2,060	10,091	5,769	1,523	1,615	781	968	22,807
At December 31	1,590	9,675	3,656	1,341	670	720	924	18,576
Shell share of joint ventures and associates								
At January 1	555	3,519	36	—	—	—	—	4,110
At December 31	227	3,175	42	—	—	—	1	3,445

Proved undeveloped reserves 2020

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America			Total
					USA	Canada	South America	
Shell subsidiaries								
At January 1	937	528	2,591	1,085	254	499	291	6,185
At December 31	852	252	520	1,022	132	575	203	3,556
Shell share of joint ventures and associates								
At January 1	39	680	—	—	—	—	—	719
At December 31	35	502	—	—	—	—	—	537

Supplementary information – oil and gas (unaudited) continued

Standardised measure of discounted future cash flows

The SEC Form 20-F requires the disclosure of a standardised measure of discounted future net cash flows, relating to proved reserves quantities and based on a 12-month unweighted arithmetic average sales price, calculated on a first-day-of-the-month basis, with cost factors based on those at the end of each year, currently enacted tax rates and a 10% annual discount factor. In our view, the information so calculated does not provide a reliable measure of future cash flows from proved reserves, nor does it permit a realistic comparison to be made of one entity with another because the assumptions used cannot reflect the varying circumstances within each entity. In addition, a substantial but unknown proportion of future real cash flows from oil and gas production activities is expected to derive from reserves which have already been discovered, but which cannot yet be regarded as proved.

Standardised measure of discounted future cash flows relating to proved reserves at December 31

2022 – Shell subsidiaries

								\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	82,513	157,030	67,551	28,054	52,231	66,059	115,529	568,967
Future production costs	16,781	32,416	22,764	9,762	23,546	28,520	46,947	180,736
Future development costs	6,125	15,240	8,696	3,004	7,720	5,269	15,917	61,971
Future tax expenses	43,626	50,771	6,917	9,670	3,821	7,004	15,074	136,883
Future net cash flows	15,981	58,603	29,174	5,618	17,144	25,266	37,591	189,377
Effect of discounting cash flows at 10%	5,193	25,770	10,529	1,580	4,056	17,478	13,104	77,710
Standardised measure of discounted future net cash flows	10,788	32,833	18,645	4,038	13,088	7,788	24,487	111,667
Non-controlling Interest Included	—	—	—	—	—	3,314	—	3,314

2022 – Shell share of joint ventures and associates

								\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	6,576	86,464	1,227	—	—	—	577	94,844
Future production costs	3,626	31,569	760	—	—	—	162	36,117
Future development costs	778	7,139	536	—	—	—	15	8,468
Future tax expenses	2,257	34,551	—	—	—	—	81	36,889
Future net cash flows	(85)	13,205	(69)	—	—	—	319	13,370
Effect of discounting cash flows at 10%	85	6,152	(130)	—	—	—	67	6,174
Standardised measure of discounted future net cash flows	(170)	7,053	61	—	—	—	252	7,196

2021 – Shell subsidiaries

								\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	37,801	115,068	37,462	22,663	41,431	34,835	81,239	370,499
Future production costs	11,977	30,567	13,446	8,742	23,314	15,565	35,787	139,398
Future development costs	5,347	12,989	6,718	3,078	7,787	4,063	16,130	56,112
Future tax expenses	12,311	28,834	2,206	7,584	1,572	3,153	7,829	63,489
Future net cash flows	8,166	42,678	15,092	3,259	8,758	12,054	21,493	111,500
Effect of discounting cash flows at 10%	1,754	18,771	4,205	497	1,207	7,331	7,270	41,035
Standardised measure of discounted future net cash flows	6,412	23,907	10,887	2,762	7,551	4,723	14,223	70,465
Non-controlling Interest Included	—	—	—	—	—	1,906	—	1,906

Supplementary information – oil and gas (unaudited) continued

2021 – Shell share of joint ventures and associates

								\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	4,006	36,365	326	—	—	—	283	40,980
Future production costs	2,869	15,653	245	—	—	—	128	18,895
Future development costs	931	6,819	82	—	—	—	15	7,847
Future tax expenses	1,623	6,229	—	—	—	—	9	7,861
Future net cash flows	(1,417)	7,664	(1)	—	—	—	131	6,377
Effect of discounting cash flows at 10%	(316)	1,630	(29)	—	—	—	34	1,319
Standardised measure of discounted future net cash flows	(1,101) [A]	6,034	28	—	—	—	97	5,058

[A] While proved reserves are economically producible at the 2021 yearly average price, the standardised measure of discounted future net cash flows was negative for those proved reserves at December 31, 2021, due to addition of overhead, tax and abandonment costs and ongoing commitments post production of proved reserves.

2020 – Shell subsidiaries

								\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	16,581	75,128	23,787	19,743	27,891	22,447	34,502	220,079
Future production costs	6,776	26,896	10,240	9,837	20,341	15,475	19,137	108,702
Future development costs	4,352	12,416	7,441	3,354	7,274	4,559	7,440	46,836
Future tax expenses	4,525	12,585	254	4,713	54	407	1,847	24,385
Future net cash flows	928	23,231	5,852	1,838	222	2,006	6,079	40,156
Effect of discounting cash flows at 10%	338	9,792	493	(50)	(1,469)	1,231	1,369	11,704
Standardised measure of discounted future net cash flows	590	13,440	5,359 [A]	1,889	1,691	775	4,709	28,452 [B]
Non-controlling interest included	—	—	—	—	—	398	—	398

[A] Corrected from 6,719.

[B] Corrected from 29,813.

2020 – Shell share of joint ventures and associates

								\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	1,209	22,209	139	—	—	—	21	23,578
Future production costs	2,801	11,472	136	—	—	—	17	14,426
Future development costs	948	5,165	111	—	—	—	2	6,226
Future tax expenses	—	3,026	—	—	—	—	—	3,026
Future net cash flows	(2,540)	2,546	(108)	—	—	—	2	(100)
Effect of discounting cash flows at 10%	(583)	412	(35)	—	—	—	—	(206)
Standardised measure of discounted future net cash flows	(1,957) [A]	2,134	(73)	—	—	—	2	106

[A] While proved reserves are economically producible at the 2020 yearly average price, the standardised measure of discounted future net cash flows was negative for those proved reserves at December 31, 2020, due to addition of overhead, tax and abandonment costs and ongoing commitments post production of proved reserves.

Supplementary information – oil and gas (unaudited) continued

Change in standardised measure of discounted future net cash flows relating to proved reserves

	\$ million		
	Shell subsidiaries	Shell share of joint ventures and associates	Total
2022			
At January 1	70,465	5,058	75,523
Net changes in prices and production costs	107,637	10,441	118,078
Revisions of previous reserves estimates	12,378	(5,544)	6,834
Extensions, discoveries and improved recovery	7,422	439	7,861
Purchases and sales of minerals in place	3,187	10,374	13,561
Development cost related to future production	(11,233)	(1,619)	(12,852)
Sales and transfers of oil and gas, net of production costs	(54,486)	(7,029)	(61,515)
Development cost incurred during the year	10,079	1,545	11,624
Accretion of discount	9,796	888	10,684
Net change in income tax	(43,578)	(7,357)	(50,935)
At December 31	111,667	7,196	118,863

	\$ million		
	Shell subsidiaries	Shell share of joint ventures and associates	Total
2021			
At January 1	28,452	106	28,558
Net changes in prices and production costs	74,896	9,188	84,084
Revisions of previous reserves estimates	19,435	3,253	22,688
Extensions, discoveries and improved recovery	5,631	60	5,691
Purchases and sales of minerals in place	(880)	—	(880)
Development cost related to future production	(10,652)	(982)	(11,634)
Sales and transfers of oil and gas, net of production costs	(35,754)	(4,455)	(40,209)
Development cost incurred during the year	8,594	969	9,563
Accretion of discount	3,832	170	4,002
Net change in income tax	(23,089)	(3,251)	(26,340)
At December 31	70,465	5,058	75,523

	\$ million		
	Shell subsidiaries	Shell share of joint ventures and associates	Total
2020			
At January 1	72,854	4,893	77,747
Net changes in prices and production costs	(71,184)	(6,097)	(77,281)
Revisions of previous reserves estimates	574	(459)	115
Extensions, discoveries and improved recovery	691	17	709
Purchases and sales of minerals in place	(540)	—	(540)
Development cost related to future production	2,906	(426)	2,480
Sales and transfers of oil and gas, net of production costs	(16,990)	(1,954)	(18,944)
Development cost incurred during the year	8,197	759	8,956
Accretion of discount	9,881	832	10,713
Net change in income tax	22,063	2,541	24,604
At December 31	28,452 [A]	106	28,558 [B]

[A] Corrected from 29,813.

[B] Corrected from 29,919.

Supplementary information – oil and gas (unaudited) continued

Oil and gas exploration and production activities capitalised costs

The aggregate amount of property, plant and equipment and intangible assets, excluding goodwill, relating to oil and gas exploration and production activities, and the aggregate amount of the related depreciation, depletion and amortisation at December 31, are shown in the tables below.

Shell subsidiaries

	2022	\$ million 2021
Cost		
Proved properties [A]	251,173	261,085
Unproved properties	11,641	12,754
Support equipment and facilities	11,329	11,067
	274,143	284,906
Depreciation, depletion and amortisation		
Proved properties [A]	149,884	156,554
Unproved properties	5,238	5,660
Support equipment and facilities	6,241	5,891
	161,363	168,105
Net capitalised costs	112,780	116,801

[A] Includes capitalised asset decommissioning and restoration costs and related depreciation.

Shell share of joint ventures and associates

	2022	\$ million 2021
Cost		
Proved properties [A]	46,244	52,762
Unproved properties	1,528	1,853
Support equipment and facilities	4,577	4,982
	52,349	59,597
Depreciation, depletion and amortisation		
Proved properties [A]	34,683	38,844
Unproved properties	452	452
Support equipment and facilities	3,023	3,182
	38,158	42,478
Net capitalised costs	14,191	17,119

[A] Includes capitalised asset decommissioning and restoration costs and related depreciation.

Oil and gas exploration and production activities costs incurred

Costs incurred during the year in oil and gas property acquisition, exploration and development activities, whether capitalised or charged to income currently, are shown in the tables below. As a result of the adoption of IFRS 16 *Leases* as of January 1, 2019, leases are included in all years shown below. Development costs include capitalised asset decommissioning and restoration costs (including increases or decreases arising from changes to cost estimates or to the discount rate applied to the obligations) and exclude costs of acquiring support equipment and facilities, but include depreciation thereon.

Shell subsidiaries

2022

								\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Other [A]		
Acquisition of properties								
Proved	(1)	—	—	102	—	—	184	285
Unproved	—	—	—	(1)	66	8	27	100
Exploration	422	141	21	259	721	140	591	2,295
Development	981	1,001	547	727	1,951	213	3,966	9,386

[A] Comprises Canada, Mexico and Barbados.

Supplementary information – oil and gas (unaudited) continued

2021

								\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Other [A]		
Acquisition of properties								
Proved	2	—	—	246	—	—	—	247
Unproved	—	—	—	2	26	34	42	103
Exploration	298 [B]	106 [B]	26	136	920	217	170	1,873
Development	996	693	600	166	3,116	106	1,436	7,113

[A] Comprises Canada and Mexico.

[B] As revised, following a reassessment.

2020

								\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Other [A]		
Acquisition of properties								
Proved	4	156	—	5	—	—	—	165
Unproved	115	19	—	48	80	6	180	448
Exploration	271 [B]	118 [B]	33	168	951	275	390	2,206
Development	1,612	1,018	1,465	807	4,186	325	1,930	11,343

[A] Comprises Canada and Mexico.

[B] As revised, following a reassessment.

Shell share of joint ventures and associates

Joint ventures and associates did not incur costs in the acquisition of oil and gas properties in 2022 and 2021.

2022

								\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Other		
Exploration	—	50	3	—	—	—	51	104
Development	(8)	2,250	246	—	—	—	87	2,575

2021

								\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Other		
Exploration	—	69	1	—	—	—	41	111
Development	101	1,648	205	—	—	—	49	2,002

2020

								\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Other		
Acquisition of properties								
Unproved	—	—	—	—	—	—	128	128
Exploration	—	94	10	—	—	—	105	209
Development	124	2,225 [A]	67	—	—	—	2	2,418 [A]

[A] As revised, following a reassessment.

Supplementary information – oil and gas (unaudited) continued

Oil and gas exploration and production activities earnings

In Shell, extractive activities, or oil and gas exploration and production activities, are undertaken within the Integrated Gas, the Upstream and the Chemicals and Products segments. Shell's extractive activities do not represent the full extent of Integrated Gas, Upstream and Chemicals and Products activities, and exclude GTL, some LNG activities, trading and optimisation, as well as other non-extractive activities.

The earnings disclosed in this "extractive activities" section are only a subset of Shell's total earnings and as a result are not suitable for modelling Shell's integrated businesses, for which we refer to the full segment earnings and descriptions of Integrated Gas, Upstream and Chemicals and Products. These are available on pages 43, 49 and 70 respectively. The earnings disclosed in this "extractive activities" section are not adjusted for items such as impairment charges, restructuring charges and charges for onerous contract provisions. Full segment information to the Consolidated Financial Statements is available on pages 245-249.

The results of operations for oil and gas producing activities are shown in the tables below. Taxes other than income tax include royalties in cash to governments, without option to pay in kind outside USA and Canada.

Shell subsidiaries

2022

	\$ million							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Other [A]		
Revenue								
Third parties	1,986	3,832	1,394	2,173	257	888	2,459	12,989
Sales between businesses	11,115	14,503	8,457	2,013	12,221	2,713	12,107	63,129
Total	13,101	18,335	9,851	4,186	12,478	3,601	14,566	76,118
Production costs excluding taxes	2,151	1,956	1,331	825	1,556	731	1,331	9,881
Taxes other than income tax	102	831	688	238	(3)	—	3,837	5,693
Exploration	274	121	74	233	621	92	297	1,712
Depreciation, depletion and amortisation	1,468	2,090	(211)	1,090	4,462	403	1,722	11,024
Other costs/(income)	3,772	1,089	135	(336)	629	1,557	1,030	7,876
Earnings before taxation	5,334	12,248	7,834	2,136	5,213	818	6,349	39,932
Taxation charge/(credit)	5,151	7,561	3,025	527	739	229	1,681	18,913
Earnings after taxation	183	4,687	4,809	1,609	4,474	589	4,668	21,019

[A] Comprises Canada, Mexico and Barbados.

2021

	\$ million							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Other [A]		
Revenue								
Third parties	1,502	3,084 [B]	681	1,849	3,411	816	1,167 [B]	12,510 [B]
Sales between businesses	5,524	11,107	5,256	2,214	8,009	1,815	8,249	42,174
Total	7,026	14,191 [B]	5,937	4,063	11,420	2,631	9,416 [B]	54,684 [B]
Production costs excluding taxes	1,892	1,817	1,222	1,013	2,165	679	1,045	9,833
Taxes other than income tax	77	858 [B]	234	250	120	—	2,847 [B]	4,386 [B]
Exploration	239 [B]	73 [B]	21	133	616	191	150	1,423
Depreciation, depletion and amortisation	1,342	2,817	1,805	1,227	5,201	181	3,973	16,546
Other costs/(income)	3,747 [B]	1,330 [B]	(155)	(349)	(2,550)	1,045	233	3,301
Earnings before taxation	(271) [B]	7,296 [B]	2,810	1,789	5,868	535	1,168	19,195
Taxation charge/(credit)	494 [B]	4,452 [B]	831	35	1,268	180	256	7,516
Earnings after taxation	(765) [B]	2,844 [B]	1,979	1,754	4,600	355	912	11,679

[A] Comprises Canada and Mexico.

[B] As revised, following a reassessment.

Supplementary information – oil and gas (unaudited) continued

2020

	\$ million							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Other [A]		
Revenue								
Third parties	734 [B]	2,128 [B]	589	1,540	1,008	753	546 [B]	7,298 [B]
Sales between businesses	2,879	6,792	3,366	1,816	5,239	943	4,656	25,691
Total	3,613 [B]	8,920 [B]	3,955	3,356	6,247	1,696	5,202 [B]	32,989 [B]
Production costs excluding taxes	2,023	1,811	1,040	1,064	2,615	735	936	10,224
Taxes other than income tax	31 [B]	413 [B]	93	245	64	—	1,473 [B]	2,319 [B]
Exploration	240 [B]	165 [B]	234	202	325	108	473	1,747
Depreciation, depletion and amortisation	3,618	2,120	10,178	2,589	7,927	2,147	6,282	34,861
Other costs/(income)	463 [B]	1,649 [B]	314	645	230	631	161	4,093
Earnings before taxation	(2,762) [B]	2,762 [B]	(7,904)	(1,389)	(4,914)	(1,925)	(4,123)	(20,255)
Taxation charge/(credit)	(423)	1,854	(3,175)	(104)	(790)	(449)	(300)	(3,387)
Earnings after taxation	(2,339) [B]	908 [B]	(4,729)	(1,285)	(4,124)	(1,476)	(3,823)	(16,868)

[A] Comprises Canada, Honduras and Mexico.

[B] As revised, following a reassessment.

Shell share of joint ventures and associates

2022

	\$ million							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Third-party revenue	2,899	5,997	190	—	—	—	219	9,305
Total	2,899	5,997	190	—	—	—	219	9,305
Production costs excluding taxes	289	617	97	—	—	—	23	1,026
Taxes other than income tax	231	1,402	18	—	—	—	25	1,676
Exploration	1	26	—	—	—	—	—	27
Depreciation, depletion and amortisation	155	2,910	46	—	—	—	47	3,158
Other costs/(income)	(2,061)	184	14	—	(2)	—	18	(1,847)
Earnings before taxation	4,284	858	15	—	2	—	106	5,265
Taxation charge	2,958	1,437	—	—	1	—	22	4,418
Earnings after taxation	1,326	(579)	15	—	1	—	84	847

2021

	\$ million							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Third-party revenue	1,632	5,236 [A]	78	—	—	—	102	7,048 [A]
Total	1,632	5,236 [A]	78	—	—	—	102	7,048 [A]
Production costs excluding taxes	246	770	82	—	—	—	9	1,107
Taxes other than income tax	48	900	7	—	—	—	12	967
Exploration	2	27	—	—	—	—	—	29
Depreciation, depletion and amortisation	254	1,262	32	—	—	—	38	1,586
Other costs/(income)	732	118 [A]	(22)	—	(8)	—	11	831 [A]
Earnings before taxation	350	2,159	(21)	—	8	—	32	2,528
Taxation charge	62	877	—	—	2	—	(2)	939
Earnings after taxation	288	1,282 [A]	(21)	—	6	—	34	1,589 [A]

[A] As revised, following a reassessment.

Supplementary information – oil and gas (unaudited) continued

2020

									\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total	
					USA	Canada			
Third-party revenue	514	3,313 [A]	65	—	—	—	32	3,924	
Total	514	3,313 [A]	65	—	—	—	32	3,924	
Production costs excluding taxes	272	726	72	—	—	—	8	1,078	
Taxes other than income tax	22	423	5	—	—	—	4	454	
Exploration	2	97	—	—	—	—	—	99	
Depreciation, depletion and amortisation	366	1,219	270	—	(7)	—	23	1,871	
Other costs/(income)	296	214 [A]	(14)	—	(1)	—	12	507	
Earnings before taxation	(444)	634	(268)	—	8	—	(15)	(85)	
Taxation charge	(281)	162	—	—	2	—	(9)	(126)	
Earnings after taxation	(163)	472 [A]	(268)	—	6	—	(6)	41	

[A] As revised, following a reassessment.

Acreage and wells

The tables below reflect acreage and wells of Shell subsidiaries, joint ventures and associates. The term "gross" refers to the total activity in which Shell subsidiaries, joint ventures and associates have an interest. The term "net" refers to the sum of the fractional interests owned by Shell subsidiaries plus the Shell share of joint ventures and associates' fractional interests. Data below are rounded to the nearest whole number.

Oil and gas acreage (at December 31)

	Thousand Acres											
	2022				2021				2020			
	Developed		Undeveloped		Developed		Undeveloped		Developed		Undeveloped	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Europe	6,008	1,873	6,121	3,095	6,022 [A]	1,880 [A]	8,083 [B]	3,839 [B]	6,075	1,900	13,399	5,663
Asia	20,678	7,370	33,382	18,524	21,360	7,651	31,620	17,022	21,360	7,651	34,545	18,003
Oceania	2,368	854	8,978	4,940	2,343 [C]	839 [C]	9,714 [D]	5,237 [D]	2,323 [E]	824 [E]	9,977 [F]	5,418 [F]
Africa	3,086	1,141	71,934	37,199	3,937	1,457	71,398	35,633	4,764	1,996	67,197	36,944
North America - USA	486	286	2,180	1,457	487	286	2,049	1,555	1,145	728	1,916	1,408
North America - Mexico	—	—	5,406	3,335	—	—	5,407	3,335	—	—	5,178	3,291
North America - Canada	379	209	1,126	626	367 [G]	208 [G]	1,326 [H]	821 [H]	498 [I]	338 [I]	1,681 [J]	1,175 [J]
South America	1,669	755	26,156	14,393	1,463	616	23,467	12,629	1,449	609	20,037	11,709
Total	34,674	12,488	155,283	83,569	35,979	12,937	153,064	80,071	37,614	14,046	153,930	83,611

[A] Corrected from 6,009 Gross (1,875 Net).

[B] Corrected from 8,090 Gross (3,833 Net).

[C] Corrected from 2485 Gross (947 Net).

[D] Corrected from 9577 Gross (5132 Net).

[E] Corrected from 2653 Gross (993 Net).

[F] Corrected from 9654 Gross (5256 Net).

[G] Corrected from 359 Gross (206 Net).

[H] Corrected from 1334 Gross (823 Net).

[I] Corrected from 490 Gross (336 Net).

[J] Corrected from 1689 Gross (1177 Net).

Supplementary information – oil and gas (unaudited) continued

Number of productive wells [A] (at December 31)

	2022				2021				2020			
	Oil		Gas		Oil		Gas		Oil		Gas	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Europe	749	199	963	306	796	193	1,021	324	814	197	1,047	335
Asia	8,147	2,837	316	201	8,804 [B]	3,213 [B]	362 [C]	209 [C]	8,492 [D]	3,100 [D]	340 [E]	192 [E]
Oceania	—	—	3,382	1,964	—	—	3,398	1,974	—	—	3,369	1,920
Africa	321	106	84	34	391	126	114	56	567	235	209	141
North America – USA	13,021	6,617	26	18	13,042	6,627	28	20	14,505	7,402	401	223
North America – Canada	—	—	530	459	—	—	510	440	—	—	757	684
South America	294	145	69	40	229	112	67	39	179	82	63	37
Total	22,532	9,904	5,370	3,022	23,262	10,271	5,500	3,062	24,557	11,016	6,186	3,532

[A] The number of productive wells with multiple completions at December 31, 2022, was 869 Gross (400 Net); December 31, 2021: 956 Gross (427 Net); December 31, 2020: 956 Gross (416 Net).

[B] Corrected from 8,819 Gross (3,219 Net).

[C] Corrected from 364 Gross (210 Net).

[D] Corrected from 8,505 Gross (3,105 Net).

[E] Corrected from 342 Gross (193 Net).

Number of net productive wells and dry holes drilled [A]

	2022		2021		2020	
	Productive	Dry	Productive	Dry	Productive	Dry
Exploratory [A]						
Europe	5	2	—	—	—	1
Asia	4	5	5	10	10	8
Oceania	20	1	—	2	—	6
Africa	—	2	—	11	5	7
North America - USA	—	5	3	39	57	81
North America - Canada	—	—	—	15	17	1
South America	18	2	5	1	5	3
Total	47	17	13	78	94	107
Development						
Europe	3	—	3	1	5	—
Asia	217	—	218	—	169	—
Oceania	84	1	7	—	20	—
Africa	5	—	6	—	19	—
North America - USA	54	—	46	—	110	—
North America - Canada	22	—	—	—	—	—
South America	23	—	31	—	14	—
Total	408	1	311	1	337	—

[A] Productive wells are wells with proved reserves allocated. Wells in the process of drilling are excluded and presented separately below.

Supplementary information – oil and gas (unaudited) continued

Number of wells in the process of exploratory drilling [A]

2022

	At January 1		Wells in the process of drilling at January 1 and allocated proved reserves during the year		Wells in the process of drilling at January 1 and determined as dry during the year		New wells in the process of drilling at December 31		At December 31	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Europe	12	8	(5)	(5)	(1)	(1)	3	3	9	5
Asia	53	20	(5)	(3)	(11)	(3)	23	8	60	22
Oceania	68	30	(36)	(18)	(2)	(1)	41	20	71	31
Africa	19	11					1		20	11
North America - USA	11	9			(4)	(3)	4	3	11	9
North America - Canada							6	6	6	6
South America	29	11	(18)	(7)	(2)	(1)	15	7	24	10
Total	192	89	(64)	(33)	(20)	(9)	93	47	201	94

[A] Wells in the process of exploratory drilling includes wells pending further evaluation.

Number of wells in the process of development drilling

2022

	At January 1		At December 31	
	Gross	Net	Gross	Net
Europe	1	1	2	1
Asia	38	20	29	16
Oceania	181	111	282	184
Africa	5	2	1	1
North America - USA	9	6	21	12
North America - Canada	6	5	6	5
South America	46	30	18	7
Total	286	175	359	226

In addition to the present activities mentioned above, the following recovery methods are operational in the following countries: water flooding (Brazil (including water alternating gas), Brunei, Malaysia, Nigeria, Oman, the UK and the USA); gas injection (Brazil, Brunei, Kazakhstan, Malaysia, Nigeria and Oman); steam injection (the Netherlands, Oman and the USA), and polymer flooding (Oman).

Understanding the EU taxonomy

What is the EU taxonomy?

Regulation EU 2020/852 (the "Taxonomy Regulation") is a classification system for determining when an economic activity can be considered environmentally sustainable according to EU standards. It aims to encourage investment in a low-carbon economy by creating common definitions of sustainability and mandatory disclosures to help investors make informed decisions.

How does it work?

Non-financial companies screen their eligible activities against the taxonomy's technical criteria for environmental sustainability and minimum safeguards. This allows them to calculate the share of revenue (turnover), capital expenditure (capex) and operating expenditure (opex) that can be classified as aligned.

Why does Shell report voluntarily?

Shell supports the EU's ambition to achieve net zero emissions, which aligns with our own target to become a net-zero emissions energy business by 2050. We report against the taxonomy voluntarily because we recognise the importance of increasing transparency about how companies are progressing in the energy transition, even if the regulation is evolving and not yet mature.

What is the reporting scope?

The taxonomy's reporting scope covers Shell's global business, based on the financial consolidation boundary. Shell's eligible activities include elements of our chemicals, power, hydrogen, biofuels, electric vehicle charging, carbon capture and storage (CCS) and nature-based solutions (NBS) businesses. Our remaining businesses are non-eligible.

How does it compare with Shell's other disclosures?

The taxonomy's reporting basis differs from that used in our financial statements, which are based on International Financial Reporting Standards (IFRS). For example, it does not recognise our interests in equity accounted joint ventures and associates, goodwill, feasibility expenses or integrated value chains. These and other differences result in lower reported turnover, capex and opex under the taxonomy compared to our other disclosures.

What is the significance of the technical criteria?

The taxonomy's technical criteria recognise stringent levels of environmental performance rather than transitional steps or alternative pathways. Due to their complexity and reliance on EU standards, the criteria can be difficult to interpret and apply, especially for activities outside the EU.

What share of Shell's business is eligible and aligned?

In 2022, Shell's eligible turnover was 3%, capex was 21% and opex was 16%. At present, there is a lack of consensus in the market about how to interpret various aspects of the technical screening criteria. Shell elects to take a prudent approach, which for 2022 implies zero alignment. However, we assess elements of our solar, wind, hydrogen, low-carbon road transport and renewable energy technology activities to be close to alignment. When fully aligned, this would result in a range of 0.1-0.2% for turnover, 9-10% for capex and 0.3-1.5% for opex.

What is Shell doing to increase transparency?

The taxonomy does not, in our view, provide a complete picture of Shell's low-carbon business. Nevertheless, we support efforts to improve the framework and advance climate-related disclosure more broadly. For more information, see "Our Journey to Net Zero" on pages 82-109.

Scope of taxonomy-eligible activities

1.4	Conservation forestry		Equity accounted JVAs		Feasibility		Eligible projects		Non-eligible projects		Trading
3.14	Manufacture of chemicals		Equity accounted JVAs		Feasibility		Manufacturing		Non-eligible products		Trading
3.17	Manufacture of plastics		Equity accounted JVAs		Feasibility		Manufacturing		Non-eligible products		Trading
3.10	Manufacture of hydrogen		Equity accounted JVAs		Feasibility		Manufacturing		Trading		Feedstock (biofuels only)
4.13	Manufacture of biogas and biofuels		Equity accounted JVAs		Feasibility		Manufacturing		Trading		Feedstock (biofuels only)
4.1	Electricity from wind		Equity accounted JVAs		Feasibility		Power generation		Trading and B2B/B2C sales		Decarbonisation of non-eligible activities
4.3	Electricity from solar		Equity accounted JVAs		Feasibility		Power generation		Trading and B2B/B2C sales		Decarbonisation of non-eligible activities
4.29	Electricity from fossil gas		Equity accounted JVAs		Feasibility		Power generation		Trading and B2B/B2C sales		Upstream, midstream, LNG, GTL
5.11	Transport of CO ₂		Equity accounted JVAs		Feasibility		Transport & storage		Carbon capture		
5.12	Storage of CO ₂		Equity accounted JVAs		Feasibility		Transport & storage		Carbon capture		
6.15	Infrastructure enabling low-carbon road transport		Equity accounted JVAs		Feasibility		Infrastructure		Retail power and hydrogen sales		B2B/B2C solutions
7.6	Installation of renewable energy technologies		Equity accounted JVAs		Feasibility		B2C solutions				

Taxonomy-eligible
 Taxonomy non-eligible

B2B Business-to-Business **B2C** Business-to-Consumer **JVA** Joint Ventures & Associates **LNG** Liquefied Natural Gas **GTL** Gas-to-Liquids

Supplementary information – EU taxonomy disclosure continued

Overview

The EU taxonomy is a classification system that translates the European Union's environmental objectives into criteria for determining when an economic activity can be considered environmentally sustainable for investment purposes.

The taxonomy is designed as a transparency tool to enable investors to compare companies and investment portfolios on a consistent basis. It is not a mandatory list of activities for investors to invest in, nor does it set mandatory environmental performance requirements for companies or financial products.

The taxonomy framework

The Taxonomy Regulation establishes technical criteria for environmental sustainability across more than 100 economic activities and six environmental objectives. So far, criteria have been approved for activities contributing to the first two objectives, climate change mitigation and climate change adaptation. Criteria for the four remaining objectives – water, circular economy, pollution control and biodiversity – are expected to be adopted by the EU in 2023.

An activity is "taxonomy-eligible" if it is described in a delegated act adopted under the Taxonomy Regulation. Such an activity is eligible irrespective of whether it complies with the technical screening criteria.

An activity is "taxonomy-aligned" if it contributes substantially to one or more environmental objectives, does no significant harm to any of the other objectives, is carried out in compliance with minimum human and labour rights safeguards, and complies with the relevant technical screening criteria.

The taxonomy's disclosure requirements have been phased-in over two years. In 2021, the first year of reporting, non-financial undertakings were required to disclose the total share of turnover, capex and opex associated with their eligible activities. From 2022, they are required to disclose detailed activity-level data on eligibility and alignment as well as additional contextual information.

The EU has stated that the taxonomy will develop over time. The fact that an activity is not recognised as substantially contributing to one of the EU's environmental objectives does not necessarily mean it is not sustainable. In addition, not all activities with the potential to make a substantial contribution to the environmental objectives are yet included in the framework.

As a UK company with its registered office and headquarters in London, Shell plc is not currently subject to the Taxonomy Regulation. We expect to come into scope in 2024 via the EU's Corporate Sustainability Reporting Directive (CSRD), which extends the Taxonomy

Regulation's reporting obligation to third country issuers that list on European exchanges.

Our eligibility

In 2022, Shell's taxonomy-eligible turnover was \$12 billion, capex was \$6.7 billion and opex was \$0.8 billion. Eligible capex increased by \$2.2 billion in 2022 compared to the previous year, driven by higher expenditure for wind, solar, low-carbon road transport and hydrogen. Opex remained steady. Turnover decreased by \$3 billion, mainly due to lower chemicals revenues.

Eligible capex as a share of total capex increased to 21% in 2022 from 18% in 2021. Opex increased to 16% in 2022 from 15% in 2021 due in part to lower non-eligible expenditure. Turnover is particularly sensitive to the performance of our non-eligible businesses, decreasing to 3% in 2022 from 6% in 2021 due to a combination of lower technology activities to be close to alignment. When fully aligned, this would result in a range of 0.1-0.2% for turnover, 9-10% for capex and 0.3-1.5% for opex.

At present, there is a lack of consensus in the market about how to interpret various aspects of the technical screening criteria. In view of these uncertainties, Shell elects to take an approach which for 2022 implies zero alignment. However, we assess elements of our solar, wind, hydrogen, low-carbon road transport and renewable energy technology activities to be close to alignment. When fully aligned, this would result in a range of 0.1-0.2% for turnover, 9-10% for capex and 0.3-1.5% for opex.

Basis of preparation

Shell seeks to prepare its disclosure in accordance with Delegated Regulation EU 2021/2178 (the "Disclosures Delegated Act") as well as several Commission Notices containing answers to frequently asked questions about taxonomy reporting issued in 2021 and 2022.

Shell has adopted a three-step process to prepare its taxonomy disclosure. Firstly, we begin by identifying our eligible activities and mapping these to our assets and projects. Secondly, we screen those activities for alignment with the technical criteria and the minimum safeguards. Finally, we calculate the metrics for eligibility and alignment, based on the screening results. Each step is discussed below.

Identification of eligible activities

Shell has assessed its business against the economic activities qualifying for the taxonomy's climate mitigation and climate adaptation objectives. These include the activities listed in Delegated Regulation EU 2021/2139 (the "Climate Delegated Act") and the gas-related activities listed in Delegated Regulation EU 2022/1214 (the "Complementary Climate Delegated Act").

EU taxonomy eligibility 2022

	2022			2021		
	Turnover	Capex	Opex	Turnover	Capex	Opex
Eligible	11,986	6,744	796	14,984	4,548	820
Non-eligible	369,328	25,556	4,138	246,520	20,845	4,479
Total	381,314	32,300	4,934	261,504	25,393	5,299
Eligible % of total	3%	21%	16%	6%	18%	15%
Non-eligible % of total	97%	79%	84%	94%	82%	85%

\$ million, except where indicated

Supplementary information – EU taxonomy disclosure continued

The Taxonomy Regulation does not provide criteria for determining when an economic activity is in scope for reporting. According to EU guidance, an economic activity takes place when resources such as capital, goods, labour, manufacturing techniques or intermediary products are combined to produce specific goods or services. Based on this definition, Shell treats economic activities as in scope for reporting if they correspond to final goods or services offered for sale to customers, or if they are intended to be offered for sale in the future based on current business plans. We do not report on factors of production or overheads, such as real estate or IT, since these do not represent a final good or service. We also do not report on activities which are immaterial to our results and are not intended to operate as stand-alone businesses, such as sales of waste heat or electricity from refineries and chemical plants. In our view, reporting on such activities results in a more complex disclosure and creates double-counting risks, reducing transparency and comparability for users.

For 2022, we identified a total of 12 economic activities as eligible for reporting. All of these contribute to the climate change mitigation objective. The only addition to our activities since last year is 4.29 Electricity Generation from Fossil Gaseous Fuels, which became an eligible activity with the adoption of the Complementary Climate Delegated Act in 2022.

Electric vehicle charging is referenced by multiple economic activities in the taxonomy, each of which has a different set of technical screening criteria. There is a lack of consensus in the market about which one to apply. For 2022, Shell has elected to categorise all its electric vehicle charging businesses under the activity with the most stringent criteria, 6.15 Infrastructure Enabling Low-Carbon Road Transport and Public Transport.

Alignment screening

The Taxonomy Regulation does not prescribe how screening for alignment should be carried out. Shell has developed an internal process to assess its eligible activities for alignment with the technical screening criteria and minimum safeguards, based on our understanding of the requirements of the Disclosures Delegated Act.

For each eligible activity, we begin by identifying the assets in scope for reporting. An asset is typically a discrete element of physical plant or equipment that contributes to an economic activity, such as a chemical plant or a wind farm, or a project in development that is intended to become an asset in the future.

Once the assets for each activity have been defined, we review the Substantial Contribution and Do No Significant Harm (DNSH) criteria and proceed to screen the assets. Screening is carried out by subject matter experts and subject to cross-checking at various levels.

The technical criteria are highly detailed, with extensive references to European standards and regulations which are not widely used outside the region. Applying them poses several challenges. Examples include situations where it is difficult to translate EU standards or regulations to a non-EU context; where Shell is materially aligned with a complex technical standard but varies in certain details; where the criteria are expressed in qualitative terms that are open to interpretation; or where the criteria are designed for narrower range of applications than the one implied by the activity description. These situations require us to apply judgement in determining whether the criteria are met.

Sometimes it is not possible to associate eligible turnover, capex or opex with a specific asset. For example, this can happen when we incur research and development expenses for an activity but the expenditure cannot be tied to a specific project for screening purposes. If alignment cannot be reasonably established, the relevant amounts are classified as eligible but non-aligned.

Situations can arise where we may not be able to screen all assets in scope of an activity. This can occur when an activity contains a large number of early-stage projects and it is more efficient to focus on the most material projects and treat the remaining ones as eligible but non-aligned. This situation can also arise when assets are acquired late in the reporting cycle and there is insufficient time to conduct a high quality screening, or when it has not been possible to obtain information about a non-operated asset from joint venture partners. Such assets are treated as eligible but non-aligned by default.

Assets that do not have eligible turnover, capex or opex to report are non-eligible and are not subject to technical screening. In practice, many early-stage projects are non-eligible because they have no turnover or capex to report, while feasibility expenditures incurred prior to a Final Investment Decision (FID) are non-eligible under the opex KPI. Technical screening outcomes described in this disclosure apply only to eligible assets that have been screened in 2022.

Where uncertainty exists with regard to how to interpret or apply any of the technical screening criteria, the relevant assets are assessed as non-aligned. In such cases, we intend to monitor future developments and update our approach as appropriate.

Substantial Contribution

The Substantial Contribution criteria are designed to ensure that an economic activity either has a substantial positive impact on one of the environmental objectives or substantially reduces negative impacts on the environment. The exact criteria vary from activity to activity.

In 2022, all of Shell's eligible economic activities contribute to the climate change mitigation objective. For five activities, assets in scope for screening were assessed as aligned with the Substantial Contribution criteria, including solar, wind, hydrogen manufacturing, low-carbon road transport, and installation, maintenance and repair of renewable energy technology.

Assets in scope for our remaining activities were assessed as non-aligned. For two activities, alignment could not be established due to uncertainty about how to interpret and apply the technical screening criteria. This was the case for carbon transport and storage, where there are questions as to whether local standards are equivalent to the international and EU standards referenced by the criteria, and for conservation forestry, where the technical criteria differ from internationally recognised carbon credit standards.

Do No Significant Harm

The Do No Significant Harm criteria are designed to ensure that an economic activity does not impede other environmental objectives being reached. The combination of the Substantial Contribution and DNSH criteria are intended to ensure coherence between the taxonomy's objectives and to avoid progress towards one objective being made at the expense of another.

The DNSH criteria for activities contributing to climate change mitigation include detailed requirements for climate change adaptation, water, circular economy, pollution prevention and biodiversity. The exact criteria vary per objective and activity.

There are four so-called "generic" DNSH criteria, addressing the objectives of climate adaptation, water, pollution control and biodiversity. These generic criteria apply to several of our eligible activities.

Although mitigation of physical risks, whether or not related to climate change, are considered and embedded in the design, construction and operation of assets, Shell's current approach differs from the Generic Criteria for DNSH to Climate Change Adaptation (Appendix A). We

Supplementary information – EU taxonomy disclosure continued

therefore assess ourselves as non-aligned in 2022. For more information, see "Climate Related Physical Risk" on page 89.

We assess our operating standards as aligned with the Generic Criteria for DNSH to Sustainable Use and Protection of Water and Marine Resources (Appendix B) and Protection and Restoration of Biodiversity and Ecosystems (Appendix D). We review the application of these standards at an asset level during the screening process.

The Generic Criteria for DNSH to Pollution Prevention and Control Regarding Use and Presence of Chemicals (Appendix C) specify that an economic activity should not lead to the manufacture, placing on the market or use of certain specified substances. Shell assesses itself as aligned with paragraphs (a) to (e), with the exception of one chemicals site located outside the EU containing non-aligned electrical equipment. Paragraphs (f) and (g) expand the scope of these substances "except where their use has proven to be essential for society". As the criteria for determining "essential use" are not yet defined in EU regulation, it is not possible to determine alignment with these paragraphs.

Minimum safeguards

The Taxonomy Regulation defines the minimum safeguards as procedures implemented by a company to ensure alignment with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, including the eight fundamental conventions identified in the Declaration of the International Labour Organisation on Fundamental Principles and Rights at Work and the International Bill of Human Rights.

Respect for human rights is embedded in the Shell General Business Principles and our Code of Conduct. We have an integrated approach to human rights that is embedded into our policies and processes, which are applicable to all employees and contractors. This approach is informed by the UN Guiding Principles on Business and Human Rights.

We assess our taxonomy-eligible activities as compliant with the minimum safeguards. For more information, see "Human Rights" on page 117.

Capex Plan assessment

As specified in points 1.1.2.2 and 1.1.3.2 of the Disclosures Delegated Act, capex and opex can be treated as aligned when such expenditures form part of a "Capex Plan" aimed at expanding an aligned activity or upgrading an eligible activity to enable it to become aligned.

To qualify, a Capex Plan must be approved by management and disclosed at the economic activity aggregated level. The expansion or upgrade must take place within five years unless a longer period is justified by the specific features of the activity and the upgrade concerned, up to a maximum of ten years. The justification for a longer transition period must feature in the Capex Plan and be included in the disclosure. If the Capex Plan fails to meet the conditions within the specified timeframe, previously published KPIs must be restated.

Due to a lack of consensus in the market about how to interpret various aspects of the technical screening criteria, and uncertainty about how the criteria might apply to future performance conditions, Shell has elected not to recognise any capex or opex as aligned under the Capex Plan provision in 2022.

Calculating the key performance indicators

The taxonomy KPIs consist of separate measures for eligible and aligned turnover, capex and opex. Each measure is calculated as the amount associated with eligible or aligned economic activities (numerator) divided by the total (denominator).

Turnover

The turnover KPI comprises the Revenue line from the Consolidated Statement of Income. This measure is reconciled as follows.

EU taxonomy turnover 2022

	\$ million	
	2022	2021
Revenue from contracts with customers	369,606	261,378
Revenue from other sources	11,708	126
Total EUT Turnover	381,314	261,504

There is uncertainty about the conditions under which hedging effects should be included or excluded when calculating the numerator and denominator for the turnover KPI. Shell's reporting of revenue in the Consolidated Statement of Income follows the IFRS definition, under which realised and unrealised gains and losses from hedging are recognised in revenue. We follow the same principles when calculating the numerator and denominator for the turnover KPI. In 2022, excluding hedging effects would have an immaterial impact on the numerator and denominator.

Capex

The capex KPI comprises the Additions line from Note 11 – Goodwill and Other Intangible Assets and the Additions line from Note 12 – Property, Plant and Equipment of the Consolidated Financial Statements. As the treatment of goodwill under the taxonomy is uncertain, it is excluded from the measure.

When business combinations involving an eligible activity occur in a prior reporting period but Purchase Price Allocation takes place within the current period, we recognise the resulting movements to Property, Plant and Equipment and Intangible Assets as an addition. These amounts are contained within Note 11 – Goodwill and Other Intangible Assets and Note 12 – Property, Plant and Equipment in the Sales, Retirements and Other Movements line and are added to the numerator and denominator.

This measure is reconciled as follows.

EU taxonomy capex 2022

	\$ million	
	2022	2021
Additions to property, plant and equipment	28,254	21,719
Additions to goodwill and other intangible assets	5,555	5,220
Less: Goodwill	1,954	1,546
Add: Other movements	445	—
Total EUT Capex	32,300	25,393

The numerator for aligned capex comprises the part of eligible capex that is (a) associated with taxonomy-aligned economic activities; (b) part of a Capex Plan to expand an aligned activity or to enable a non-aligned activity to become aligned; and (c) related to the purchase of output from taxonomy-eligible activities. Due to limited guidance about how (c) should be calculated, our reporting focuses on (a) and (b) only.

Supplementary information – EU taxonomy disclosure continued

The capex KPI as defined by the Taxonomy Regulation differs from Shell's cash capital expenditure measure. The latter monitors investing activities on a cash basis, excluding items such as lease additions which do not necessarily result in cash outflows in the period. This measure comprises the following lines from the Consolidated Statement of Cash Flows: Capital expenditure, Investments in joint ventures and associates and Investments in equity securities. The cash capex measure is presented on page 333.

Opex

The Taxonomy Regulation defines the opex KPI as costs associated with maintenance and repair, research and development and short-term leases. This is narrower than Shell's definition of operating expenses and does not capture all of our expenditure on otherwise eligible activities. This measure is reconciled as follows.

EU taxonomy opex 2022

	2022	\$ million 2021
Production and manufacturing expenses	25,518	23,822
Selling, distribution and administrative expenses	12,883	11,328
Research and development	1,075	815
Total operating expenses	39,476	35,964
Less: Non-maintenance expenses	22,211	19,981
Less: Selling, distribution and administrative expenses	12,883	11,328
Add: Expenses relating to short-term leases	552	644
Total EUT Opex	4,934	5,299

The numerator for aligned opex comprises the part of eligible opex that is (a) associated with taxonomy-aligned economic activities; (b) part of a Capex Plan to expand an aligned activity or to enable a non-aligned activity to become aligned; and (c) related to the purchase of output from taxonomy-eligible activities. Due to limited guidance about how (c) should be calculated, our reporting focuses on (a) and (b) only.

Other accounting policies

Eligibility and alignment are calculated separately for each economic activity.

The reporting boundary for each activity is determined by the description contained in the relevant delegated act. This boundary frequently differs from our integrated value chains and segmental reporting. As a result, various adjustments are needed to calculate the required figures. For example, we exclude sales of third-party products as well as trading and retailing from the calculation of the KPIs. These are significant for Shell's integrated business model but are not eligible for the taxonomy. Although intra-group sales are non-eligible, sales to our trading and marketing business are used in certain circumstances to calculate the turnover attributable to eligible parts of the value chain.

When a reporting entity is engaged in multiple economic activities, an allocation method is applied so that only the appropriate part is counted. Reconciliation is made to total turnover, capex and opex to avoid double counting.

In some cases, a subsidiary or other related undertaking may have interests in more than one economic activity but there is insufficient data available to disaggregate turnover, capex and opex. In these cases, we allocate the KPIs to the activity that best describes the primary business of the entity.

Shell's eligible and aligned turnover, capex and opex are presented on pages 313-315 in accordance with templates specified in Annex II of the Disclosures Delegated Act. Disclosures concerning our gas-related activities are presented on pages 316-319 in accordance with the requirements of the Disclosures Delegated Act, Articles 8(6) and (7), including the templates specified in Annex XII.

Contextual information on the KPIs

This section provides additional contextual information to accompany the presentation of the turnover, capex and opex KPIs on pages 313-315.

Turnover

In 2022, Shell's taxonomy-eligible turnover was \$12 billion or 3% of the total. The economic activities that made the biggest contribution to eligible turnover were chemicals and plastics, renewable power (including wind, solar and installation of renewable energy technologies), gas-fired power and low-carbon road transport.

Eligible turnover for renewable power (including wind, solar and installation of renewable energy technologies) increased to \$462 million in 2022 from \$228 million in 2021. For low-carbon road transport, eligible turnover increased to \$99 million in 2022 from \$71 million in 2021. The addition of gas-fired power as an economic activity in 2022 added \$153 million to turnover in 2022.

Capex

In 2022, Shell's taxonomy-eligible capex was \$6.7 billion or 21% of the total. The economic activities that made the biggest contribution to eligible capex include chemicals and plastics, wind, solar, biofuels, low-carbon road transport and hydrogen.

Eligible capex for solar and wind was a combined \$2.9 billion in 2022 compared to \$259 million in 2021, driven by business acquisitions and organic growth. Eligible capex for low-carbon transport, which includes electric vehicle charging and hydrogen mobility, was \$346 million in 2022 compared to \$118 million in 2021. Eligible capex for biofuels increased to \$580 million in 2022 from \$273 million in 2021, driven by business acquisitions and the construction of our new biofuels facility in Rotterdam. Eligible capex for hydrogen was \$139 million in 2022 compared to \$11 million in 2021. Eligible capex for plastics fell to \$1.9 billion in 2022 from \$3 billion in 2021, reflecting the completion of construction activity at our Shell Polymers Monaca polyethylene production facility in Pennsylvania.

Opex

In 2022, Shell's taxonomy-eligible opex was \$796 million or 16% of the total. The economic activities that made the biggest contribution to eligible opex include chemicals, biofuels and hydrogen. Our chemicals business is relatively mature compared to our other eligible activities and accounts for the largest share of opex.

Eligible opex decreased to \$796 million in 2022 from \$820 million in 2021. A decrease in opex for chemicals was partly offset by increased opex for hydrogen. Eligible opex as share of the total increased to 16% in 2022 from 15% in 2021, due in part to lower non-eligible expenditure.

Supplementary information – EU taxonomy disclosure continued

Scope of taxonomy-eligible activities

No	Economic activity	Scope	Notes
1.4	Conservation forestry	Nature-based solutions projects that meet the EU taxonomy activity description for conservation forestry and generate capital assets.	[A], [B], [C]
3.10	Manufacture of hydrogen	Development and operation of hydrogen manufacturing assets.	[A], [B], [C], [D], [E]
3.14	Manufacture of organic basic chemicals	Manufacture of taxonomy-eligible chemical products.	[A], [B], [C], [D], [F]
3.17	Manufacture of plastics in primary form	Manufacture of polyethylene.	[A], [B], [C], [D]
4.1	Electricity generation using solar photovoltaic technology	Development and operation of solar photovoltaic power assets.	[A], [B], [C], [D], [G], [H]
4.3	Electricity generation from wind power	Development and operation of wind power assets.	[A], [B], [C], [D], [G], [H]
4.13	Manufacture of biogas and biofuels for use in transport and of bioliquids	Development and operation of assets for the manufacture of biogas and biofuels for use in transport.	[A], [B], [C], [D], [I]
4.29	Electricity generation from fossil gaseous fuels	Development and operation of gas-fired power assets.	[A], [B], [C], [D], [J], [K]
5.11	Transport of CO ₂	Development and operation of CO ₂ transport assets.	[A], [B], [L], [M]
5.12	Underground permanent geological storage of CO ₂	Development and operation of CO ₂ storage assets.	[A], [B], [L], [M]
6.15	Infrastructure enabling low-carbon road transport and public transport	Development and operation of electric vehicle charging points and hydrogen infrastructure for road transport.	[A], [B], [G]
7.6	Installation, maintenance and repair of renewable energy technologies	Installation, maintenance and repair of renewable energy technologies, on-site.	[A], [B], [H]

[A] Excludes interests in equity-accounted joint ventures and associates.

[B] Excludes feasibility expenses incurred prior to final investment decision.

[C] Excludes trading activity.

[D] Excludes sales of third-party products.

[E] Excludes integrated hydrogen units whose outputs are primarily intended for internal consumption, such as desulphurisation in refineries.

[F] Excludes taxonomy non-eligible chemical products.

[G] Excludes B2B/B2C retail sales of electricity.

[H] Excludes expenditure on renewable power projects to reduce Scope 1 and 2 emissions for taxonomy non-eligible target activities.

[I] Excludes ventures engaged in the development of feedstocks for biofuels manufacturing.

[J] Does not include integrated generation or cogeneration units whose outputs are primarily intended for internal consumption.

[K] Does not include upstream exploration and production, midstream, LNG or GTL.

[L] Excludes carbon capture, subject to the remarks in Note [M].

[M] For integrated CCS projects where it not practically possible to distinguish carbon capture, transport and/or storage, the "Storage of CO₂" activity is used.

Supplementary information – EU taxonomy disclosure continued

Turnover KPI

Proportion of turnover from products or services associated with taxonomy-aligned economic activities, 2022 [A]

Economic Activities (1)	NACE Code (2)	Absolute turnover (3) \$ million	Proportion of turnover (4) %	Climate change mitigation (5) %	Climate change adaptation (6) %	Water and marine resources (7) %	Circular economy (8) %	Pollution (9) %	Biodiversity and ecosystems (10) %	Climate change mitigation (11) Y/N	Climate change adaptation (12) Y/N	Water and marine resources (13) Y/N	Circular economy (14) Y/N	Pollution (15) Y/N	Biodiversity and ecosystems (16) Y/N	Minimum Safeguards (17) Y/N	Taxonomy-aligned proportion of turnover 2022 (18)	Taxonomy-aligned proportion of turnover 2021 (19)	Category (enabling activity) (20)	Category (transitional activity) (21)
																	%	%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES																				
A.1 Environmentally sustainable activities (taxonomy-aligned)																				
Turnover of A.1		0	0%														0%	N/A		
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned)																				
1.4 Conservation forestry	A2.10	—	—%																	
3.10 Manufacture of hydrogen	C20.11	—	—%																	
3.14 Manufacture of organic basic chemicals	C20.14	11,187	3%																	
3.17 Manufacture of plastics in primary form	C20.16	69	0%																	
4.1 Electricity generation using solar photovoltaic technology	D35.11	38	0%																	
4.3 Electricity generation from wind power	D35.11	59	0%																	
4.13 Manufacture of biogas and biofuels for use in transport and of bioliquids	C35.21	—	—%																	
4.29 Electricity generation from fossil gaseous fuels	D35.11	153	0%																	
5.11 Transport of CO ₂	H49.50	—	—%																	
5.12 Underground permanent geological storage of CO ₂	E39.00	16	0%																	
6.15 Infrastructure enabling low-carbon road transport and public transport	M71	99	0%																	
7.6 Installation, maintenance and repair of renewable energy technologies	C27	366	0%																	
Turnover of A.2		11,986	3%																	
Total turnover A1 + A2		11,986	3%																	
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																				
Turnover of B		369,328	97%																	
Total turnover A + B		381,314	100%																	

[A] The taxonomy's reporting basis differs from that used in Shell's financial statements, which are based on International Financial Reporting Standards. For example, the taxonomy does not recognise our interests in equity accounted joint ventures and associates; goodwill; feasibility expenses; or the non-eligible parts of integrated value chains. These differences, and others, result in lower reported turnover, capex and opex under the taxonomy compared to our other disclosures.

Supplementary information – EU taxonomy disclosure continued

Capex KPI

Proportion of capex from products or services associated with taxonomy-aligned economic activities, 2022 [A]

																	Substantial contribution criteria				DNSH criteria			
Economic Activities (1)	NACE Code (2)	Absolute capex (3) \$ million	Proportion of capex (4) %	Climate change mitigation (5) %	Climate change adaptation (6) %	Water and marine resources (7) %	Circular economy (8) %	Pollution (9) %	Biodiversity and ecosystems (10) %	Climate change mitigation (11) Y/N	Climate change adaptation (12) Y/N	Water and marine resources (13) Y/N	Circular economy (14) Y/N	Pollution (15) Y/N	Biodiversity and ecosystems (16) Y/N	Minimum Safeguards (17) Y/N	Taxonomy-aligned proportion of capex 2022 (18) %	Taxonomy-aligned proportion of capex 2021 (19) %	Category (enabling activity) (20) E	Category (transitional activity) (21) T				
A. TAXONOMY-ELIGIBLE ACTIVITIES																								
A.1 Environmentally sustainable activities (taxonomy-aligned)																								
Capex of A.1		0	0%														0%	N/A						
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned)																								
1.4 Conservation forestry	A2.10	6	0%																					
3.10 Manufacture of hydrogen	C20.11	139	0%																					
3.14 Manufacture of organic basic chemicals	C20.14	800	2%																					
3.17 Manufacture of plastics in primary form	C20.16	1,914	6%																					
4.1 Electricity generation using solar photovoltaic technology	D35.11	1,753	5%																					
4.3 Electricity generation from wind power	D35.11	1,109	3%																					
4.13 Manufacture of biogas and biofuels for use in transport and of bioliquids	C35.21	580	2%																					
4.29 Electricity generation from fossil gaseous fuels	D35.11	45	0%																					
5.11 Transport of CO ₂	H49.50	—	—%																					
5.12 Underground permanent geological storage of CO ₂	E39.00	17	0%																					
6.15 Infrastructure enabling low-carbon road transport and public transport	M71	346	1%																					
7.6 Installation, maintenance and repair of renewable energy technologies	C27	35	0%																					
Capex of A.2		6,744	21%																					
Total capex A1 + A2		6,744	21%																					
B. Taxonomy non-eligible activities																								
Capex of B		25,556	79%																					
Total capex A + B		32,300	100%																					

[A] The taxonomy's reporting basis differs from that used in Shell's financial statements, which are based on International Financial Reporting Standards. For example, the taxonomy does not recognise our interests in equity accounted joint ventures and associates; goodwill; feasibility expenses; or the non-eligible parts of integrated value chains. These differences, and others, result in lower reported turnover, capex and opex under the taxonomy compared to our other disclosures.

Supplementary information – EU taxonomy disclosure continued

Opex KPI

Proportion of opex from products or services associated with taxonomy-aligned economic activities, 2022 [A]

Economic Activities (1)	NACE Code (2)	Substantial contribution criteria															DNSH criteria			
		Absolute opex (3) \$ million	Proportion of opex (4) %	Climate change mitigation (5) %	Climate change adaptation (6) %	Water and marine resources (7) %	Circular economy (8) %	Pollution (9) %	Biodiversity and ecosystems (10) %	Climate change mitigation (11) Y/N	Climate change adaptation (12) Y/N	Water and marine resources (13) Y/N	Circular economy (14) Y/N	Pollution (15) Y/N	Biodiversity and ecosystems (16) Y/N	Minimum Safeguards (17) Y/N	Taxonomy-aligned proportion of opex 2022 (18)	Taxonomy-aligned proportion of opex 2021 (19)	Category (enabling activity) (20)	Category (transitional activity) (21)
																	%	%	E	T
A. Taxonomy-eligible activities																				
A.1 Environmentally sustainable activities (taxonomy-aligned)																				
Opex of A.1		0	0%														0%	N/A		
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned)																				
1.4 Conservation forestry																				
	A2.10	—	—%																	
3.10 Manufacture of hydrogen																				
	C20.11	56	1%																	
3.14 Manufacture of organic basic chemicals																				
	C20.14	658	13%																	
3.17 Manufacture of plastics in primary form																				
	C20.16	4	0%																	
4.1 Electricity generation using solar photovoltaic technology																				
	D35.11	0	0%																	
4.3 Electricity generation from wind power																				
	D35.11	12	0%																	
4.13 Manufacture of biogas and biofuels for use in transport and of bioliquids																				
	C35.21	56	1%																	
4.29 Electricity generation from fossil gaseous fuels																				
	D35.11	—	—%																	
5.11 Transport of CO ₂																				
	H49.50	0	0%																	
5.12 Underground permanent geological storage of CO ₂																				
	E39.00	4	0%																	
6.15 Infrastructure enabling low-carbon road transport and public transport																				
	M71	6	0%																	
7.6 Installation, maintenance and repair of renewable energy technologies																				
	C27	—	—%																	
Opex of A.2		796	16%																	
Total opex A1 + A2		796	16%																	
B. Taxonomy non-eligible activities																				
Opex of B		4,138	84%																	
Total opex A + B		4,934	100%																	

[A] The taxonomy's reporting basis differs from that used in Shell's financial statements, which are based on International Financial Reporting Standards. For example, the taxonomy does not recognise our interests in equity accounted joint ventures and associates; goodwill; feasibility expenses; or the non-eligible parts of integrated value chains. These differences, and others, result in lower reported turnover, capex and opex under the taxonomy compared to our other disclosures.

Supplementary information – EU taxonomy disclosure continued

Disclosures for nuclear and fossil gas activities

Template 1: Nuclear and fossil gas related activities

Row		2022
Nuclear energy related activities		
1	The undertaking carries out, funds or has exposures to research, development, demonstration and deployment of innovative electricity generation facilities that produce energy from nuclear processes with minimal waste from the fuel cycle.	No
2	The undertaking carries out, funds or has exposures to construction and safe operation of new nuclear installations to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production, as well as their safety upgrades, using best available technologies.	No
3	The undertaking carries out, funds or has exposures to safe operation of existing nuclear installations that produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production from nuclear energy, as well as their safety upgrades.	No
Fossil gas related activities		
4	The undertaking carries out, funds or has exposures to construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels.	Yes
5	The undertaking carries out, funds or has exposures to construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels.	No [A]
6	The undertaking carries out, funds or has exposures to construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels.	No [A]

[A] Shell's facilities include integrated gas-fired heating, cooling and power generation units which support one or more primary activities. Such units do not operate on a stand-alone basis and are not treated as a separate economic activity for reporting purposes.

Template 2: Taxonomy-aligned economic activities (denominator), 2022

Row	Economic activities	\$ million, except where indicated															
		Turnover						Capex				Opex					
		Climate change mitigation (CCM) + CCA		Climate change adaptation (CCA)		Climate change mitigation (CCM) + CCA		Climate change adaptation (CCA)		Climate change mitigation (CCM) + CCA		Climate change adaptation (CCA)					
Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%				
1	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0	0%	0	0%	—	—	0	0%	0	0%	—	—	0	0%	0	0%
5	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	0	0%	0	0%	—	—	0	0%	0	0%	—	—	0	0%	0	0%
8	Total applicable KPI	0	0%	0	0%	—	—	0	0%	0	0%	—	—	0	0%	0	0%

Supplementary information – EU taxonomy disclosure continued

Template 3: Taxonomy-aligned economic activities (numerator), 2022

		\$ million, except where indicated															
Row	Economic activities	Turnover						Capex						Opex			
		Climate change mitigation (CCM) + CCA		Climate change adaptation (CCA)		Climate change mitigation (CCM) + CCA		Climate change adaptation (CCA)		Climate change mitigation (CCM) + CCA		Climate change adaptation (CCA)					
		Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%				
1	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	—	—	0	0%	0	0%	—	—	0	0%	0	0%
5	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the numerator of the applicable KPI	0	0%	0	0%	—	—	0	0%	0	0%	—	—	0	0%	0	0%
8	Total amount and proportion of taxonomy-aligned economic activities in the numerator of the applicable KPI	0	0%	0	0%	—	—	0	0%	0	0%	—	—	0	0%	0	0%

Supplementary information – EU taxonomy disclosure continued

Template 4: Taxonomy-eligible but not taxonomy-aligned economic activities, 2022

		\$ million, except where indicated																	
Row	Economic activities	Turnover						Capex						Opex					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	153	1.3%	153	1.3%	—	—	45	0.7%	45	0.7%	—	—	—	—%	—	—%	—	—
5	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	Amount and proportion of other taxonomy-eligible but not taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	11,833	98.7%	11,833	98.7%	—	—	6,699	99.3%	6,699	99.3%	—	—	796	100%	796	100%	—	—
8	Total amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activities in the denominator of the applicable KPI	11,986	100%	11,986	100%	—	—	6,744	100%	6,744	100%	—	—	796	100%	796	100%	—	—

Supplementary information – EU taxonomy disclosure continued

Template 5: Taxonomy non-eligible economic activities, 2022

Row	Economic activities	\$ million, except where indicated					
		Turnover		Capex		Opex	
		Amount	%	Amount	%	Amount	%
1	Amount and proportion of economic activity referred to in row 1 of Template 1 that is taxonomy non-eligible in accordance with Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—
2	Amount and proportion of economic activity referred to in row 2 of Template 1 that is taxonomy non-eligible in accordance with Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—
3	Amount and proportion of economic activity referred to in row 3 of Template 1 that is taxonomy non-eligible in accordance with Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—
4	Amount and proportion of economic activity referred to in row 4 of Template 1 that is taxonomy non-eligible in accordance with Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI [A]	0	0%	0	0%	0	0%
5	Amount and proportion of economic activity referred to in row 5 of Template 1 that is taxonomy non-eligible in accordance with Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—
6	Amount and proportion of economic activity referred to in row 6 of Template 1 that is taxonomy non-eligible in accordance with Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—
7	Amount and proportion of other taxonomy non-eligible economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	369,328	100%	25,556	100%	4,138	100%
8	Total amount and proportion of taxonomy non-eligible economic activities in the denominator of the applicable KPI	369,328	100%	25,556	100%	4,138	100%

[A] The scope of this requirement is not possible to determine based on current EU guidance. Shell intends to monitor future developments and update our approach as appropriate

Report of Independent Registered Public Accounting Firm

To computershare Trustees (Jersey) Limited as trustee of Royal Dutch Shell Dividend Access Trust and the Board of Directors and shareholders of Shell plc

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Royal Dutch Shell Dividend Access Trust (the Trust) as of December 31, 2022 and 2021, the related statements of income, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2022, and the related notes (collectively referred to as the 'Financial Statements'). In our opinion, the Financial Statements present fairly, in all material respects, the financial position of the Trust at December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Trust's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated March 8, 2023, expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the trustee of the Trust (the Trustee) and the management of Shell plc. Our responsibility is to express an opinion on the Trust's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Trust in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the Financial Statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the Financial Statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the Financial Statements. Our audits also included evaluating the accounting principles used and significant estimates made by the Trustee and the management of Shell plc, as well as evaluating the overall presentation of the Financial Statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

Critical audit matters are matters arising from the current period audit of the Financial Statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the Financial Statements and (2) involved our especially challenging, subjective, or complex judgements. We determined that there are no critical audit matters.

/s/ Ernst & Young LLP

We have served as the Trust's auditor since 2016.

London, United Kingdom
March 8, 2023

To computershare Trustees (Jersey) Limited as trustee of Royal Dutch Shell Dividend Access Trust and the Board of Directors and shareholders of Shell plc

Opinion on Internal Control over Financial Reporting

We have audited Royal Dutch Shell Dividend Access Trust's (the Trust) internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, the Trust maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Financial Statements of the Trust, and our report dated March 8, 2023, expressed an unqualified opinion thereon.

Basis for Opinion

The trustee of the Trust (the Trustee) and the management of Shell plc (the Management) are responsible for maintaining effective internal control over financial reporting and for their assessment of the effectiveness of internal control over financial reporting included in the accompanying Trustee's and Management's Report on Internal Control over Financial Reporting set out on page 198. Our responsibility is to express an opinion on the Trust's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Trust in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Report of Independent Registered Public Accounting Firm continued

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

London, United Kingdom
March 8, 2023

Royal Dutch Shell Dividend Access Trust Financial Statements

Statement of Income

	2022	2021	£ million 2020
Dividend income	—	2,201	2,777
Income for the period	—	2,201	2,777

Statement of Comprehensive Income

	2022	2021	£ million 2020
Income for the period	—	2,201	2,777
Comprehensive income for the period	—	2,201	2,777

Balance Sheet

	Notes	Dec 31, 2022	£ million Dec 31, 2021
Assets			
Other current assets		6	7
Cash and cash equivalents		—	—
Total assets		6	7
Liabilities			
Unclaimed dividends	4	6	7
Total liabilities		6	7
Equity			
Capital account	5	—	—
Revenue account		—	—
Total equity		—	—
Total liabilities and equity		6	7

Signed on behalf of Computershare Trustees (Jersey) Limited as Trustee of the Royal Dutch Shell Dividend Access Trust.

/s/ John Le Marquand

John Le Marquand
March 8, 2023

/s/ Martin Fish

Martin Fish

Royal Dutch Shell Dividend Access Trust Financial Statements continued

Statement of Changes in Equity

	Notes	Capital account	Revenue account	£ million Total equity
At January 1, 2022		—	—	—
Comprehensive income for the period		—	—	—
Distributions made	6	—	—	—
At December 31, 2022		—	—	—
At January 1, 2021		—	—	—
Comprehensive income for the period		—	2,201	2,201
Distributions made	6	—	(2,201)	(2,201)
At December 31, 2021		—	—	—
At January 1, 2020		—	—	—
Comprehensive income for the period		—	2,777	2,777
Distributions made	6	—	(2,777)	(2,777)
At December 31, 2020		—	—	—

Statement of Cash Flows

	2022	2021	£ million 2020
Income for the period	—	2,201	2,777
Adjustment for:			
Dividends received	—	(2,201)	(2,777)
Cash flow from operating activities	—	—	—
Dividends received	—	2,200	2,772
Cash flow from investing activities	—	2,200	2,772
Cash distributions made	—	(2,200)	(2,775)
Cash flow from financing activities	—	(2,200)	(2,775)
Change in cash and cash equivalents	—	—	(3)
Cash and cash equivalents at January 1	—	—	3
Cash and cash equivalents at December 31	—	—	—

Notes to the Royal Dutch Shell Dividend Access Trust Financial Statements

1. The Trust

The Royal Dutch Shell Dividend Access Trust (the "Trust") was established on May 19, 2005, by The "Shell" Transport and Trading Company, p.l.c., now The Shell Transport and Trading Company Limited (Shell Transport), and Royal Dutch Shell plc, now Shell plc (the "Company"). The Trust is governed by the applicable laws of England and Wales and is resident and domiciled in Jersey. The Trust is not subject to taxation. The Trustee of the Trust is Computershare Trustees (Jersey) Limited, registration number 92182 (the "Trustee"), 13 Castle Street, St Helier, Jersey, JE1 1ES. The Trust was established as part of a dividend access mechanism.

Shell Transport and BG Group Limited (BG) have each issued a dividend access share to the Trustee. Prior to the assimilation outlined below, following the announcement of a dividend by the Company on the B shares, Shell Transport and BG declared a dividend on their dividend access shares.

The primary purposes of the Trust prior to the assimilation outlined below were to receive, on behalf of the B shareholders of the Company and in accordance with their respective holdings of B shares in the Company, any amounts paid by way of dividend on the dividend access shares and to pay such amounts to the B shareholders on the same pro rata basis. The Trust is not subject to significant market risk, credit risk or liquidity risk.

On January 29, 2022, one line of shares was established through assimilation of A shares and B shares into a single line of ordinary shares of the Company. This assimilation had no impact on voting rights or dividend entitlements. Dutch withholding tax, applied previously on dividends on A shares, no longer applies on dividends paid on the ordinary shares following assimilation. No further dividends are expected to be declared on the dividend access shares.

The Trust will continue in existence for the foreseeable future to facilitate the payment of unclaimed dividend liabilities for B shareholders, declared prior to the assimilation of the Company's Class A and B shares, until these are either claimed or forfeited in line with the terms outlined (see Note 4).

As these unclaimed dividends relate to dividends that were announced by the Company during the period the Company was still named Royal Dutch Shell plc, and it is expected that the Company will not announce any further dividends on the dividend access shares, the Trust continues to be named The Royal Dutch Shell Dividend Access Trust.

The Trust shall not endure for a period in excess of 80 years from May 19, 2005, being the date on which the Trust Deed was executed.

2. Basis of preparation

The Financial Statements of the Trust have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB).

The Financial Statements have been prepared under the historical cost convention and on a going concern basis. The accounting policies described in Note 3 have been applied consistently in all periods presented.

The Financial Statements were approved and authorised for issue by the Trustee on March 8, 2023.

The financial results of the Trust are included in the Consolidated Financial Statements on pages 216-287.

3. Significant accounting policies

The Trust's accounting policies follow those of Shell as set out in Note 2 to the Consolidated Financial Statements (see pages 220-230). The following are Trust-specific policies.

Presentation and functional currency

The Trust's presentation and functional currency is sterling. The Trust's dividend income and dividends paid prior to the assimilation were principally in sterling.

Dividend income

Dividends on the dividend access shares prior to the assimilation were recognised on a paid basis unless the dividend had been confirmed by a general meeting of Shell Transport or BG, in which case income was recognised on the date on which receipt was deemed virtually certain. Dividend income included amounts receivable from Shell Transport and BG in respect of dividends declared but unclaimed (see Note 4).

Distributions made

Amounts prior to the assimilation were recorded as distributed once a payment was made in the appropriate currency using various electronic transfer methods, or an unconditional payment obligation was established. Shell Transport or BG (as appropriate) may have, each at their respective discretion, withheld any part of the funding relating to an unpayable dividend until such time as the relevant B shareholder provided accurate or complete details for payment of any such dividend.

4. Unclaimed dividends

Unclaimed dividends of £6 million (2021: £7 million) include any pre-electronic transfer dividend cheque payments that have not been presented, have expired or have been returned unrepresented. Dividends are also classified as unclaimed where amounts have been withheld due to incomplete or incorrect electronic payment details. Dividends which are unclaimed after 12 years will unconditionally revert to Shell Transport and BG once forfeited.

Notes to the Royal Dutch Shell Dividend Access Trust Financial Statements continued

5. Capital account

The capital account is represented by the dividend access share of 25 pence settled in the Trust by Shell Transport and the dividend access share of 10 pence settled in the Trust by BG. There have been no changes in the capital account in the current or prior year.

6. Distributions made

Distributions prior to the assimilation were made to the B shareholders of the Company in accordance with the Trust Deed. See Note 29 to the Consolidated Financial Statements (see page 283) for information about dividends per share.

7. Related parties

The Trust recognised dividend income of £0 million (2021: £1,437 million; 2020: £1,805 million) in respect of the dividend access share from Shell Transport and £0 million (2021: £764 million; 2020: £972 million) in respect of the dividend access share from BG. The Trust made distributions of £0 million (2021: £2,201 million; 2020: £2,777 million) to the B shareholders of the Company.

As at December 31, 2022, the Trust recorded amounts due from Shell Transport of £4 million and BG of £2 million relating to unclaimed dividends (see Note 4).

The Company pays the general and administrative expenses of the Trust, including the auditor's remuneration.

8. Auditor's remuneration

Auditor's remuneration for 2022 audit services was £53,868 (2021: £33,750; 2020: £33,750).

Shareholder Information

Shell plc (the Company) was incorporated in England and Wales on February 5, 2002, as a private company under the Companies Act 1985, as amended. On October 27, 2004, the Company was re-registered as a public company limited by shares and changed its name from Forthdeal Limited to Royal Dutch Shell plc. On January 21, 2022, the Company changed its name from Royal Dutch Shell plc to Shell plc. The Company is registered at Companies House, Cardiff, under company number 4366849. The Legal Entity Identifier (LEI) issued by the London Stock Exchange is 21380068P1DRHJM8KU70. The business address for the Directors and Senior Management is Shell Centre, London, SE1 7NA.

On December 31, 2021, the Company became tax resident in the United Kingdom. Its primary objective is to carry on the business of a holding company. It is not directly or indirectly owned or controlled by another corporation or by any government and does not know of any arrangements that may result in a change of control of the Company.

Nature of trading market

On January 29, 2022, the Company established one single line of ordinary shares, each having a nominal value of €0.07. All shares are listed and able to trade at Euronext Amsterdam and the London Stock Exchange. Furthermore, all shares are transferable between these two markets. This makes both these exchanges primary exchanges for the ordinary shares.

Ordinary shares are traded in registered form.

The Company's American Depositary Shares (ADSs) are listed on the New York Stock Exchange [A]. A depositary receipt is a certificate that evidences ADSs. Depositary receipts are issued, cancelled and exchanged at the office of JP Morgan Chase Bank, N.A., 383 Madison Avenue, New York, New York 10179, USA, as depositary (the Depositary), under a deposit agreement between the Company, the Depositary and the holders of ADSs. Each ADS is equivalent to two ordinary shares of Shell plc deposited under the agreement. All ordinary shares are capable of being deposited with the Depositary in exchange for the corresponding amount of ADSs which may be traded at the New York Stock Exchange. This makes the New York Stock Exchange the primary exchange for the Company's ADRs. More information relating to ADSs is given on page 327.

[A] At February 20, 2023, 490,387,002 ADSs were outstanding, representing 14.12% of the ordinary share capital, held by holders of record with an address in the USA. In addition to holders of ADSs, at February 20, 2023, 911,437 ordinary shares of €0.07 each were outstanding, representing 0.0131% of the ordinary share capital, held by 3,031 holders of record registered with an address in the USA.

Listing information

Identifiers	Euronext Amsterdam	London Stock Exchange	NYSE
	Ordinary share	Ordinary share	ADS [A]
Market	Primary	Primary	Primary
Ticker symbol	SHELL	SHEL	SHEL
ISIN	GB00BP6MXD84	GB00BP6MXD84	US7802593050
SEDOL	BP6MXT4	BP6MXD8	BPK3CG3
CUSIP	G80827 101	G80827 101	780259 305
Index weight at 31/12/22	AEX: 14.47%	FTSE: 8.60%	—%

[A] Each ADS represents two ordinary shares of €0.07 each.

Share capital

On January 29, 2022 as part of the Simplification announced on 20 December 2021, the Company's share capital was assimilated from ordinary A shares and ordinary B shares, into a single line of ordinary shares. Below we provide information on our share capital as at December 31, 2022.

Share capital as at December 31, 2022

The issued and fully paid share capital of the Company at December 31, 2022, was as follows:

	Issued and fully paid	
	Number	Nominal value
Ordinary shares of €0.07 each	7,003,503,393	€490,245,238
Sterling deferred shares of £1 each [A]	50,000	£50,000

Share capital as at February 20, 2023

The issued and fully paid share capital of the Company at February 20, 2023, was as follows:

	Issued and fully paid	
	Number	Nominal value
Ordinary shares of €0.07 each	6,948,045,092	€486,363,156.44
Sterling deferred shares of £1 each [A]	50,000	£50,000

[A] The Board has approved the redemption and cancellation of the Company's sterling deferred shares which will be effected in due course, in accordance with the Company's Articles of Association. Upon redemption, the sterling deferred shares will be treated as cancelled and the Company's issued share capital will be reduced by the nominal value of the shares redeemed, in accordance with section 688 the UK Companies Act 2006.

The Directors may only allot new ordinary shares if they have authority from shareholders to do so. The Company seeks to renew this authority annually at its AGM. Under the resolution passed at the Company's 2022 AGM, the Directors were granted authority to allot ordinary shares up to an aggregate nominal amount equivalent to approximately one-third of the issued ordinary share capital of the Company (in line with the guidelines issued by institutional investors).

The following is a summary of the material terms of the Company's ordinary shares, including brief descriptions of the provisions contained in the Articles of Association (the Articles) and applicable laws of England and Wales in effect on the date of this document. This summary does not purport to include complete statements of these provisions:

- upon issuance, the ordinary shares are fully paid and free from all liens, equities, charges, encumbrances and other interest of the Company and not subject to calls of any kind;
- all ordinary shares rank equally for all dividends and distributions on ordinary share capital; and
- all ordinary shares are admitted to the Official List of the UK Financial Conduct Authority and to trading on the market for listed securities of the London Stock Exchange. Ordinary shares are also admitted to trading on Euronext Amsterdam. ADSs are listed on the New York Stock Exchange.

At December 31, 2022, trusts and trust-like entities holding shares for the benefit of employee share plans of Shell held (directly and indirectly) 33 million shares of the Company with an aggregate market value of \$811 million and an aggregate nominal value of €3 million.

Shareholder Information

Significant shareholdings

The Company's ordinary shares have voting rights on all matters that are subject to shareholder approval, including the election of directors. The Company's major shareholders do not have different voting rights.

Significant shareholdings

Interests of investors with 3% or more of the Company's ordinary shares at February 20, 2023 are provided below. The information provided includes the percentage of issued share capital as at February 20, 2023.

Investor	Ordinary Shares	
	Number	%
BlackRock, Inc. [A]	666,814,460	9.5

[A] Information presented per Schedule 13G filed on February 13, 2023.

Designation of the Netherlands as EU Home Member State for regulatory purposes
Following the exit of the UK from the EU and the end of the transition period, the Company announced that the EU Home Member State of the Company for the purposes of the EU Transparency Directive would be the Netherlands as from January 1, 2021. As a consequence, the Company files Transparency Directive and Market Abuse Regulation-related regulatory information with the Netherlands Authority for the Financial Markets (Autoriteit Financiële Markten, or AFM). Major shareholders are required to report substantial holdings in Shell to the AFM in accordance with applicable Dutch law, in addition to their ongoing disclosure obligations under the UK Disclosure Guidance and Transparency Rules (DTR).

Method of holding shares or an interest in shares

There are several ways in which Shell plc registered shares or an interest in these shares can be held, including:

- directly as registered shares either in uncertificated form or in certificated form in a shareholder's own name;
- indirectly through Euroclear Nederland (in respect of which the Dutch Securities Giro Act (Wet giraal effectenverkeer) is applicable);
- through the Shell Corporate Nominee Service;
- through another third-party nominee or intermediary company; and
- as a direct or indirect holder of either ADS with the Depositary.

American Depositary Shares

The Depositary is the registered shareholder of the shares underlying the ADSs and enjoys the rights of a shareholder under the Articles. Holders of ADSs will not have shareholder rights. The rights of the holder of an ADS are specified in the Deposit Agreement with the Depositary and are summarised below.

The Depositary will receive all cash dividends and other cash distributions made on the deposited shares underlying the ADSs and, where possible and on a reasonable basis, will distribute such dividends and distributions to holders of ADSs. Rights to purchase

additional shares will also be made available to the Depositary who may make such rights available to holders of ADSs. All other distributions made on the Company's shares will be distributed by the Depositary in any means that the Depositary thinks is equitable and practical. The Depositary may deduct its fees and expenses and the amount of any taxes owed from any payments to holders and it may sell a holder's deposited shares to pay any taxes owed. The Depositary is not responsible if it decides that it is unlawful or impractical to make a distribution available to holders of ADSs.

The Depositary will notify holders of ADSs of shareholders' meetings of the Company and will arrange to deliver voting materials to such holders of ADSs if requested by the Company. Upon request by a holder, the Depositary will endeavour to appoint such holder as proxy in respect of such holder's deposited shares entitling such holder to attend and vote at shareholders' meetings. Holders of ADSs may also instruct the Depositary to vote their deposited securities and the Depositary will try, as far as practical and lawful, to vote deposited shares in accordance with such instructions. The Company cannot ensure that holders will receive voting materials or otherwise learn of an upcoming shareholders' meeting in time to ensure that holders can instruct the Depositary to vote their shares.

Upon payment of appropriate fees, expenses and taxes: (i) shareholders may deposit their shares with the Depositary and receive the corresponding class and amount of ADSs; and (ii) holders of ADSs may surrender their ADSs to the Depositary and have the corresponding class and amount of shares credited to their account.

Further, subject to certain limitations, holders may, at any time, cancel ADSs and withdraw their underlying shares or have the corresponding class and amount of shares credited to their account.

Fees paid by holders of ADSs

The Depositary collects its fees for delivery and surrender of ADSs directly from investors depositing shares or surrendering ADSs for the purpose of withdrawal or from intermediaries acting for them. The Depositary collects fees for making distributions to investors by deducting those fees from the amounts distributed or by selling a portion of distributable property to pay the fees. The Depositary may generally refuse to provide fee-attracting services until its fees for those services are paid. See page 328.

Payments by Depositary to the Company

J.P. Morgan Chase Bank, N.A., as Depositary, has agreed to share with the Company portions of certain fees collected, less ADS programme expenses paid by the Depositary. For example, these expenses include the Depositary's annual programme fees, transfer agency fees, custody fees, legal expenses, postage and envelopes for mailing annual and interim financial reports, printing and distributing dividend cheques, electronic filing of US federal tax information, mailing required tax forms, stationery, postage, facsimile and telephone calls and the standard out-of-pocket maintenance costs for the ADSs. From January 1, 2022, to December 31, 2022, the Company received \$2,744,521.66 from the Depositary.

Shareholder Information

Persons depositing or withdrawing shares must pay:	For:
\$5.00 or less per 100 ADSs (or portion of 100 ADSs)	<ul style="list-style-type: none"> • Issuance of ADSs, including those resulting from a distribution of shares, rights or other property; • Cancellation of ADSs for the purpose of their withdrawal, including if the deposit agreement terminates; and • Distribution of securities to holders of deposited securities by the Depositary to ADS registered holders.
Registration and transfer fees	<ul style="list-style-type: none"> • Registration and transfer of shares on the share register to or from the name of the Depositary or its agent when they deposit or withdraw shares.
Expenses of the Depositary	<ul style="list-style-type: none"> • Cable, telex and facsimile transmissions (when expressly provided in the deposit agreement); and • Converting foreign currency into dollars.
Taxes and other governmental charges the Depositary or the custodian has to pay on any ADS or share underlying an ADS, for example, share transfer taxes, stamp duty or withholding taxes	<ul style="list-style-type: none"> • As necessary.

In addition to the above, the Depositary may charge: (i) a dividend fee of \$5.00 or less per 100 ADSs (or portion of 100 ADSs) for cash dividends or issuance of ADSs resulting from share dividends and (ii) an administrative fee of \$5.00 or less per 100 ADSs (or portion of 100 ADSs) per calendar year. The Company and Depositary have agreed not to charge these fees at this time.

Dividend Reinvestment Plan

Equiniti Financial Services Limited, part of the same group of companies as the Company's Registrar, Equiniti Limited, operates a Dividend Reinvestment Plan (DRIP) which enables Shell plc shareholders to elect to have their dividend payments used to purchase Shell plc ordinary shares. More information can be found at www.shareview.co.uk/info/drip or by contacting Equiniti.

ABN AMRO Bank N.V. and JP Morgan Chase Bank N.A. also operate dividend reinvestment options. More information can be found by contacting the relevant provider.

Exchange controls and other limitations affecting security holders

Other than restrictions affecting those individuals, entities, government bodies, corporations, or activities that are targeted by European Union (EU) or UK sanctions for example, regarding Syria, Russia or North Korea, and the general EU prohibition to transfer funds to and from for example, North Korea or Syria, we are not aware of any other legislative or other legal provision currently in force in the UK, the Netherlands, the EU or arising under the Articles restricting remittances to holders of the Company's ordinary shares who are non-residents of the UK, or affecting the import or export of capital.

Taxation

General

The Company is incorporated in England and Wales and was tax-resident in the Netherlands during 2021. The Company changed tax residence from the Netherlands to the UK on December 31, 2021.

As a tax resident of the Netherlands, it is generally required by Dutch law to withhold tax at a rate of 15% on dividends on its ordinary shares and ADSs, subject to the provisions of any applicable tax convention or domestic law. Depending on their particular circumstances, non-Dutch tax-resident holders may be entitled to a full or partial refund of Dutch withholding tax. The following sets forth the operation of other provisions on dividends on the Company's various ordinary shares and ADSs to UK and US holders, as well as certain other tax rules pertinent to holders for the 2021 financial year. Holders should consult their own tax adviser if they are uncertain as to the tax treatment of any dividend.

Dividends paid on the dividend access shares

As part of the Simplification, the A ordinary shares and B ordinary shares were assimilated into one single line of ordinary shares. Prior to the assimilation, there was no Dutch withholding tax on dividends on B shares or B ADSs, provided that such dividends are paid on the dividend access shares pursuant to the dividend access mechanism (see "Dividend access mechanism for B shares" on page 206). Dividends paid on the dividend access shares are treated as UK-source for tax purposes and there is no UK withholding tax on them.

In 2021, all dividends with respect to B shares and B ADSs were paid on the dividend access shares pursuant to the dividend access mechanism.

Shareholder Information

Dutch withholding tax

On January 29, 2022, one line of shares was established through assimilation of each A share and each B share into one single line of ordinary shares of the Company. This assimilation had no impact on voting rights or dividend entitlements. Dutch dividend withholding tax, applied previously on dividends on A shares, no longer applies on dividends paid on the now assimilated ordinary shares following the move of the Company's tax residence to the UK.

The following applies to dividends paid in the 2021 and prior financial years and is included in the report for reference:

When Dutch withholding tax applies on dividends paid to a US holder (that is, dividends on A shares or A ADSs, or on B shares or B ADSs that are not paid on the dividend access shares pursuant to the dividend access mechanism), the US holder will be subject to Dutch withholding tax at the rate of 15%. A US holder who is entitled to the benefits of the 1992 Double Taxation Convention (the Convention) between the USA and the Netherlands as amended by the protocol signed on March 8, 2004, will be entitled to a reduction in the Dutch withholding tax, either by way of a full or a partial exemption at source or by way of a partial refund or a credit as follows:

- if the US holder is an exempt pension trust as described in article 35 of the Convention, or an exempt organisation as described in article 36 thereof, the US holder will be exempt from Dutch withholding tax; or
- if the US holder is a company that holds directly at least 10% of the voting power in the Company, the US holder will be subject to Dutch withholding tax at a rate not exceeding 5%.

In general, the entire dividend (including any amount withheld) will be dividend income to the US holder and the withholding tax will be treated as a foreign income tax that is eligible for credit against the US holder's income tax liability or a deduction subject to certain limitations. A "US holder" includes, but is not limited to, a citizen or resident of the USA, or a corporation or other entity organised under the laws of the USA or any of its political subdivisions.

When Dutch withholding tax applies on dividends paid to UK tax-resident holders (that is, dividends on A shares or A ADSs, or on B shares or B ADSs that are not paid on the dividend access shares pursuant to the dividend access mechanism), the dividend will typically be subject to withholding tax at a rate of 15%. Such UK tax-resident holder may be entitled to a credit (not repayable) for withholding tax against their UK tax liability. However, certain corporate shareholders are, subject to conditions, exempt from UK tax on dividends. Withholding tax suffered cannot be offset against such exempt dividends. UK tax-resident holders should also be entitled to claim a refund of one-third of the Dutch withholding tax from the Dutch tax authorities in reliance on the tax convention between the Netherlands

Capital gains tax

For the purposes of UK capital gains tax, the market values [A] of the shares of the former public parent companies of the Shell Group at the relevant dates were:

	March 31, 1982	July 20, 2005
Royal Dutch Petroleum Company (N.V. Koninklijke Nederlandsche Petroleum Maatschappij) which ceased to exist on December 21, 2005	1.1349	17.6625
The "Shell" Transport and Trading Company, p.l.c. which delisted on July 19, 2005	1.4502	Not applicable

[A] Restated where applicable to reflect all capitalisation issues since the relevant date. This includes the change in the capital structure in 2005, when Shell plc (at the time known as Royal Dutch Shell plc) became the single parent company of Royal Dutch Petroleum Company and of The "Shell" Transport and Trading Company, p.l.c., now The Shell Transport and Trading Company Limited, and one share in Royal Dutch Petroleum Company was exchanged for two Royal Dutch Shell plc A shares and one share in The "Shell" Transport and Trading Company, p.l.c. was exchanged for 0.287333066 Royal Dutch Shell plc B shares.

and the UK. Pension plans meeting certain defined criteria can, however, be entitled to claim a full refund or exemption at source of the dividend tax withheld. Also, UK tax-resident corporate shareholders holding at least a 5% shareholding and meeting other defined criteria are exempted at source from dividend tax.

For holders who are tax-resident in any other country, the availability of a whole or partial exemption or refund of Dutch withholding tax is governed by Dutch tax law and/or the tax convention, if any, between the Netherlands and the country of the holder's residence.

There may be other grounds on which holders who are tax-resident in the UK, the USA or any other country can obtain a full or partial refund of the Dutch withholding tax, depending on their particular circumstances; see "Taxation: General" above.

Dutch capital gains taxation

Capital gains on the sale of shares of a Dutch tax-resident company by a US holder are generally not subject to taxation by the Netherlands unless the US holder has a permanent establishment therein and the capital gain is derived from the sale of shares that are part of the business property of the permanent establishment.

Dutch succession duty and gift taxes

Shares of a Dutch tax-resident company held by an individual who is not a resident or a deemed resident of the Netherlands will generally not be subject to succession duty in the Netherlands on the individual's death.

A gift of shares of a Dutch tax-resident company by an individual who is not a resident or a deemed resident of the Netherlands is generally not subject to Dutch gift tax.

UK stamp duty and stamp duty reserve tax

Sales or transfers of the Company's ordinary shares within a clearance service (such as Euroclear Nederland) or of the Company's ADSs within the ADS depository receipts system will not give rise to a stamp duty reserve tax (SDRT) liability and should not in practice require the payment of UK stamp duty.

The transfer of the Company's ordinary shares to a clearance service (such as Euroclear Nederland) or to an issuer of depository shares (such as ADSs) will generally give rise to a UK stamp duty or SDRT liability at the rate of 1.5% of consideration given or, if none, of the value of the shares. A sale of the Company's ordinary shares that are not held within a clearance service (for example, settled through the UK's CREST system of paperless transfers) will generally be subject to UK stamp duty or SDRT at the rate of 0.5% of the amount of the consideration, normally paid by the purchaser.

Section 13(r) of the US Securities Exchange Act of 1934 Disclosure

In accordance with our General Business Principles and Code of Conduct, Shell seeks to comply with all applicable international trade laws, including applicable sanctions and embargoes.

The activities listed below have been conducted outside the USA by non-US affiliates of Shell plc. None of the payments disclosed below were made in US dollars, nor are any of the balances disclosed below held in US dollars; however, for disclosure purposes, all have been converted into US dollars at the appropriate exchange rate. We do not believe that any of the transactions or activities listed below violated US sanctions.

In 2022, a fee of \$66 for the legalization of a Power of Attorney for General Representative of the Branch in the Islamic Republic of Iran of Shell Development Iran B.V. was paid through CIBT (intermediary company) to the Embassy of the Islamic Republic of Iran in The Hague.

During 2022, we paid \$162 for the clearance of overflight permits for Shell aircraft over Iranian airspace to Civil Aviation Organisation (Iran). There was no gross revenue or net profit associated with these transactions. On occasion, our aircraft may be routed over Iran and therefore these payments may continue in the future.

We maintain accounts with Karafarin Bank, where our cash deposits (balance of \$5,682,796 at December 31, 2022) generated non-taxable interest income of \$267,709 in 2022 and we paid \$2 in bank charges in 2022. As the accounts with Karafarin Bank will be maintained for the foreseeable future, we expect that receipt of non-taxable interest income and payment of bank charges to continue in the future.

Non-GAAP measures reconciliations

These non-GAAP measures, also known as alternative performance measures, are financial measures other than those defined in International Financial Reporting Standards, which Shell considers provide useful information. With effect from January 1, 2022, the reporting segments are aligned with Shell's Powering Progress strategy. The Renewables and Energy Solutions business is now reported separately from Integrated Gas. Shales assets in Canada are now reported as part of the Integrated Gas segment instead of the Upstream segment. The Oil Products and Chemicals segments are reorganised into two segments – Marketing, and Chemicals and Products. Prior period comparatives have been revised to conform with current year presentation. The reporting segment changes have no impact at a Group level.

Earnings on a current cost of supplies basis

Segment earnings are presented on a current cost of supplies basis (CCS earnings), which is the earnings measure used by the Chief Executive Officer for the purposes of making decisions about allocating resources and assessing performance. On this basis, the purchase price of volumes sold during the period is based on the current cost of supplies during the same period after making allowance for the tax effect. CCS earnings therefore exclude the effect of changes in the oil price on inventory carrying amounts. The current cost of supplies adjustment does not impact cash flow from operating activities in the "Consolidated Statement of Cash Flows".

Reconciliation of income for the period to CCS earnings

	2022	2021	\$ million 2020
Income/(loss) attributable to Shell plc shareholders	42,309	20,101	(21,680)
Income/(loss) attributable to non-controlling interest	565	529	146
Income/(loss) for the period	42,874	20,630	(21,534)
Current cost of supplies adjustment	(1,312)	(3,148)	1,833
Of which:			
Attributable to Shell plc shareholders	(1,196)	(3,029)	1,759
Attributable to non-controlling interest	(116)	(119)	74
CCS earnings	41,562	17,482	(19,701)
Of which:			
Attributable to Shell plc shareholders	41,113	17,072	(19,921)
Attributable to non-controlling interest	449	410	220

Adjusted Earnings and Adjusted Earnings Before Interest, Taxes, Depreciation and Amortisation (EBITDA)

The "Adjusted Earnings" measure aims to facilitate a comparative understanding of Shell's financial performance from period to period by removing the effects of oil price changes on inventory carrying amounts and removing the effects of identified items. These items are in some cases driven by external factors and may, either individually or collectively, hinder the comparative understanding of Shell's financial results from period to period.

The "Adjusted EBITDA (CCS basis)" measure is used by management to evaluate Shell's performance in the period and over time. We define "Adjusted EBITDA (CCS basis)" as "Income/(loss) for the period" adjusted for current cost of supplies; identified items; tax charge/(credit); depreciation, amortisation and depletion; exploration well write-offs and net interest expense. All items include the non-controlling interest component.

Adjusted Earnings

	2022							2021							\$ million 2020						
	Shell	IG	UP	Mark	C&P	R&ES	Corp	Shell	IG	UP	Mark	C&P	R&ES	Corp	Shell	IG	UP	Mark	C&P	R&ES	Corp
CCS Earnings [A]	41,562	22,212	16,222	2,133	4,515	(1,059)	(2,461)	17,482	8,060	9,603	3,535	404	(1,514)	(2,606)	(19,701)	(7,230)	(9,300)	4,081	(3,821)	(479)	(2,952)
Less: Identified items	1,259	6,075	(1,096)	(622)	(204)	(2,805)	(90)	(2,235)	(988)	1,587	68	(1,712)	(1,272)	81	(24,777)	(11,443)	(6,874)	13	(6,656)	(277)	460
Adjusted Earnings - segments		16,137	17,319	2,754	4,719	1,745	(2,371)		9,048	8,015	3,468	2,115	(243)	(2,686)		4,213	(2,426)	4,068	2,835	(202)	(3,412)
Less: CCS earnings attributable to NCI	449							410							220						
Add: Identified items attributable to NCI	15							(19)							(10)						
Adjusted Earnings	39,870							19,289							4,846						

[A] See Note 8 to the Consolidated Financial Statements on pages 245-249.

[B] Non-controlling interest (NCI).

[C] Segments above are as follows: Integrated Gas (IG); Upstream (UP); Marketing (Mark); Chemicals and Products (C&P); Renewables and Energy Solutions (R&ES); and Corporate (Corp).

Non-GAAP measures reconciliations continued

Adjusted EBITDA

	2022							2021							\$ million 2020							
	Shell	IG	UP	Mark	C&P	R&ES	Corp	Shell	IG	UP	Mark	C&P	R&ES	Corp	Shell	IG	UP	Mark	C&P	R&ES	Corp	
Adjusted Earnings	39,870							19,289							4,846							
Add: NCI	434							429							230							
Adjusted Earnings plus NCI	40,304	16,137	17,319	2,754	4,719	1,745	(2,371)	19,718	9,048	8,015	3,468	2,115	(243)	(2,686)	5,076	4,213	(2,426)	4,068	2,835	(202)	(3,412)	
Add: Taxation charge/(credit) excluding tax impact of identified items	18,578	4,704	11,831	952	841	346	(96)	8,482	2,231	5,662	955	277	(55)	(588)	2,252	1,314	992	893	(398)	(14)	(535)	
Add: Depreciation, depletion and amortisation excluding impairments	22,393	5,544	11,889	1,573	3,004	365	18	23,071	5,389	12,574	1,575	3,235	281	17	24,981	5,851	13,805	1,455	3,604	244	22	
Add: Exploration well write-offs	881	142	738					639	15	624					815	452	363					
Add: Interest expense excluding identified items	3,181	84	345	45	22	2	2,683	3,607	71	331	26	44		3,135	4,089	78	368	43	15	3	3,582	
Less: Interest income	1,046	43	22		24	(2)	959	511		37	3	36	4	431	679		56	4	25	5	589	
Adjusted EBITDA (CCS basis)	84,289	26,569	42,100	5,324	8,561	2,459	(725)	55,004	16,754	27,170	6,021	5,635	(21)	(554)	36,533	11,908	13,045	6,455	6,032	25	(933)	

[A] Non-controlling interest (NCI).

[B] Segments above are as follows: Integrated Gas (IG); Upstream (UP); Marketing (Mark); Chemicals and Products (C&P); Renewables and Energy Solutions (R&ES); and Corporate (Corp).

Identified items

The objective of identified items is to remove material impacts on net income/loss arising from transactions which are generally uncontrollable and unusual (infrequent or non-recurring) in nature or giving rise to a mismatch of accounting and economic results, or certain transactions that are generally excluded from underlying results in the industry.

	\$ million		
	2022	2021	2020
Identified items included in Income/(loss) before taxation			
Divestment gains/(losses)	657	5,996	316
Impairment reversals/(impairments)	2,260	(3,884)	(28,061)
Redundancy and restructuring	44	(227)	(883)
Provisions for onerous contracts	(508)	(340)	(1,392)
Fair value accounting of commodity derivatives and certain gas contracts	3,244	(3,249)	(1,151)
Other	(1,519) [A]	(621)	(706)
Total identified items included in Income/(loss) before taxation	4,178	(2,326)	(31,877)
Total identified items included in Taxation charge/(credit)	(2,919) [B]	91	7,100
Identified items included in Income/(loss) for the period	1,259	(2,235)	(24,777)
Divestment gains/(losses)	418	4,632	4
Impairment reversals/(impairments)	725	(2,993)	(21,267)
Redundancy and restructuring	43	(140)	(644)
Provisions for onerous contracts	(487)	(299)	(1,120)
Fair value accounting of commodity derivatives and certain gas contracts	3,421	(2,764)	(1,034)
Impact of exchange rate movements on tax balances	(57)	(128)	(240)
Other	(2,804) [C]	(543)	(475)
Impact on CCS earnings	1,259	(2,235)	(24,777)
Of which:			
Integrated Gas	6,075	(988)	(11,443)
Upstream	(1,096)	1,587	(6,874)
Marketing	(622)	68	13
Chemicals and Products	(204)	(1,712)	(6,656)
Renewables and Energy Solutions	(2,805)	(1,272)	(277)
Corporate	(90)	81	460
Identified items attributable to Non-controlling interest	15	(19)	(10)
Identified items attributable to Shell plc shareholders	1,243	(2,216)	(24,767)

[A] Includes \$(940) million related to the EU solidarity contribution.

[B] Includes \$(528) million related to the EU solidarity contribution and \$(802) million related to the UK Energy Profits Levy.

[C] Includes \$(2,270) million related to the EU solidarity contribution and to the UK Energy Profits Levy.

Non-GAAP measures reconciliations continued

Cash capital expenditure

Cash capital expenditure monitors investing activities on a cash basis, excluding items such as lease additions which do not necessarily result in cash outflows in the period. The measure comprises the following lines from the Consolidated Statement of Cash flows: Capital expenditure, Investments in joint ventures and associates and Investments in equity securities.

The reconciliation of "Capital expenditure" to "Cash capital expenditure" is as follows.

Cash capital expenditure

	2022							2021							\$ million						
															2020						
	Shell	IG	UP	Mark	C&P	R&ES	Corp	Shell	IG	UP	Mark	C&P	R&ES	Corp	Shell	IG	UP	Mark	C&P	R&ES	Corp
Capital expenditure [A]	22,600	3,432	8,020	4,527	3,835	2,609	175	19,000	3,306	6,277	2,122	5,091	2,069	135	16,585	3,491	6,714	1,684	4,163	363	169
Investments in joint ventures and associates [A]	1,973	833	123	304	2	703	9	479	196	(109)	149	80	154	10	1,024	68	379	84	34	458	—
Investments in equity securities [A]	260	—	—	—	1	157	103	218	—	—	3	4	136	75	218	7	6	6	1	107	92
Cash capital expenditure	24,833	4,265	8,143	4,831	3,838	3,469	287	19,698	3,502	6,168	2,273	5,175	2,359	221	17,827	3,566	7,099	1,774	4,198	928	262

[A] Included within Cash flow from investing activities in the "Consolidated Statement of Cash Flows".

[B] Segments above are as follows: Integrated Gas (IG); Upstream (UP); Marketing (Mark); Chemicals and Products (C&P); Renewables and Energy Solutions (R&ES); and Corporate (Corp).

Operating expenses and underlying operating expenses

Operating expenses is a measure of Shell's cost management performance, comprising the following items from the "Consolidated Statement of Income": production and manufacturing expenses; selling, distribution and administrative expenses; and research and development expenses.

Underlying operating expenses is a measure aimed at facilitating a comparative understanding of performance from period to period by removing the effects of identified items, which, either individually or collectively, can cause volatility, in some cases driven by external factors.

Operating expenses and underlying operating expenses

	2022							2021							\$ million						
															2020						
	Shell	IG	UP	Mark	C&P	R&ES	Corp	Shell	IG	UP	Mark	C&P	R&ES	Corp	Shell	IG	UP	Mark	C&P	R&ES	Corp
Production and manufacturing expenses	25,518	4,907	9,676	810	7,583	2,520	22	23,822	4,194	9,797	950	6,815	2,098	(32)	24,001	4,957	10,195	779	6,952	1,091	27
Selling, distribution and administrative expenses	12,883	218	233	7,351	3,592	972	517	11,328	231	186	6,384	3,375	596	556	9,881	60	(31)	5,380	3,391	606	475
Research and development	1,075	112	456	222	187	98	—	815	101	339	167	157	51	—	907	84	486	147	171	19	—
Total	39,477	5,238	10,364	8,384	11,361	3,590	540	35,964	4,526	10,324	7,501	10,347	2,745	524	34,789	5,100	10,650	6,305	10,514	1,716	505
Identified items	(21)	(354)	438	(103)	7	(7)	(1)	(655)	(230)	(238)	(135)	(48)	(8)	4	(2,287)	(782)	(756)	(144)	(597)	(5)	(3)
Underlying operating expenses	39,456	4,884	10,802	8,281	11,368	3,583	539	35,309	4,295	10,086	7,366	10,298	2,737	527	32,502	4,318	9,894	6,161	9,916	1,711	501

[A] Segments above are as follows: Integrated Gas (IG); Upstream (UP); Marketing (Mark); Chemicals and Products (C&P); Renewables and Energy Solutions (R&ES); and Corporate (Corp)

Non-GAAP measures reconciliations continued

Return on average capital employed

Return on average capital employed (ROACE) measures the efficiency of our utilisation of the capital that we employ. In this calculation, ROACE is defined as income for the period, adjusted for after-tax interest expense, as a percentage of the average capital employed for the period. Capital employed consists of total equity, current debt and non-current debt.

Calculation of return on average capital employed

	\$ million		
	2022	2021	2020
Income for the period	42,874	20,630	(21,534)
Interest expense after tax	2,290	2,741	2,822
Income before interest expense	45,164	23,371	(18,712)
Capital employed - opening	264,413	266,551	286,887
Capital employed - closing	276,392	264,413	266,551
Capital employed - average	270,402	265,482	276,719
ROACE	16.7%	8.8%	(6.8)%

Net debt and gearing

Net debt is defined as the sum of current and non-current debt, less cash and cash equivalents, adjusted for the fair value of derivative financial instruments used to hedge foreign exchange and interest rate risk relating to debt, and associated collateral balances.

Gearing is a measure of Shell's capital structure and is defined as net debt (total debt less cash and cash equivalents) as a percentage of total capital (net debt plus total equity).

Calculation of net debt and gearing

	\$ million		
	2022	2021	2020
Current debt	9,001	8,218	16,899
Non-current debt	74,794	80,868	91,115
Total debt	83,795	89,086	108,014
Add: Debt-related derivative financial instruments: net liability / (asset)	3,071	424	(1,979)
Add: Collateral on debt-related : net liability / (asset)	(1,783)	16	1,181
Less: Cash and cash equivalents	(40,246)	(36,970)	(31,830)
Net Debt	44,837	52,556	75,386
Add: Total equity	192,597	175,326	158,537
Total capital	237,434	227,882	233,923
Gearing	18.9%	23.1%	32.2%

Free cash flow and organic free cash flow

Free cash flow is used to evaluate cash available for financing activities, including shareholder distributions and debt servicing, after investment in maintaining and growing our business.

Organic free cash flow is defined as Free cash flow excluding the cash flows from acquisition and divestment activities. It is a measure used by management to evaluate generation of cash flow without these activities.

Free cash flow and Organic free cash flow

	\$ million		
	2022	2021	2020
Cash flow from operating activities	68,414	45,104	34,105
Cash flow from investing activities	(22,448)	(4,761)	(13,278)
Free cash flow	45,965	40,343	20,828
Less: Cash inflows related to divestments [A]	2,059	15,113	4,010
Add: Tax paid on divestments	17	188	—
Add: Cash outflows related to inorganic capital expenditure [B]	4,205	1,658	817
Organic free cash flow	48,128	27,076	17,634

[A] Cash inflows related to divestments includes Proceeds from sale of property, plant and equipment and businesses, Proceeds from joint ventures and associates from sale, capital reduction and repayment of long-term loans, and Proceeds from sale of equity securities as reported in the "Consolidated Statement of Cash Flows".

[B] Cash outflows related to inorganic capital expenditure includes portfolio actions which expand Shell's activities through acquisitions and restructuring activities as reported in capital expenditure lines in the "Consolidated Statement of Cash Flows".

Shareholder distribution

Shareholder distribution is used to evaluate the level of cash distribution to shareholders. It is defined as the sum of Cash dividends paid to Shell plc shareholders and Repurchases of shares, both of which are reported in the Consolidated Statement of Cash Flows.

Calculation of shareholder distribution

	\$ million		
	2022	2021	2020
Cash dividends paid to Shell plc shareholders	(7,405)	(6,253)	(7,424)
Repurchases of shares	(18,437)	(2,889)	(1,702)
Shareholder distribution	(25,842)	(9,142)	(9,126)

Divestment proceeds

Divestment proceeds represent cash received from divestment activities in the period. Management regularly monitors this measure as a key lever to deliver sustainable cash flow.

Calculation of divestment proceeds

	\$ million		
	2022	2021	2020
Proceeds from sale of property, plant and equipment and businesses	1,431	14,233	2,489
Proceeds from joint ventures and associates from sale, capital reduction and repayment of long-term loans	511	584	1,240
Proceeds from sale of equity securities	117	296	281
Divestment proceeds	2,059	15,113	4,010
Of which:			
Integrated Gas	241	3,931	486
Upstream	558	10,147	1,903
Marketing	266	42	56
Chemicals and Products	776	903	1,338
Renewables and Energy Solutions	191	47	22
Corporate	26	44	205

Index to the Exhibits

Exhibit No.	Description
1.1	Memorandum of Association of Royal Dutch Shell plc, together with a special resolution of Royal Dutch Shell plc dated May 18, 2010, (incorporated by reference to Exhibit 4.12 to the Registration Statement on Form F-3 (File No. 333-177588) of Royal Dutch Shell plc filed with the US Securities and Exchange Commission on October 28, 2011).
1.2	Articles of Association of Shell plc, dated December 20, 2021 (incorporated by reference to Exhibit 2 to the Form 8-A (File No. 001-32575) of Shell plc filed with the US Securities and Exchange Commission on January 25, 2022).
2.1	Amended and Restated Dividend Access Trust Deed, dated March 12, 2020 between Royal Dutch Shell plc, BG Group Limited, Computershare Trustees (Jersey) Limited and the Shell Transport and Trading Company Limited (incorporated by reference to Exhibit 2.1 to the Annual Report for the fiscal year ended December 31, 2020, on Form 20-F (File No. 001-32575) of Royal Dutch Shell plc filed with the US Securities and Exchange Commission on March 11, 2021).
2.3	Second Amended and Restated Deposit Agreement among Shell plc, JPMorgan Chase Bank, N.A., as depository, and Holders and Beneficial Owners of American Depositary Receipts, dated as of January 31, 2022 (incorporated by reference to Exhibit 2.3 to the Annual Report for the fiscal year ended December 31, 2021, on Form 20-F (File No. 001-32575) of Shell plc filed with the US Securities and Exchange Commission on March 10, 2022).
2.4	Form of American Depositary Receipts representing Shell plc American Depositary Shares each evidencing the right to receive two ordinary shares of Shell plc (included as Exhibit A to Exhibit 2.3 herein).
2.5	Description of the Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934.
4.1	Shell Provident Fund Regulations and Trust Agreement, as amended to reflect all amendments through September 25, 2020 (incorporated by reference to Exhibit 4.1 to the Annual Report for fiscal year ended December 31, 2021, on Form 20-F (File No. 001-32575) of Shell plc filed with the US Securities and Exchange Commission on March 10, 2022).
4.2	Form of Director Indemnity Agreement (incorporated by reference to Exhibit 4.3 to the Annual Report for the fiscal year ended December 31, 2005, on Form 20-F (File No. 001-32575) of Royal Dutch Shell plc filed with the US Securities and Exchange Commission on March 13, 2006).
4.3	Form of contract of employment for Executive Directors (incorporated by reference to Exhibit 4.5 to the Annual Report for fiscal year ended December 31, 2013, on Form 20-F (File No. 001-32575) of Royal Dutch Shell plc filed with the US Securities and Exchange Commission on March 13, 2014).
4.4	Form of Letter of appointment for Non-executive Directors (incorporated by reference to Exhibit 4.4 to the Annual Report for the fiscal year ended December 31, 2018, on Form 20-F (File No. 001-32575) of Royal Dutch Shell plc filed with the US Securities and Exchange Commission on March 14, 2019).
4.5	Amendment to form of letter of appointment for Non-executive Directors (incorporated by reference to Exhibit 4.5 to the Annual Report for the fiscal year ended December 31, 2021, on Form 20-F (File No. 001-32575) of Shell plc filed with the US Securities and Exchange Commission on March 10, 2022).
4.6	Rules of the Global Employee Share Purchase Plan, amended on January 29, 2022 (incorporated by reference to Exhibit 4.6 to the Annual Report for the fiscal year ended December 31, 2021, on Form 20-F (File No. 001-32575) of Shell plc filed with the US Securities and Exchange Commission on March 10, 2022).
4.7	Rules of the Shell Share Plan 2014, amended January 29, 2022 (incorporated by reference to Exhibit 4.7 to the Annual Report for fiscal year ended December 31, 2021, on Form 20-F (File No. 001-32575) of Shell plc filed with the US Securities and Exchange Commission on March 10, 2022).
4.8	Free Share Schedule (incorporated by reference to Exhibit 4.8 to the Annual Report for fiscal year ended December 31, 2021, on Form 20-F (File No. 001-32575) of Shell plc filed with the US Securities and Exchange Commission on March 10, 2022).
8.1	Significant Shell subsidiaries at December 31, 2022.
12.1	Section 302 Certification of Shell plc.
12.2	Section 302 Certification of Shell plc.
13.1	Section 906 Certification of Shell plc.
99.1	Consent of Ernst & Young LLP, London, United Kingdom.
99.2	Consent of Ernst & Young LLP, London, United Kingdom, relating to the Royal Dutch Shell Dividend Access Trust.
101	Inline Interactive data files.
104	Cover page inline interactive data file (formatted as Inline XBRL and contained in Exhibit 101).

Signatures

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorised the undersigned to sign this annual report on its behalf.

Shell plc

/s/ Wael Sawan

Wael Sawan

Chief Executive Officer

March 8, 2023

Financial calendar in 2023

The Annual General Meeting will be held on May 23, 2023.

	2022 Fourth quarter [A]	2023 First quarter [B]	2023 Second quarter [B]	2023 Third quarter [B]
Results announcements	February 2	May 4	July 27	November 2
Interim dividend timetable				
Announcement date	February 2 [C]	May 4	July 27	November 2
Ex-dividend date for SHEL ADS [D]	February 16	May 18	August 10	November 16
Ex-dividend date for SHEL ordinary shares	February 16	May 18	August 10	November 16
Record date	February 17	May 19	August 11	November 17
Closing of currency election date [E]	March 3	June 5	August 25	December 1
Pounds sterling and euro equivalents announcement date	March 13	June 12	September 4	December 11
Payment date	March 27	June 26	September 18	December 20

[A] In respect of the financial year ended December 31, 2022.

[B] In respect of the financial year ended December 31, 2023.

[C] The Directors do not propose to recommend any further distribution in respect of 2022.

[D] The New York Stock Exchange (NYSE), with effect from September 5, 2017, reduced the standard settlement cycle in accordance with the SEC amendments to Exchange Act Rule 15c6-1(a). Under these rules, regular settlement will occur on a T+2 basis for trades occurring on or after the SEC's implementation date of September 5, 2017. As a result SHEL ADSs traded on the NYSE markets will now settle in line with SHEL shares traded on European markets, who moved to a T+2 settlement basis for trades in 2014, resulting in the same ex-dividend date for SHEL shares and SHEL ADSs. Record dates will not change. The timings of these are detailed above.

[E] A different currency election date may apply to shareholders holding shares in a securities account with a bank or financial institution ultimately through Euroclear Nederland. This may also apply to other shareholders who do not hold their shares either directly on the Register of Members or in the corporate sponsored nominee arrangement. Shareholders can contact their broker, financial intermediary, bank or financial institution for the election deadline that applies.

Contact Us

The best way to get in touch is via the "Contact us" section of the Shell website www.shell.com/investors. From here questions are properly directed to the Shell team that can assist. In addition, we have introduced an automated question response tool to assist with the most popular questions that we receive and reviewed and updated the "Frequently asked Questions" section of our website to provide the most time efficient information for our investors.

Registered Office and HQ
Shell plc
Shell Centre
London SE1 7NA
United Kingdom

Registered in England and Wales
Company number 4366849

Shareholder Relations
Shell plc
Carel van Bylandtlaan 30
2596 HR The Hague
The Netherlands

or

Shell plc
Shell Centre
London SE1 7NA
United Kingdom
www.shell.com/investors

Investor Relations
Shell plc
PO Box 162
2501 AN The Hague
The Netherlands

or

Shell Oil Company
Investor Relations
150 N Dairy Ashford
Houston, TX 77079
USA
www.shell.com/investors

Share registration
Equiniti
Aspect House
Spencer Road
Lancing
West Sussex BN99 6DA
United Kingdom
0800 169 1679
customer@equiniti.com

For online information about your holding and to change the way you receive your company documents:
www.shareview.co.uk

American Depositary Shares (ADSs)
JPMorgan Chase Bank, N.A.
Shareowner Services
P.O. Box 64504
St. Paul, MN 55164-0504
USA

Overnight correspondence to:
Shareowner Services
1110 Centre Pointe Curve, Suite 101
Mendota Heights, MN 55120-4100
USA
+1 888 737 2377 (USA only)
+1 651 453 2128 (International)
Email: <https://www.shareowneronline.com/informational/contact-us/>
www.adr.com/shareholder

Report ordering
www.shell.com/order
Annual Report/20-F service for
US residents
+1 888 301 0504

Exhibit 2.5

Description of Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934

As of December 31, 2022, Shell plc (“the Company”, the terms “Shell Group”, “we”, “us” and “our” are used to refer to Shell plc and its subsidiaries) had two classes of securities registered under Section 12(b) of the Securities Exchange Act of 1934, as amended: the Company’s American Depositary Shares (“ADSs”) representing two ordinary shares, with a nominal value of €0.07 each, and Senior Debt Securities.

Capitalized terms used herein and not otherwise defined herein, shall have the meaning ascribed to them in the Second Amended and Restated Deposit Agreement among the Company, JPMorgan Chase Bank, N.A. and the Holders and Beneficial owners of American Depositary Receipts, dated January 31, 2022 (the “Deposit Agreement”), and the Senior Debt Securities Indenture among Shell International Finance B.V., as issuer, the Company, as guarantor, and Deutsche Bank Trust Company Americas, as trustee, dated June 27, 2006 (the “2006 Indenture”).

Description of American Depositary Shares

The summary below describes some of the general terms and provisions of our ADSs and is subject to, and qualified in its entirety by reference to the Deposit Agreement, filed as exhibit 2.3 with the Annual Report for the fiscal year ended December 31, 2021, on Form 20-F (File No. 001-32575) on March 10, 2022, which is incorporated by reference, including the exhibits thereto.

General

American Depositary Receipts (“ADRs”) evidencing ADSs are issuable pursuant to the Deposit Agreement. Each ADS represents the right to receive two ordinary shares of the Company. An ADR may evidence any number of ADSs. Holders and owners of interests in ADSs are not shareholders of the Company and have no direct rights of a shareholder against the Company.

JPMorgan Chase Bank, N.A., as depositary (the “Depositary”), is the registered shareholder of the shares underlying the ADSs and enjoys the rights of a shareholder under our Articles of Association (“Articles”). Holders of ADSs do not have shareholder rights. The rights of the holder of an ADS are specified in the Deposit Agreement with the Depositary and are summarised below. The address of the Depositary’s principal executive offices is 383 Madison Avenue, Floor 11, New York, New York 10179.

In the following description, a “Holder” is the person in whose name an ADR is registered on the ADR Register.

Voting

Upon request by the Company, the Depositary will notify Holders of ADSs of shareholders’ meetings of the Company or of solicitation of consents or proxies from Holders and will arrange to deliver voting materials to such holders of ADSs.

Upon request by a Holder, the Depositary will endeavour to appoint such holder as proxy in respect of such Holder’s deposited shares entitling such Holder to attend and vote at shareholders’ meetings. Holders of ADSs may also instruct the Depositary to vote their deposited securities and the Depositary will try, as far as practical and lawful, to vote deposited shares in accordance with such instructions.

Collecting and distributing dividends

The Depositary will receive all cash dividends and other cash distributions made on the deposited shares underlying the ADSs and, where possible and on a reasonable basis, will distribute such dividends and distributions to Holders of ADSs in proportion to their holdings of ADSs. All other distributions made on the Company’s shares will be distributed by the Depositary in any means that the Depositary thinks is equitable and practical.

The Depositary may deduct its fees and expenses and the amount of any taxes owed from any payments to Holders and it may sell a Holder’s deposited shares to pay any taxes owed. The Depositary is not responsible if it decides that it is unlawful or impractical to make a distribution available to Holders of ADSs.

Transmission of notices, reports and proxy soliciting material

In addition to the procedures for transmitting notices discussed above under “Voting,” the Depositary and custodian shall make available for inspection by Holders, at their offices and at any designated transfer offices, any reports and communications, including any proxy material, received from the Company which are both (i) received by the Depositary or the custodian or the nominee of either of them as the Holder of the ordinary shares and (ii) made generally available by the Company to the Holders of such ordinary shares. If requested in writing by the Company, the Depositary shall arrange for the transmittal or mailing of such notices, and any other reports or communications made generally available to Holders of the ordinary shares, to all Holders.

Sale or exercise of rights

If the Company makes a distribution of warrants or other instruments representing rights to acquire additional ADSs in respect of any rights to subscribe for additional ordinary shares or rights of any nature and offers such rights to Holders of deposited securities, the Depositary, in its discretion, may distribute to Holders, in each case in proportion of their holdings of ADSs (i) the same, (ii) the net proceeds of sales of rights, or (iii) nothing provided that the sale of rights cannot practicably be accomplished by reason of the nontransferability of the Rights, limited markets therefor, their short duration or otherwise (and any rights may lapse).

If a Holder wishes to sell any rights issued by the Company, the Holder may be required (i) pay any applicable fees, taxes and charges, including governmental charges, associated with the sale transaction. Further, the Holder may be asked to provide proof satisfactory to the Depositary of the identity of any signatory, genuineness of any signature and such other information, that the Depositary may deem necessary.

Deposit or sale of securities resulting from dividends, splits or plans of reorganization

If the Company makes a distribution payable at the election of the Holders of ordinary shares in additional ordinary shares and notifies the Depositary in writing of such occurrence, to the extent practicable, the Depositary will, upon request from the Company, distribute to each Holder, in proportion to the number of deposited securities represented by ADSs evidenced by such Holder's ADRs, additional ADRs evidencing whole ADSs representing any shares available to the Depositary resulting from a dividend or free distribution on deposited securities consisting of shares and (ii) cash representing the net proceeds of sales of shares received that would give rise to fractional ADSs.

The Depositary in its discretion will, if reasonably requested by the Company, amend the ADR or distribute additional or amended ADRs (with or without calling this ADR for exchange) or cash, securities or property to reflect any change in par value, split-up, consolidation, unification cancellation or other reclassification of deposited securities, any distribution of shares or other distributions not distributed to Holders.

The Depositary in its discretion will, if reasonably requested by the Company, amend the ADR or distribute any additional available cash, securities or property in respect of deposited securities from any recapitalization, reorganization, merger, consolidation, liquidation, receivership, bankruptcy or sale of all or substantially all the assets of the Company.

If the Depositary does not so amend the ADR or make a distribution to Holders to reflect any of the foregoing, or the net proceeds thereof, whatever cash, securities or property results from any of the foregoing shall constitute deposited securities and each ADS evidenced by this ADR shall automatically represent its pro rata interest in the deposited securities as then constituted.

Prior to the issue, registration, split-up or combination of any ADR, the delivery of any distribution in respect thereof, the Company, the Depositary or the Custodian may require from the Holder:

- (A) Payment of (i) any stock transfer, tax or other governmental charge, (ii) registration fees in effect for the registration of transfers of the underlying shares or other deposited securities, and (iii) any applicable depositary fees,
- (B) The production of proof satisfactory to the Depositor as to the identity of the signatory and genuineness of any signature,
- (C) Such other information, including without limitation, information as to citizenship, residence, exchange control approval, beneficial ownership of any securities, compliance with applicable law, regulations, provisions of or governing deposited securities and terms of the Deposit Agreement and the ADR as may be necessary or proper, and
- (D) Compliance with such regulations as the Depositary may establish consistent with the Deposit Agreement.

The issuance of ADRs, the acceptance of deposits of shares, the registration, split-up or combination of ADRs may be suspended, generally or in particular instances, when the ADR Register or any register for deposited securities is closed or when any such action is deemed advisable by the Depositary.

Amendment, extension or termination of the Deposit Agreement

The form of ADRs evidencing ADSs and the Deposit Agreement may be amended by agreement between the Company and the Depositary, without the consent of the Holders. Any amendment that imposes or increases any fees or charges, other than taxes and other governmental charges, transfer or registration fees, transmission costs, delivery costs or other such expenses, or that otherwise prejudices any substantial existing right of the Holders, will not take effect as to any ADRs until 30 days after notice of the amendment has been given to the Holders. Every Holder of any ADR, at the time an amendment becomes effective, will be deemed to continue to hold the ADR and to consent and agree to the amendment and to be bound by the Deposit Agreement. No amendment may impair the right of any Holder to surrender ADRs and receive in return the deposited securities ordinary shares represented by the ADSs, except in order to comply with mandatory provisions of applicable law.

Any amendments which are reasonably necessary in order for (a) the ADSs to be registered on Form F-6 under the Securities Act of 1933 or (b) the ADSs or shares to be traded solely in electronic book-entry form and (ii) do not in either such case impose or increase any fees or charges to be borne by Holders, shall be deemed not to prejudice any substantial rights of Holders. However, if any governmental body or regulatory body adopts new laws, rules or regulations or should there be changes to the Articles which would require amendment or supplement of the Deposit Agreement or the form of ADR to ensure compliance therewith, the Company and the Depositary may amend or supplement the Deposit Agreement and the ADR at any time in accordance with such changed laws, rules or regulations. Such amendment or supplement to the Deposit Agreement in such circumstances may become effective before a notice of such amendment or supplement is given to Holders or within any other period of time as required for compliance.

Notice of any amendment to the Deposit Agreement or form of ADRs is not required to describe in detail the specific amendments and failure to describe the specific amendments in any such notice shall not render such notice invalid, provided that the notice given to the Holders identifies a means for Holders to retrieve or receive the text of such amendment from, for example, the U.S. Securities and Exchange Commission, the Depositary's or the Company's website or upon request from the Depositary.

At the written direction of the Company, the Depositary has agreed to terminate the Deposit Agreement and the ADRs evidencing ADSs by mailing a notice of such termination to the Holders then outstanding at least 30 days before the date fixed in the notice of termination. The Depositary may likewise resign or be removed as Depositary. However, in such cases, a notice of such resignation or termination by the Depositary shall not be provided to Holders unless a successor depositary will not be operating within 60 days of the date of the Depositary's resignation or notice of removal was provided by the Company to the Depositary.

Further, in the event of (i) the Company's bankruptcy or insolvency, (ii) the Company's ordinary shares ceasing to be listed on an internationally recognized stock exchange, (iii) the Company effects or will effect a redemption of all or substantially all of the deposited securities, or a cash or share distribution representing a return of all or substantially all of the value of the deposited securities, or (iv) a merger, consolidation, sale of assets or other transaction as a result of which securities or other property are delivered in exchange for or in lieu of deposited securities, the Depositary may terminate the Deposit Agreement without notice to the Company. Nonetheless, the Depositary will still be required to give 30 days' notice to the Holders.

After the date of termination of the Deposit Agreement, the Depositary will perform no further acts except to receive and hold (or sell) distributions on Deposited Securities and deliver deposited securities being withdrawn. As soon as practicable after such termination date, the Depositary will use its reasonable efforts to sell the deposited securities and lawfully hold in an account the net proceeds of such sales, together with any other cash then held by it under the Deposit Agreement, without liability for interest, in trust for the pro rata benefit of the Holders of ADRs that have not previously been surrendered. Following such sale, the Depositary is discharged from all obligations under the Deposit Agreement, with the exception of accounting for such net proceeds and other cash. After the termination of the Deposit Agreement, the Company is discharged from all obligations under the Deposit Agreement except for its obligations to the Depositary.

Rights of Holders of ADRs to inspect the transfer books of the Depositary and the list of Holders of ADRs

The Depositary will keep a register for the registration, transfer, combination and split-up of ADRs. These books will be open for inspection by Holders at all reasonable times.

The Depositary may close the ADR Register at any time or from time to time when deemed expedient by it and it may also close the issuance book portion of the ADR Register when reasonably requested by the Company solely in order to enable the Company to comply with applicable law.

Restrictions upon the right to transfer or withdraw the underlying securities

Subject to certain limitations described below, Holders may, at any time, cancel ADSs and withdraw their underlying shares, have the corresponding class and number of ordinary shares credited to their account, or request a registration of transfer.

Prior to acting upon the request for withdrawal of deposited securities or registration of transfer, the Depositary may request the following:

- (A) Proper endorsement in blank of such ADR (or duly executed instruments of transfer thereof in blank) and the Holder's written order directing the Depositary to cause the Deposited Securities represented by the ADSs evidenced by such ADR to be withdrawn and delivered to, or upon the written order of, any person designated in such order.
- (B) Payment from the depositor of ADSs or the presenter of the ADRs of a sum sufficient to reimburse it for (i) any stock transfer, tax or other governmental charge, (ii) registration fees in effect for the registration of transfers of the underlying shares or other deposited securities, and (iii) any applicable depositary fees,
- (C) The production of proof satisfactory to the Depositor as to the identity of the signatory and genuineness of any signature,
- (D) Such other information, including without limitation, information as to citizenship, residence, exchange control approval, beneficial ownership of any securities, compliance with applicable law, regulations, provisions of or governing deposited securities and terms of the Deposit Agreement and the ADR as may be necessary or proper, and
- (E) Compliance with such regulations as the Depositary may establish consistent with the Deposit Agreement.

Upon surrender of a certificated ADR in a form satisfactory to the Depositary or proper instructions and documentation, the Depositary will deliver to the Custodian's office the deposited securities at the time represented by the ADSs evidenced by the ADR. If requested, the Depositary may deliver such deposited securities at such other place as requested by the Holder, but such delivery is at risk and expense of the Holder.

The withdrawal of deposited securities may be suspended, generally or in particular instances, when the ADR Register or any register for deposited securities is closed or when any such action is deemed advisable by the Depositary.

Notwithstanding any other provision of the Deposit Agreement or the ADR, the withdrawal of deposited securities or the registration of transfer of outstanding ADRs generally may be suspended due to (i) temporary delays caused by closing transfer books of the Depositary or the Company of the deposited securities or the deposit of shares in connection with voting at a shareholders' meeting, or the payment of dividends, (ii) the payment of fees, taxes, and similar charges, and (iii) compliance with any laws or governmental regulations relating to ADRs or to the withdrawal of deposited securities. Without limitation of the foregoing, the Depositary will not knowingly accept for deposit any shares required to be registered under the provisions of the Securities Act of 1933, unless a registration statement is in effect as to such shares.

The delivery of ADRs against deposits of ADSs generally or against deposits of particular ADSs may be suspended, or the transfer of ADRs in particular instances may be refused, or the registration of transfer of outstanding ADRs generally may be suspended, during any period when the transfer books of the Depositary or those maintained by the foreign registrar are closed, or if any such action is deemed necessary or advisable by the Depositary at any time or from time to time because of any requirement of law or of any government or governmental body or commission, or under any provision of the Deposit Agreement, or, as long as it would be permitted under the transfer agency rules applicable to the Depositary, for any other reason.

Limitation upon the liability of the Depositary

The Depositary and the Company are not liable to Holders or beneficial owners of ADSs (A) if any present or future law, rule, regulation, fiat, order or decree of the United States, England, the Netherlands or any other country or jurisdiction, or of any governmental or regulatory authority or any securities exchange or market or automated quotation system, the provisions of or governing any deposited securities or any securities issued or distributed by the Company or any offering or distribution thereof, any present or future provision of the Articles, any act of God, war, terrorism, nationalization, expropriation, currency restrictions, work stoppage, strike, civil unrest, revolutions, rebellions, explosions, computer failure or circumstance beyond its direct and immediate control shall prevent, forbid or delay, or shall cause any of them to be subject to any civil or criminal penalty in connection with, any act which the Deposit Agreement or this ADR provides shall be done or performed by it or them (including, without limitation, voting), or (B) by reason of any non-performance or delay, caused as aforesaid, in the performance of any act or things which by the terms of the Deposit Agreement it is provided shall or may be done or performed or any exercise or failure to exercise any discretion given it in the Deposit Agreement or this ADR (including, without limitation, any failure to determine that any distribution or action may be lawful or reasonably practicable) (C) not be liable to Holders or beneficial owners of ADSs for any action or inaction by it in reliance upon the advice of or information from legal counsel, accountants, any person presenting shares for deposit, any Holder, or any other person believed by it to be competent to give such advice or information. The Depositary shall not be liable for the acts or omissions made by, or the insolvency of, any securities depository, clearing agency or settlement system.

The Depository and the Company assume no liability to Holders or beneficial owners of ADSs except to perform their obligations to the extent they are specifically set forth in the ADR and the Deposit Agreement without gross negligence or willful misconduct.

The Depository and its agents are under no obligation to appear in, prosecute or defend any action, suit or other proceeding in respect of any deposited securities or this ADR. The Company and its agents also are under no obligation to appear in, prosecute or defend any action, suit or other proceeding in respect of any deposited securities or this ADR, which in its opinion may involve it in expense or liability, unless indemnity satisfactory to it in its sole discretion against all expense (including fees and disbursements of counsel) and liability be furnished as often as may be required.

The Depository is not liable in connection with or arising from the insolvency of any Custodian that is not a branch or affiliate of JPMorgan Chase Bank, N.A. The Depository are not liable for the price received in connection with any sale of securities, the timing thereof or any delay in action or omission to act nor is it responsible for any error or delay in action, omission to act, default or negligence on the part of the party so retained in connection with any such sale or proposed sale. The Depository shall not be responsible for, and shall incur no liability in connection with or arising from, any act or omission to act on the part of the Custodian except to the extent that any Holder has incurred liability directly as a result of the Custodian having (i) committed fraud or willful misconduct in the provision of custodial services to the Depository or (ii) failed to use reasonable care in the provision of custodial services to the Depository as determined in accordance with the standards prevailing in the jurisdiction in which the Custodian is located.

The Depository and its agents are not be responsible for any failure to carry out any instructions to vote any of the deposited securities, for the manner in which any such vote is cast, or for the effect of any such vote.

The Depository is not liable for the content of any information submitted to it by or on behalf of the Company for distribution to the Holders or for any inaccuracy of any translation thereof, for any investment risk associated with acquiring an interest in the deposited securities, for the validity or worth of the deposited securities, for the credit-worthiness of any third party, for allowing any rights to lapse upon the terms of the Deposit Agreement or for the failure or timeliness of any notice from the Company.

The Depository and the Custodian are not responsible for any errors or omissions made by any selected third party delivery services and local agents providing the relevant information or services.

The Depository shall not be liable for any acts or omissions made by a successor depository whether in connection with a previous act or omission of the Depository or in connection with any matter arising wholly after the removal or resignation of the Depository.

The Company has agreed to indemnify the Depository and its agents under certain circumstances and the Depository has agreed to indemnify the Company under certain circumstances.

Neither the Company, the Depository nor any of their respective agents shall be liable to Holders or beneficial owners of interests in ADSs for any indirect, special, punitive or consequential damages (including, without limitation, legal fees and expenses) or lost profits, in each case of any form incurred by any person or entity, whether or not foreseeable and regardless of the type of action in which such a claim may be brought.

No disclaimer of liability under the Securities Act of 1933 or the Securities Exchange Act of 1934, to the extent applicable, is intended by any provision thereof.

Arbitration

The Company, the Depository and each Holder shall be bound by the arbitration and exclusive jurisdiction provisions set forth below in connection with any Share Dispute, as that term is defined below:

- (i) The term "Share Dispute" is defined as any action, dispute, controversy, claim or cause of action (a) between the Company and Holders and/or owners of interests in ADSs or (b) between and directly involving as named parties each of the Company, the Depository and one or more Holders and/or owners of interests in ADSs, in each case arising out of, or relating to, this Deposit Agreement, the ADSs or the ADRs or the transactions contemplated hereby or thereby (whether in tort, in contract, under statute, including for the avoidance of doubt, any derivative claim thereunder, or otherwise), including any question regarding existence, validity, interpretation, breach or termination of the Deposit Agreement and any alleged violation of the U.S. federal securities laws.
- (ii) Any and all Share Disputes shall be finally and exclusively resolved by arbitration under the Rules of Arbitration rules of the International Chamber of Commerce ("ICC") (the "ICC Rules"), as amended from time to time, which ICC Rules are deemed to be incorporated by reference into this Deposit Agreement.
- (iii) The arbitral tribunal (the "Tribunal") shall consist of three arbitrators, to be appointed in accordance with the ICC Rules. The chairman of the tribunal must have at least 20 years' experience as a lawyer qualified to practise in a common law jurisdiction within the Commonwealth (as constituted on 12 May 2005), and each other arbitrator must have at least 20 years' experience as a qualified lawyer.
- (iv) If any Share Dispute raises issues which are substantially the same as or connected with issues raised in a Share Dispute which has already been referred to arbitration (an "Existing Share Dispute") or arises out of substantially the same facts as are the subject of an Existing Share Dispute (a "Related Share Dispute"), then the Tribunal appointed or to be appointed in respect of any such Existing Share Dispute shall also be appointed as the Tribunal in respect of any Related Share Dispute, save where the Tribunal considers such appointment would be inappropriate.
- (v) Where, pursuant to the above provisions, the same Tribunal has been appointed in relation to two or more Related Share Disputes, the Tribunal may order that the whole or part of the matters at issue shall be heard together upon such terms or conditions as the Tribunal thinks fit.

- (vi) The Tribunal shall have power to make such directions and any interim, partial or final awards as it considers just and desirable. The Tribunal, upon the request of a party to a Share Dispute, or another party which itself wishes to be joined in any reference to arbitration commenced in accordance with this Clause, may join any party to the reference to arbitration proceedings and may make a single, final award determining all Share Disputes between them.
- (vii) Each of the parties to the Deposit Agreement hereby agrees to be joined to any reference to arbitration proceedings in relation to any Share Dispute at the request of a party to that Share Dispute, and to accept the joinder of a party requesting to be joined pursuant to this paragraph (14).
- (viii) The place of the arbitration shall be The Hague, The Netherlands. The language of the arbitration shall be English.
- (ix) Each person hereby waives, as far as permitted by law: (a) any right under the laws of any jurisdiction to apply to any court of law or other judicial authority to determine any preliminary point of law, and/or (b) any right he or she may otherwise have under the laws of any jurisdiction to appeal or otherwise challenge the award, ruling or decision of the tribunal.
- (x) The governing law applicable to such Share Dispute, including the submission to arbitration and written arbitration agreement contained in or evidenced by the Articles, shall be the substantive law of England.
- (xi) If any court of competent jurisdiction or other competent authority including for the avoidance of doubt, a court or authority in any jurisdiction which is not a signatory to the New York Convention in any jurisdiction determines that this arbitration provision is invalid or unenforceable in relation to any Share Dispute, the Company and the Holder or owner of interests in ADSs, in each case, irrevocably agree that any related proceeding, suit or action can only be brought in the courts of England and Wales and the governing law applicable to such proceedings shall be the substantive law of England.

Description of Senior Debt Securities

As of December 31, 2022, Shell International Finance B.V. ("Shell Finance") had the following series of senior debt securities (the "Senior Debt Securities") registered pursuant to Section 12(b) of the Securities Exchange Act and listed on the New York Stock Exchange, all of which are guaranteed by the Company. The following series of Senior Debt Securities were issued under the 2006 Indenture:

Series of Senior Debt Securities (interest rate)	Principal	Interest Payment Dates (in arrear)	Date of Issuance	Maturity Date	Prospectus Supplement
0.375% Guaranteed Notes due 2023	\$1,000,000,000	March 15 and September 15 of each year	September 15, 2020	September 15, 2023	Prospectus Supplement dated September 10, 2020
3.5% Guaranteed Notes due 2023	\$1,000,000,000	May 13 and November 13 of each year*	November 13, 2018	November 13, 2023	Prospectus Supplement dated November 7, 2018
Floating Rate Guaranteed Notes due 2023	\$500,000,000	February 13, May 13, August 13 and November 13 of each year*	November 13, 2018	November 13, 2023	Prospectus Supplement dated November 7, 2018
2% Guaranteed Notes due 2024	\$1,250,000,000	May 7 and November 7 of each year*	November 7, 2019	November 7, 2024	Prospectus Supplement dated November 4, 2019
3.25% Guaranteed Notes due 2025	\$2,750,000,000	May 11 and November 11 of each year*	May 11, 2015	May 11, 2025	Prospectus Supplement dated May 6, 2015
2.5% Guaranteed Notes due 2026	\$1,000,000,000	March 12 and September 12 of each year*	September 12, 2016	September 12, 2026	Prospectus Supplement dated September 7, 2016
2.875% Guaranteed Notes due 2026	\$1,750,000,000	May 10 and November 10 of each year*	May 10, 2016	May 10, 2026	Prospectus Supplement dated May 5, 2016
3.875% Guaranteed Notes due 2028	\$1,500,000,000	May 13 and November 13 of each year*	November 13, 2018	November 13, 2028	Prospectus Supplement dated November 7, 2018
2.375% Guaranteed Notes due 2029	\$1,500,000,000	May 7 and November 7 of each year*	November 7, 2019	November 7, 2029	Prospectus Supplement dated November 4, 2019
2.75% Guaranteed Notes due 2030	\$1,000,000,000	April 6 and October 6 of each year	April 6, 2020	April 6, 2030	Prospectus Supplement dated April 1, 2020
2.75% Guaranteed Notes due 2030	\$750,000,000	April 6 and October 6 of each year	September 15, 2020	April 6, 2030	Prospectus Supplement dated September 10, 2020

4.125% Guaranteed Notes due 2035	\$1,500,000,000	May 11 and November 11 of each year*	May 11, 2015	May 11, 2035	Prospectus Supplement dated May 6, 2015
6.375% Guaranteed Notes due 2038	\$2,750,000,000	June 15 and December 15	December 11, 2008	December 15, 2038	Prospectus Supplement dated December 8, 2008
5.5% Guaranteed Notes due 2040	\$1,000,000,000	March 25 and September 25 of each year*	March 25, 2010	March 25, 2040	Prospectus Supplement dated March 18, 2010
2.875% Guaranteed Notes due 2041	\$500,000,000	May 26 and November 26 of each year	November 26, 2021	November 26, 2041	Prospectus Supplement dated November 22, 2021
3.625% Guaranteed Notes due 2042	\$500,000,000	February 21 and August 21 of each year*	August 21, 2012	August 21, 2042	Prospectus Supplement dated August 14, 2012
4.55% Guaranteed Notes due 2043	\$1,250,000,000	February 12 and August 12 of each year	August 12, 2013	August 12, 2043	Prospectus Supplement dated August 7, 2013
4.375% Guaranteed Notes due 2045	\$3,000,000,000	May 11 and November 11 of each year*	May 11, 2015	May 11, 2045	Prospectus Supplement dated May 6, 2015
3.75% Guaranteed Notes due 2046	\$1,250,000,000	March 12 and September 12 of each year*	September 12, 2016	September 12, 2046	Prospectus Supplement dated September 7, 2016
4.00% Guaranteed Notes due 2046	\$2,250,000,000	May 10 and November 10 of each year*	May 10, 2016	May 10, 2046	Prospectus Supplement dated May 5, 2016
3.125% Guaranteed Notes due 2049	\$1,250,000,000	May 7 and November 7 of each year*	November 7, 2019	November 7, 2049	Prospectus Supplement dated November 4, 2019
3.25% Guaranteed Notes due 2050	\$1,250,000,000	April 6 and October 6 of each year	April 6, 2020	April 6, 2050	Prospectus Supplement dated April 1, 2020
3.00% Guaranteed Notes due 2051	\$1,000,000,000	May 26 and November 26 of each year	November 26, 2021	November 26, 2051	Prospectus Supplement dated November 22, 2021

* Subject to the Day Count Convention.

Each of the Senior Debt Securities listed above constitutes a separate series of Senior Debt Securities under the 2006 Indenture. The Senior Debt Securities listed in the table above were issued pursuant to an effective registration statement and a related prospectus and prospectus supplement setting forth the terms of the respective Senior Debt Securities.

Description of Certain Provisions contained in the Senior Debt Securities

The terms of the Senior Debt Securities include those stated in the 2006 Indenture, the applicable form of debt security and those terms made part of the 2006 Indenture by reference to the U.S. Trust Indenture Act of 1939, as amended. The summary below describes some of the general terms and provisions of our Senior Debt Securities and is subject to, and qualified in its entirety by reference to the 2006 Indenture filed as Exhibit 4.3 to the Registration Statement on Form F-3ASR, filed with the Securities and Exchange Commission on December 12, 2017 (File No. 333-222005), the prospectus supplement (as listed in the table above) relating to each Senior Debt Security and the form of the instrument representing each Senior Debt Security. Certain terms, unless otherwise defined here, have the same meaning given to them in the 2006 Indenture.

General

The 2006 Indenture does not limit the amount of future Senior Debt Securities that may be issued under the indenture, the amount of other unsecured debt or other securities the Company or the Issuer may issue. The Senior Debt Securities are not secured by any assets or property of the Company or any of its subsidiaries or affiliates.

Interest

Payment

Payments of principal and interest on the Senior Debt Securities are made in U.S. dollars at the office of the trustee and any paying agent. At the option of the Company or Shell Finance, as applicable, however, payments may be made by wire transfer for global debt securities or by check mailed to the address of the person entitled to the payment as it appears in the security register.

Interest payments are made to the person in whose name the Senior Debt Security is registered at the close of business on the record date for the interest payment.

If the principal of or any premium or interest on or additional amounts with respect to a series of Senior Debt Securities is payable on a day that is not a business day, the payment will be made on the following business day.

Floating Rate Interest - LIBOR

The interest rate for the two series of floating rate notes is reset quarterly on the first day of each interest period at the U.S. dollar *London Interbank Offered Rate* ("LIBOR"), or, in the case of the 2023 notes, any Alternative Rate or Successor Rate, plus a fixed percentage or an Adjustment Spread.

Deutsche Bank Trust Company Americas, acting as Calculation Agent, determines the floating interest rate for each floating rate interest period by reference to the then-current three -month LIBOR on the applicable interest determination date.

All calculations made by Deutsche Bank Trust Company Americas for the purposes of calculating the Interest Rate on the floating rate notes shall be conclusive and binding on the holders of the floating notes, the Company, Shell International Finance B.V. and the trustee, Deutsche Bank Trust Company Americas, absent manifest error.

Calculation of LIBOR

With respect to any Interest Determination Date, the U.S. dollar LIBOR will be the rate for deposits in U.S. dollars having a maturity of three months commencing on the Interest Reset Date that appears on the designated LIBOR page as of 11:00 a.m., London time, on that Interest Determination Date. If no rate appears, U.S. dollar LIBOR, in respect of that Interest Determination Date, will be determined as follows: the Calculation Agent will request the principal London offices of each of four major reference banks in the London interbank market, as selected by the Calculation Agent (after consultation with us), to provide the Calculation Agent with its offered quotation for deposits in U.S. dollars for the period of three months, commencing on the Interest Reset Date, to prime banks in the London interbank market at approximately 11:00 a.m., London time, on that Interest Determination Date and in a principal amount that is representative for a single transaction in U.S. dollars in that market at that time. If at least two quotations are provided, then U.S. dollar LIBOR on that Interest Determination Date will be the arithmetic mean of those quotations. If fewer than two quotations are provided, then U.S. dollar LIBOR on the Interest Determination Date will be the arithmetic mean of the rates quoted at approximately 11:00 a.m., New York City time, on the Interest Determination Date by three major banks in The City of New York selected by the Calculation Agent (after consultation with us) for loans in U.S. dollars to leading European banks, having a three-month maturity and in a principal amount that is representative for a single transaction in U.S. dollars in that market at that time; provided, however, that if the banks selected by the Calculation Agent are not providing quotations in the manner described by this sentence, U.S. dollar LIBOR determined as of that Interest Determination Date will be U.S. dollar LIBOR in effect on that Interest Determination Date.

The designated LIBOR page is the Reuters screen "LIBOR01", or any successor service for the purpose of displaying the London interbank rates of major banks for U.S. dollars. The Reuters screen "LIBOR01" is the display designated as the Reuters screen "LIBOR01", or such other page as may replace the Reuters screen "LIBOR01" on that service or such other service or services as may be denominated by the ICE Benchmark Administration Limited (the "IBA") (or any successor administrator of LIBOR) for the purpose of displaying London interbank offered rates for U.S. dollar deposits.

Successor or Alternative Rate, With Respect to 2023 Floating Rate Notes

For purposes of the 2023 floating rate notes, if Shell Finance determines in its sole discretion that a Benchmark Event has occurred in relation to U.S. dollar LIBOR when any rate of interest (or any component part thereof) remains to be determined by reference to U.S. dollar LIBOR, then Shell Finance will use its commercially reasonable efforts to appoint and consult with an Independent Adviser, as soon as reasonably practicable, with a view to Shell Finance's determining a Successor Rate or, if none, an Alternative Rate and, in either case, any Adjustment Spread and any Benchmark Amendments. An Independent Adviser appointed in such circumstances will act in good faith as an expert and (in the absence of bad faith or fraud) shall have no liability whatsoever to Shell Finance, the Calculation Agent, the trustee, the paying agents or the holders of the 2023 floating rate notes for any determination made by it or for any advice given to Shell Finance in connection with any determination made by Shell Finance, pursuant to these provisions.

If Shell Finance, following consultation with the Independent Adviser and acting in good faith and in a commercially reasonable manner, determines that (i) there is a Successor Rate, then such Successor Rate shall (subject to adjustment as provided below) subsequently be used in place of U.S. dollar LIBOR to determine the rate of interest (or the relevant component part thereof) for all future payments of interest on the 2023 floating rate notes (subject to these LIBOR discontinuation provisions); or (ii) there is no Successor Rate but that there is an Alternative Rate, then such Alternative Rate shall (subject to adjustment as provided below) subsequently be used in place of U.S. dollar LIBOR to determine the rate of interest (or the relevant component part thereof) for all future payments of interest on the 2023 floating rate notes (subject to these LIBOR discontinuation provisions). If Shell Finance is unable to appoint an Independent Adviser, or the Independent Adviser appointed by Shell Finance is unable to advise Shell Finance in connection with its determination of a Successor Rate or an Alternative Rate, Shell Finance (acting in good faith and in a commercially reasonable manner) may determine a Successor Rate or, if there is no Successor Rate, an Alternative Rate.

If Shell Finance, following consultation with the Independent Adviser, determines in its sole discretion (i) that an Adjustment Spread is required to be applied to the Successor Rate or the Alternative Rate (as the case may be) and (ii) the quantum of, or a formula or methodology for determining, such Adjustment Spread, then such Adjustment Spread shall be applied to the Successor Rate or the Alternative Rate (as the case may be). If Shell Finance, following consultation with the Independent Adviser, is unable to determine (acting in good faith and in a commercially reasonable manner) the quantum of, or a formula or methodology for determining, such Adjustment Spread, then such Successor Rate or Alternative Rate (as applicable) will apply without an Adjustment Spread.

If any Successor Rate, Alternative Rate or Adjustment Spread is determined in accordance with the terms of the 2023 floating rate notes or the 2006 Indenture and Shell Finance, following consultation with the Independent Adviser, determines (i) that amendments to the terms of the 2023 floating rate notes or the 2006 Indenture are necessary to ensure the proper operation of such Successor Rate, Alternative Rate and/or Adjustment Spread (such amendments, the "Benchmark Amendments") and (ii) the terms of the Benchmark Amendments, then Shell Finance shall, subject to giving notice thereof to the trustee, the Calculation Agent and the holders of the 2023 floating rate notes, in each case, as provided in the 2006 Indenture, without any requirement for the consent or approval of holders of the 2023 floating rate notes, amend the terms of, the 2023 floating rate notes and/or the 2006 Indenture to give effect to such Benchmark Amendments with effect from the date specified in such notice. In connection with any such

amendment in accordance with the terms of the 2023 floating rate notes or the 2006 Indenture, Shell Finance shall comply with the rules of the New York Stock Exchange or any stock exchange on which the Notes are then-listed or admitted to trading.

Shell Finance will promptly provide notice to the Calculation Agent, the trustee, the paying agents and, in accordance with notice requirements set forth in the 2006 Indenture, the holders of the 2023 floating rate notes of any Successor Rate, Alternative Rate, Adjustment Spread and the specific terms of any Benchmark Amendments, determined pursuant to the terms of the 2023 floating rate notes and the 2006 Indenture. Such notice shall be irrevocable and shall specify the effective date of the Benchmark Amendments, if any.

Consolidation, Merger and Sale of Assets; Assumption

The 2006 Indenture generally permits a consolidation, merger or similar transaction involving the Company or Shell Finance. It also permits the Company or Shell Finance, as applicable, to transfer or dispose of all or substantially all of their assets. Each of the Company and Shell Finance has agreed, however, that it will not consolidate with or merge into any entity (other than, with respect to Shell Finance, the Company) or transfer or dispose of all or substantially all of its assets to any entity (other than, with respect to Shell Finance, the Company) if, immediately after giving effect to such transaction or transactions, an event of default, or an event that, after notice or lapse of time or both, would become an event of default, has occurred and is continuing; and unless:

it is the continuing corporation; or

if it is not the continuing corporation, the resulting entity or transferee assumes the performance of its covenants and obligations under the 2006 Indenture and, in the case of the Company or Shell Finance as issuer, the due and punctual payments on the Senior Debt Securities or, in the case of the Company with respect to the Senior Debt Securities of Shell Finance, the performance of the related guarantee.

Additionally, in the event that any entity shall become the owner of 100% of the voting stock of the Company, such entity may, but is not obligated to, assume the performance of the Company's covenants and obligations under the 2006 Indenture, either as issuer and/or as guarantor for the Senior Debt Securities of Shell Finance (a "Voluntary Assumption").

Upon any such consolidation, merger or similar transaction or asset transfer or disposition involving the Company or Shell Finance, or any such Voluntary Assumption, the resulting entity, transferee or assuming entity, as applicable, will be substituted for the Company or Shell Finance, as applicable, under the 2006 Indenture and Senior Debt Securities. The Company or Shell Finance, as applicable, will thereupon be released from the 2006 Indenture.

Events of Default

The following are events of default with respect to each series of Senior Debt Securities:

failure to pay interest or any additional amounts on that series of Senior Debt Securities for 30 days when due;

failure to pay principal of or any premium on that series of Senior Debt Securities for 14 days when due;

failure to redeem or purchase Senior Debt Securities of that series for 14 days when required;

failure to comply with any covenant or agreement in that series of Senior Debt Securities for 90 days after written notice by the trustee or by the holders of at least 25% in principal amount of the outstanding Senior Debt Securities issued under that indenture that are affected by that failure;

specified events involving bankruptcy, insolvency or reorganization of the Company and, with respect to Shell Finance's Senior Debt Securities, the Company or Shell Finance; and

any other event of default provided for that series of Senior Debt Securities in the applicable prospectus supplement.

A default under one series of Senior Debt Securities or any other agreement to which the Company or Shell Finance is a party will not be a default under another series of Senior Debt Securities.

If an event of default for any series of Senior Debt Securities occurs and is continuing, Deutsche Bank Trust Company Americas or the holders of at least 25% in principal amount of the outstanding Senior Debt Securities of the series affected by the default may declare the principal of and all accrued and unpaid interest on those Senior Debt Securities to be due and payable. The holders of a majority in principal amount of the outstanding Senior Debt Securities of the series affected by the default may in some cases rescind this accelerated payment requirement.

A holder of a Senior Debt Security of any series may pursue any remedy only if:

the holder gives the trustee written notice of a continuing event of default for that series;

the holders of at least 25% in principal amount of the outstanding Senior Debt Securities of that series make a written request to Deutsche Bank Trust Company Americas to pursue the remedy;

the holders offer to Deutsche Bank Trust Company Americas indemnity satisfactory to it;

Deutsche Bank Trust Company Americas fails to act for a period of 60 days after receipt of the request and offer of indemnity; and

during that 60-day period, the holders of a majority in principal amount of the Senior Debt Securities of that series do not give the trustee a direction inconsistent with the request.

This provision does not, however, affect the right of a holder of a Senior Debt Security to sue for enforcement of any overdue payment.

Holders of a majority in principal amount of the outstanding Senior Debt Securities may direct the time, method and place of:

- conducting any proceeding for any remedy available to Deutsche Bank Trust Company Americas; and
- exercising any trust or power conferred on Deutsche Bank Trust Company Americas relating to or arising as a result of an event of default.

The 2006 Indenture requires the Company and Shell Finance to file each year with Deutsche Bank Trust Company Americas a written statement as to their compliance with the covenants contained in the indenture.

Modification and Waiver

The 2006 Indenture may be amended or supplemented if the holders of a majority in principal amount of the outstanding Senior Debt Securities of all series issued that are affected by the amendment or supplement (acting as one class) consent to it. Without the consent of the holder of each Senior Debt Security affected, however, no modification may:

- reduce the amount of Senior Debt Securities whose holders must consent to an amendment, supplement or waiver;
- reduce the rate of or change the time for payment of interest on the Senior Debt Security;
- reduce the principal of the Senior Debt Security or change its stated maturity;
- reduce any premium payable on the redemption of the Senior Debt Security or change the time at which the Senior Debt Security may or must be redeemed;
- change any obligation to pay additional amounts on the Senior Debt Security;
- make payments on or with respect to the Senior Debt Security payable in currency other than as originally stated in the Senior Debt Security, except as permitted under "Redenomination" below;
- impair the holder's right to institute suit for the enforcement of any payment on or with respect to the Senior Debt Security;
- make any change in the percentage of principal amount of Senior Debt Securities necessary to waive compliance with certain provisions of the 2006 Indenture or to make any change in the provision related to modification;
- modify the provisions relating to the subordination of any of the Senior Debt Securities in a manner adverse to the rights of holder of that security in any material respect; or
- waive a continuing default or event of default regarding any payment on or with respect to the Senior Debt Securities.

Any provision of the 2006 Indenture may be amended without the consent of any holders of Senior Debt Securities in certain circumstances, including:

- to cure any ambiguity, omission, defect or inconsistency;
- to comply with the sections of the 2006 Indenture governing when the Company or Shell Finance may merge (or consummate a similar transaction), transfer their assets or substitute obligors, including any assumption of the obligations of Shell Finance under any series of Senior Debt Securities by the Company or any other subsidiary of the Company or any Voluntary Assumption;
- to provide for uncertificated Senior Debt Securities in addition to or in place of certificated Senior Debt Securities; provided, however, that the uncertificated Senior Debt Securities are issued in a registered form for purposes of Section 163(f) of the Internal Revenue Code of 1986, as amended (the "Code") or in such a manner that such uncertificated Senior Debt Securities are described in Section 163(f)(2)(B) of the Code;
- to provide any security for, any guarantees of or any additional obligors on any series of Senior Debt Securities or the related guarantees;
- to comply with any requirement to effect or maintain the qualification of the 2006 Indenture under the Trust Indenture Act of 1939, as amended;
- to add covenants that would benefit the holders of any Senior Debt Securities or to surrender any rights the Company or Shell Finance have under the 2006 Indenture;
- to add events of default with respect to any Senior Debt Securities;
- to establish the form or terms of securities of any series as permitted by the 2006 Indenture;

to supplement any of the provisions of the 2006 Indenture to such extent as shall be necessary to permit or facilitate the defeasance and discharge of any series of securities pursuant to the indenture; provided, however, that any such action shall not adversely affect the interest of the holders of securities of such series or any other series of securities in any material respect;

to provide for the appointment of a successor trustee with respect of the securities of one or more series or to provide for the administration of the trusts under the 2006 Indenture by more than one trustee; and

to make any change that does not adversely affect the rights of holders of any outstanding Senior Debt Securities of any series issued under that indenture.

The holders of a majority in principal amount of the outstanding Senior Debt Securities of any series (or, in some cases, of all Senior Debt Securities issued under the 2006 Indenture that are affected, voting as one class) may waive any existing or past default or event of default with respect to those Senior Debt Securities. Those holders may not, however, waive any default or event of default in any payment on any Senior Debt Security or compliance with a provision that cannot be amended or supplemented without the consent of each holder affected.

Defeasance

If any combination of funds or government securities are deposited with the trustee under an indenture sufficient, in the opinion of an independent firm of certified public accountants, to make payments on the Senior Debt Securities of a series issued under the 2006 Indenture on the dates those payments are due and payable, then, at the option of the Company or Shell Finance, as applicable, either of the following will occur:

The Company and Shell Finance will be discharged from its or their obligations with respect to the Senior Debt Securities of that series and, if applicable, the related guarantees ("legal defeasance"); or

The Company and Shell Finance will no longer have any obligation to comply with the merger covenant and other specified covenants under the 2006 Indenture, and the related events of default will no longer apply ("covenant defeasance").

If a series of Senior Debt Securities is defeased, the holders of the Senior Debt Securities of the series affected will not be entitled to the benefits of the 2006 Indenture, except for obligations to register the transfer or exchange of Senior Debt Securities, replace stolen, lost or mutilated Senior Debt Securities or maintain paying agencies and hold moneys for payment in trust. In the case of covenant defeasance, the obligation of the Company or Shell Finance to pay principal, premium and interest on the Senior Debt Securities and, if applicable, the Company guarantees of the payments will also survive.

Unless such defeasance occurs within one year of when the securities would be due and payable or called for redemption, we will be required to deliver to the trustee an opinion of counsel that the deposit and related defeasance would not cause the holders of the Senior Debt Securities to recognize income, gain or loss for U.S. federal income tax purposes. If we elect legal defeasance, that opinion of counsel must be based upon a ruling from the U.S. Internal Revenue Service or a change in law to that effect.

Substitution of Shell Finance as Issuer

We may at our option at any time, without the consent of any holders of Senior Debt Securities, cause the Company or any other subsidiary of the Company to assume the obligations of Shell Finance under any series of Senior Debt Securities, provided that the new obligor executes a supplemental indenture in which it agrees to be bound by the terms of those Senior Debt Securities and the relevant indenture. To the extent that the Company is not itself the new obligor, its guarantee shall remain in place after the substitution unless another entity assumes the role of a guarantor in respect of the Senior Debt Securities of Shell Finance following a Voluntary Assumption.

Form, Exchange, Registration and Transfer

There will be no service charge for any registration of transfer or exchange of the Senior Debt Securities. However, payment of any transfer tax or similar governmental charge payable for that registration may be required.

The Senior Debt Securities of any series are exchangeable for other Senior Debt Securities of the same series, the same total principal amount and the same terms but in different authorized denominations in accordance with the 2006 Indenture. Holders may present Senior Debt Securities for registration of transfer at the office of the Deutsche Bank Trust Company Americas, or any transfer agent the Company or Shell Finance, as applicable, designates. Deutsche Bank Trust Company Americas or the transfer agent will effect the transfer or exchange if its requirements and the requirements of the 2006 Indenture are met.

Redemption

Optional Redemption

Each series of Senior Debt Securities is redeemable in whole or in part, at the option of Shell Finance at any time or from time to time (or, in the case of the 2023 and 2028 notes, prior to the applicable Par Call Date), at a redemption price equal to the greater of (i) 100% of the principal amount of the series notes being redeemed and (ii) the sum of the present values of the remaining scheduled payments of principal and interest thereon (exclusive of interest accrued and unpaid to the date of redemption) discounted to the redemption date on a semiannual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus a specified premium for each series of Senior Debt Securities, plus accrued and unpaid interest thereon to the date of redemption.

In the case of the 2023 and 2028 notes, on or after the applicable Par Call Date, each series note will be redeemable in whole or in part, at the option of Shell Finance at any time or from time to time at a redemption price equal to 100% of the principal amount of the series note being redeemed, plus accrued and unpaid interest thereon to the date of redemption.

Notice of any redemption will be mailed at least 30 days but not more than 60 days before the redemption date to each holder of notes to be redeemed.

Unless Shell Finance defaults in payment of the redemption price, and the Company defaults in payment under its guarantee of the notes, on and after the applicable redemption date, interest will cease to accrue on the notes or portions thereof called for redemption.

Optional Tax Redemption.

The Company may have the option to redeem the Senior Debt Securities in the two situations described below.

The first situation is where, as a result of a change in, execution of or amendment to any laws or treaties or the official application or interpretation of any laws or treaties, either:

The Company or Shell Finance are required to pay additional amounts as described later under "Payment of Additional Amounts"; or

The Company or any of its subsidiaries would have to deduct or withhold tax on any payment to any of the issuers to enable them to make a payment of principal or interest on a Senior Debt Security.

In this case, the Company and Shell Finance can call all, but not less than all, of each individual series of Senior Debt Securities for redemption and early payment. Holders have no right to require the Company and Shell Finance to call any individual series of Senior Debt Securities. If a series of Senior Debt Securities is called, the Company and Shell Finance must pay 100% of the principal amount, any accrued interest, and any additional amounts, if an interest payment through the redemption has not been paid.

Notice of any redemption will be mailed at least 15 days but not more than 60 days before the redemption date to each holder of notes to be redeemed.

This call right applies only in the case of changes, executions or amendments that occur on or after the date specified in the prospectus supplement for the applicable series of Senior Debt Securities.

The Company and Shell Finance do not have the option to redeem if the payment of additional amounts or the deduction or withholding can be avoided by using reasonable measures available.

The second situation is where a person assumes the obligations of the Company or Shell Finance, as described above under "Consolidation, Merger, Sale of Assets, Assumptions" and "Substitution of Shell Finance as Issuer" and is required to pay additional amounts. The Company and Shell Finance have the option to redeem the Senior Debt Securities even if required to pay additional amounts immediately after such assumption (except in the case of a Voluntary Assumption). Additionally, the Company and Shell Finance are not required to use reasonable measures to avoid the obligation to pay additional amounts in this situation. However, the Company and Shell Finance has the option to redeem the securities in the circumstances described above only if a change in, execution of or amendment to any laws or treaties or official application of any law or treaty occurs after such assumption.

Payment of Additional Amounts

The government of any jurisdiction where the Company or Shell Finance is resident may require the Company or Shell Finance to withhold amounts from payments on the principal or interest on the notes or any amounts to be paid under the guarantee, as the case may be, for taxes or any other governmental charges. If a withholding of this type is required, the Company or Shell Finance, as the case may be, may be required to pay a holder an additional amount so that the net amount received will be the amount specified in the note to which the holder is entitled. This also applies to any taxes or governmental charges imposed by any jurisdiction in which a successor to the Company or Shell Finance is resident.

In order for a holder to be entitled to receive the additional amount, the holder must not be resident in the jurisdiction that requires the withholding or deduction. The Company or Shell Finance will not have to pay additional amounts under certain circumstances described in the 2006 Indenture.

Redenomination

The Company or Shell Finance, as applicable, may without your consent elect that, on the "Redenomination Date" specified in a notice to the trustee, a series of Senior Debt Securities may be redenominated in euro.

Ranking

The notes and the guarantees constitute unsecured and unsubordinated indebtedness of Shell Finance and the Company, respectively, and rank equally with all other unsecured and unsubordinated indebtedness from time to time outstanding of Shell Finance and the Company, respectively. Because the Company is a holding company, the guarantee effectively ranks junior to any indebtedness of its subsidiaries.

Guarantee of Shell Finance Senior Debt Securities

The Company fully and unconditionally guarantees on a senior unsecured basis the full and prompt payment of the principal of, any premium and interest on, and any additional amounts which may be payable in respect of each series of Senior Debt Securities when and as the payment becomes due and payable, whether at maturity, upon redemption or declaration of acceleration, or otherwise.

The guarantees provide that in the event of a default in the payment of principal of, any premium and interest on, and any additional amounts which become payable by Shell Finance in respect of a Senior Debt Security, the holder of that Senior Debt Security may institute legal proceedings directly against the Company to enforce the guarantee without first proceeding against Shell Finance. The guarantee of the notes is unsecured and

unsubordinated indebtedness of the Company and rank equally with all of its other unsecured and unsubordinated indebtedness from time to time outstanding.

The Trustee and Paying Agent

Deutsche Bank Trust Company Americas, 60 Wall Street, 16th Floor, New York, New York 10005, Attention: Global Transaction Banking, Trust and Securities Services, act as the Trustee and principal paying agent under the prospectus supplements for each series of Senior Debt Securities and the 2006 Indenture. The Company or Shell Finance, as applicable, may at any time designate additional paying agents or rescind the designation of any paying agent or approve a change in the office through which any paying agent acts.

The Company and Shell Finance may appoint another trustee or a substitute trustee under the 2006 Indenture or appoint an entity qualified under the Trust Indenture Act of 1939 to serve as trustee under the indenture. Deutsche Bank Trust Company Americas has served as trustee, paying agent, auction agent, exchange agent and in similar capacities in transactions involving entities in the Shell Group or relating to the debt or long-term payment obligations of members of the Shell Group. Additionally, Deutsche Bank Trust Company Americas and its affiliates perform certain commercial banking services for us for which they receive customary fees and are lenders under various outstanding credit facilities of subsidiaries of the Company.

If an event of default occurs under the 2006 Indenture and is continuing, the trustee under the indenture will be required to use the degree of care and skill of a prudent person in the conduct of that person's own affairs. The trustee will become obligated to exercise any of its powers under the 2006 Indenture at the request of any of the holders of any Senior Debt Securities issued under that indenture only after those holders have offered the trustee indemnity satisfactory to it.

The 2006 Indenture contains limitations on the right of the trustee, if it becomes a creditor of the Company or, if applicable, the Company or Shell Finance, to obtain payment of claims or to realize on certain property received for any such claim, as security or otherwise. The trustee is permitted to engage in other transactions with the Company and, if applicable, the Company and Shell Finance. If, however, it acquires any conflicting interest, it must eliminate that conflict or resign within 90 days after ascertaining that it has a conflicting interest and after the occurrence of a default under the 2006 Indenture, unless the default has been cured, waived or otherwise eliminated within the 90-day period.

Governing Law

New York law governs the 2006 Indenture, the Senior Debt Securities and guarantee provided by the Company.

Exhibit 8.1

SIGNIFICANT SUBSIDIARIES AND OTHER RELATED UNDERTAKINGS (AUDITED)

Significant subsidiaries and other related undertakings at December 31, 2022, are set out below. Significant subsidiaries are prefixed with [*] and each meets the threshold specified under Rule 1-02(w) of Regulation S-X. Shell's percentage of share capital is shown to the nearest whole number. All subsidiaries have been included in the "Consolidated Financial Statements" on pages 216-287, and those held directly by the Company are marked with the footnote [a]. A number of the entities listed are dormant or not yet operational. Entities that are proportionately consolidated are identified by the footnote [b]. Shell-owned shares are ordinary (voting) shares unless identified with one of the following annotations against the company name: [c] Membership interest; [d] Partnership capital; [e] Non-redeemable; [f] Ordinary, Partnership capital; [g] Ordinary, Redeemable; [h] Ordinary, Redeemable, Non-redeemable; and [i] Redeemable, Non-redeemable.

Company by country of incorporation	Address of registered office	%
ARGENTINA		
Bandurria Sur Investments S.A.	Avenida Pte. Roque Sáenz Pena 788, 2nd Floor, Ciudad de Buenos Aires, 1035	50
Shell Argentina S.A.	Avenida Pte. Roque Sáenz Pena 788, 2nd Floor, Ciudad de Buenos Aires, 1035	100
AUSTRALIA		
1st Energy Pty Ltd	Level 4, 459 Little Collins Street, Melbourne, VIC 3000	30
Arrow Energy Holdings Pty Ltd	Level 39, 111 Eagle Street, Brisbane, QLD 4000	50
Austen & Butta Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
BC 789 Holdings Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
BG CPS Pty Limited	Level 30, 275 George Street, Brisbane, QLD 4000	100
BNG (SURAT) PTY. LTD.	Level 30, 275 George Street, Brisbane, QLD 4000	100
CCM Energy Solutions Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Condamine 1 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Condamine 2 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Condamine 3 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Condamine 4 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Condamine Power Station Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
E.R.M. Oakley Power Pty Ltd	QGC Limited, Level 30, 275 George Street, Brisbane, QLD 4000	100
ERM Braemar 3 Power Pty Ltd	QGC Limited, Level 30, 275 George Street, Brisbane, QLD 4000	100
ERM Braemar 3 Pty Ltd	QGC Limited, Level 30, 275 George Street, Brisbane, QLD 4000	100
ERM Employee Share Plan Administrator Pty Ltd	QGC Limited, Level 30, 275 George Street, Brisbane, QLD 4000	100
ERM Energy Solutions Holdings Pty Ltd	QGC Limited, Level 30, 275 George Street, Brisbane, QLD 4000	100
ERM Financial Services Pty Ltd	QGC Limited, Level 30, 275 George Street, Brisbane, QLD 4000	100
ERM Holdings Pty Ltd	QGC Limited, Level 30, 275 George Street, Brisbane, QLD 4000	100
ERM Innovation Labs Pty Ltd	QGC Limited, Level 30, 275 George Street, Brisbane, QLD 4000	100
ERM Land Holdings Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
ERM Neerabup Power Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
ERM Power International Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
ERM Power Investments Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
ERM Power Services Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
ERM Power Utility Systems Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
ERM Wellington 1 Holdings Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
ESCO Pacific Holdings Pty Ltd	Level 4, 13 Cremorne Street, Richmond, VIC 3121	49
Gangarri Solar Farm Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Greensense Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Kondinin Renewables Holdings Pty Ltd ATF Kondinin Renewables Holdings Trust	C/- Foresight Australia Funds Management, Suite 3, Level 5, 20 Hunter Street, Sydney, 2000	50
Lumaled Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
NATURE BASED SOLUTIONS PTY LTD	Level 30, 275 George Street, Brisbane, QLD 4000	100
New South Oil Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
NewGen Neerabup Pty Ltd [b]	Infrastructure Capital Group, Level 15 Martin Place, Sydney, NSW 2000	50
NewGen Power Neerabup Pty Ltd [b]	Infrastructure Capital Group, Level 15 Martin Place, Sydney, NSW 2000	50
North West Shelf LNG Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Oakey Power Holdings Pty Ltd	QGC Limited, Level 30, 275 George Street, Brisbane, QLD 4000	100
OME RESOURCES AUSTRALIA PTY. LTD.	Level 30, 275 George Street, Brisbane, QLD 4000	100
OVIDRIVE APPLABS PTY LTD	5 TULLY ROAD, EAST PERTH, 6004	42
Petroleum Resources (Thailand) Pty. Limited	Level 30, 275 George Street, Brisbane, QLD 4000	100
Powermetric Metering Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Powershop Australia Pty Ltd	Level 15, 357 Collins Street, Melbourne, VIC 3000	100
Pure Energy Resources Pty Limited	Level 30, 275 George Street, Brisbane, QLD 4000	100
QCLNG Operating Company Pty Ltd [g]	Level 30, 275 George Street, Brisbane, QLD 4000	75
QCLNG Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100

QGC (B7) Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC (Exploration) Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC (Infrastructure) Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Common Facilities Company Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 2 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 3 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 4 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 5 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 6 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 7 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 8 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 9 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Midstream Holdings Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Midstream Investments Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Midstream Land Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Midstream Limited Partnership	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Midstream Services Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Northern Forestry Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Pty Limited	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Sales Qld Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Train 1 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Train 1 Tolling Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Train 1 UJV Manager Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Train 2 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Train 2 Tolling No.2 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Train 2 Tolling Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Train 2 UJV Manager Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Upstream Finance Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Upstream Holdings Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Upstream Investments Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Upstream Limited Partnership	Level 25, 275 George Street, Brisbane, QLD 4000	100
QUEENSLAND ELECTRICITY INVESTORS PTY. LTD.	Level 30, 275 George Street, Brisbane, QLD 4000	100
QUEENSLAND GAS COMPANY PTY LIMITED	Level 30, 275 George Street, Brisbane, QLD 4000	100
Richmond Valley Solar Thermal Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Roma Petroleum Pty Limited	Level 30, 275 George Street, Brisbane, QLD 4000	100
SASF PTY. LTD.	Shell House, 562 Wellington Street, Perth, WA 6000	100
Select Carbon Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
SGA (Queensland) Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
SGAI Pty Limited	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Australia FLNG Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell Australia Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell Australia Services Company Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell Development (PSC19) Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell Development (PSC20) Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell Energy Australia Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Energy BESS 1 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Energy Certificate Trading Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Energy Engineering Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Energy Environmental Products Australia Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Energy Holdings Australia Limited	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell Energy Neerabup Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Energy Oakley Power Holdings Pty Ltd	QGC Limited, Level 30, 275 George Street, Brisbane, QLD 4000	100
SHELL ENERGY OPERATIONS NO. 2 HOLDINGS PTY LTD	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Energy Operations No. 2 Pty Ltd	Level 15, 357 Collins Street, Melbourne, VIC 3000	100
Shell Energy Operations Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Energy Power Developments Pty Ltd	QGC Limited, Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Energy Power Generation Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Energy Projects Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Energy Retail Finance Pty Ltd	Level 15, 357 Collins Street, Melbourne, VIC 3000	100
Shell Energy Retail Markets Pty Ltd	Level 15, 357 Collins Street, Melbourne, VIC 3000	100
Shell Energy Retail Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Energy Wallerawang 9 BESS Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100

Shell Global Solutions Australia Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell New Energies Australia Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell QGC Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Tankers Australia Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Solpod Pty Ltd	c/o Jeffery Zivin, Unit 4, 4 George Street, Camberwell, VIC 3124	24
Sonnen Australia Pty Limited	Tenancy 6, Lionsgate Business Park, 180 Philip Highway, Elizabeth South, SA 5112	100
Starzap Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Sunshine 685 Pty Limited	Level 30, 275 George Street, Brisbane, QLD 4000	100
Trident LNG Shipping Services Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Walloons Coal Seam Gas Company Pty Limited [g]	Level 30, 275 George Street, Brisbane, QLD 4000	75
WestWind Energy Development Pty Ltd	Office 4, 17 Goode Street, Gisborne, VIC 3437	49
AUSTRIA		
Next Kraftwerke AT GmbH	Franz-Josefs-Kai 27, Vienna, 1010	100
Salzburg Fuelling GmbH	Innsbrucker Bundesstrasse 95, Salzburg, 5020	33
SHELL AUSTRIA GESELLSCHAFT M.B.H.	Tech Gate, Donau-City-Str. 1, Vienna, 1220	100
Shell Brazil Holding GmbH	Tech Gate, Donau-City-Str. 1, Vienna, 1220	100
Shell China Holding GmbH	Schulhof 6/1, Vienna, 1010	100
TBG Tanklager Betriebsgesellschaft m.b.H.	Rettenlackstrasse 3, Salzburg, 5020	50
Transalpine Ölleitung in Österreich GmbH	Kienburg 11, Matrei in Osttirol, 9971	19
BAHAMAS		
Shell Bahamas Power Company Inc.	P.O. Box N4805, St. Andrew's Court, Frederick Street Steps, Nassau	100
Shell Western Supply and Trading Limited	GTC Corporate Services Limited, Sassoon House, Shirley Street & Victoria Avenue, Nassau	100
BARBADOS		
Shell Trinidad and Tobago Resources SRL	One Welches, Welches, St. Thomas, BB22025	100
BELGIUM		
Belgian Shell	Cantersteen 47, Brussels, 1000	100
New Market Belgium	Cantersteen 47, Brussels, 1000	100
Next Kraftwerke Belgium	Paleizenstraat 153 Rue des Palais, Gebouw/Bâtiment: Lusterie, Brussels, 1030	100
Shell Catalysts & Technologies Belgium N.V.	Panterschipstraat 331, Gent, 9000	100
Shell EV Charging Solutions Belgium	Borsbeeksebrug 34/1, Antwerpen, 2600	100
BERMUDA		
Egypt LNG Shipping Limited	Clarendon House, 2 Church Street, Hamilton, HM 11	25
Gas Investments & Services Company Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	85
Qatar Shell GTL Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Sakhalin Energy Investment Company Ltd	Clarendon House, 2 Church Street, Hamilton, HM 11	28
Shell Holdings (Bermuda) Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Markets (Middle East) Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Oman Trading Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Petroleum (Malaysia) Ltd	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Saudi Arabia (Refining) Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Trust (Bermuda) Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Solen Life Insurance Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
BOLIVIA		
Pennzoil Bolivia S.A.	Abdon Saavedra n° 2265, Sopocachi, La Paz, -	100
BRAZIL		
BG Comercio e Importacao Ltda.	Avenida das Republica do Chile 330, 23° Andar, Torre 2, Centro, Rio de Janeiro, 20031-170	100
BG Petroleo & Gas Brasil Ltda.	Avenida das Republica do Chile 330, 23° Andar (parte) - Torre 2, Centro, Rio de Janeiro, 20031-170	100
BRENERGY GERACAO SOLAR JANAUBA SPE II LTDA.	Área Rural de Janaúba, s/n°, State of Minas Gerais, Janaúba, 39.448-899	100
BRENERGY GERACAO SOLAR JANAUBA SPE III LTDA.	Área Rural de Janaúba, s/n°, State of Minas Gerais, Janaúba, 39.448-899	100
BRENERGY GERACAO SOLAR JANAUBA SPE IV LTDA.	Área Rural de Janaúba, s/n°, State of Minas Gerais, Janaúba, 39.448-899	100
BRENERGY GERACAO SOLAR JANAUBA SPE IX LTDA.	Área Rural de Janaúba, s/n°, State of Minas Gerais, Janaúba, 39.448-899	100
BRENERGY GERACAO SOLAR JANAUBA SPE LTDA.	Área Rural de Janaúba, s/n°, State of Minas Gerais, Janaúba, 39.448-899	100
BRENERGY GERACAO SOLAR JANAUBA SPE V LTDA.	Área Rural de Janaúba, s/n°, State of Minas Gerais, Janaúba, 39.448-899	100
BRENERGY GERACAO SOLAR JANAUBA SPE VI LTDA.	Área Rural de Janaúba, s/n°, State of Minas Gerais, Janaúba, 39.448-899	100
BRENERGY GERACAO SOLAR JANAUBA SPE VII LTDA.	Área Rural de Janaúba, s/n°, State of Minas Gerais, Janaúba, 39.448-899	100
BRENERGY GERACAO SOLAR JANAUBA SPE VIII LTDA.	Área Rural de Janaúba, s/n°, State of Minas Gerais, Janaúba, 39.448-899	100
Brenergy Geração Solar Janaúba SPE X Ltda.	Área Rural de Janaúba, s/n°, State of Minas Gerais, Janaúba, 39.448-899	100
BRENERGY GERACAO SOLAR JANAUBA SPE XI LTDA.	Área Rural de Janaúba, s/n°, State of Minas Gerais, Janaúba, 39.448-899	100
BRENERGY GERACAO SOLAR JANAUBA SPE XII LTDA.	Área Rural de Janaúba, s/n°, State of Minas Gerais, Janaúba, 39.448-899	100
BRENERGY GERACAO SOLAR JANAUBA SPE XIII LTDA.	Área Rural de Janaúba, s/n°, State of Minas Gerais, Janaúba, 39.448-899	100
Heze Holding II LTDA	Av Republica do Chile 330, BLC 2 SAL 2301, Centro, Rio de Janeiro, 20031-170	100
Heze I Holding S.A.	No 330,Room 2301, Avenida República do Chile, Building 2, Rio de Janeiro, 20031-170	100

Marlim Azul Energia S.A.	Avenida Paulista, 1274, 8º andar, Conjunto 23, Sala B, Bela Vista, São Paulo, 01310-100	30
Pecten do Brasil Servicos de Petroleo Ltda.	Avenida República do Chile nº 330, Bloco 2, Sala 2301, Centro, Rio de Janeiro, 20031-170	100
Raizen S.A.	Avenida das Almirante Barroso, nº 81, 36º Andar, Sala 36A104, Rio de Janeiro, 20031-004	44
Seapos Ltda.	Avenida República do Chile nº 330, Bloco 2, Sala 2401, Centro, Rio de Janeiro, 20031-170	100
SHELL BRASIL PETROLEO LTDA.	Avenida República do Chile nº 330, Bloco 2, Sala 2001, Centro, Rio de Janeiro, 20031-170	100
Shell Brasil Renewables & Energy Solutions Ltda	Av Republica do Chile, 330 BLC 2 SAL 2401, Rio de Janeiro, 20031170	100
Shell Energy do Brasil Gás Ltda.	Avenida República do Chile nº 330, Bloco 2, Sala 2001, Centro, Rio de Janeiro, 20031-170	100
Shell Energy do Brasil Ltda.	Avenida Brigadeiro Faria Lima nº 3.311, Conjunto 82, Itaim Bibi, São Paulo, 04538-133	100
SHELL TRADING BRASIL LTDA	Avenida Brigadeiro Faria Lima, Itaim Bibi, Sao Paulo, 4538133	100
BRUNEI		
Brunei LNG Sendirian Berhad	Lumut, Seria, KC2935	25
Brunei Shell Marketing Company Sendirian Berhad	Brunei Shell Petroleum Company, Sendirian Berhad, Seria, KB2933	50
Brunei Shell Petroleum Company Sendirian Berhad	Jalan Utara, Panaga, Seria, KB2933	50
Brunei Shell Tankers Sendirian Berhad	Jalan Utara, Panaga, Seria, KB2933	25
Shell Borneo Sendirian Berhad	c/o BSP Head Office, NDCO Block, Ground Floor, Jalan Utara, Panaga Seria, KB3534	100
BULGARIA		
Shell Bulgaria Ead	48, Sitnyakovo Blvd., Serdika Offices, 8th floor, Sofia, 1505	100
CAMBODIA		
Angkor Resources Company Limited	186C, Street No. 155, N/A - Tuol Tumpung Muoy, Chamkar Mon, Phnom Penh	49
Shell Company of Cambodia Limited S.A.	Office No. 186 C, Street 155 Sangkat Toul Tumpoung I, Khan Chamkamorn, Phnom Penh	100
CANADA		
10084751 Canada Limited	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
1745844 Alberta Ltd.	2100, 855 - 2nd Street S.W., Calgary, Alberta, T2P 4J8	50
7026609 Canada Inc.	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
7645929 Canada Limited	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
Alberta Products Pipe Line Ltd.	5305 McCall Way N.E., Calgary, Alberta, T2E 7N7	20
Cansolv Technologies Inc.	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
Coral Cibola Canada Inc.	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
FP Solutions Corporation	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	33
LNG Canada Development Inc. [b]	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	40
Sable Offshore Energy Inc.	1701 Hollis Street, Suite 1400, Halifax, Nova Scotia, B3J 3M8	33
SCL Pipeline Inc.	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
SFJ Inc.	199 Bay Street, Suite 5300, Commerce Court West, Toronto, Ontario, M5L 1B9	50
Shell Americas Funding (Canada) Limited	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
Shell Canada BROS Inc.	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
Shell Canada Energy [c]	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
Shell Canada Limited	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
Shell Canada OP Inc.	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
Shell Canada Products	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
Shell Canada Services Limited	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
Shell Catalysts & Technologies Canada Inc.	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
Shell Chemicals Canada [c]	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
Shell Energy North America (Canada) Inc.	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
Shell Global Solutions Canada Inc.	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
Shell Quebec Limitée	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
Shell Trading Canada [c]	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
Sun-Canadian Pipe Line Company Limited	830 Highway No. 6 North, Flamborough, Ontario, L0R 2H0	45
Trans-Northern Pipelines Inc.	45 Vogel Road, Suite 310, Richmond Hill, Ontario, L4B 3P6	33
Zeco Systems (Canada) Inc.	400 4th Avenue S.W, Calgary, Alberta, T2P 0J4	100
CAYMAN ISLANDS		
Beryl North Sea Limited	Sterling Trust (Cayman) Limited, Whitehall House, 238 North Church Street, P.O. Box 1043, George Town, Grand Cayman, KY1-1102	100
BG EGYPT SA	Piccadilly Centre, 28 Elgin Avenue, Suite 201, P.O. Box 2570, George Town, Grand Cayman, KY1-1103	100
BG Exploration and Production India Limited	Campbells, Floor 4, Willow House, Cricket Square, George Town, Grand Cayman, KY1-9010	100
Gas Resources Limited	Piccadilly Centre, 28 Elgin Avenue, Suite 201, P.O. Box 2570, George Town, Grand Cayman, KY1-1103	100
Schiehallion Oil & Gas Limited	Caledonian Trust (Cayman) Limited, Caledonian House, 69 Dr Roy's Drive P.O. Box 1043, George Town, Grand Cayman, KY1-1102	100
Shell Bolivia Corporation	Piccadilly Centre, 28 Elgin Avenue, Suite 201, P.O. Box 2570, George Town, Grand Cayman, KY1-1103	100
Shell North Sea Holdings Limited	Maples Corporate Services Limited, Uglund House, P.O. Box 309, George Town, Grand Cayman, KY1-1104	100
CHILE		
Shell Chile S.A.	c/o Carey y Cia Abogados, Miraflores 222, Piso 28, Santiago	100
CHINA		
Anhui Shell Energy Company Limited	Floor 23 China Life Insurance Anhui Financial Center, Luzhou Avenue, Baobinhu New Area, Hefei City, Anhui Province, Hefei, 230000	100

Beijing Shell Petroleum Company Ltd.	Unit 1101-1104, level 11, Building 1, No. 19 Chaoyang Park Road, Chaoyang District, Beijing, 100125	49
CHANGSHA YADI NEW ENERGY CO., LTD	No.723, Building A1, Chuanggu Industrial Zone, No.568 Queyuan Road, Tianxin District, Changsha, 410000	100
Chongqing Shell Energy Company Limited	No. 60, F7, No. 1 Building, Headquarter Park, Caijia Free Trade Zone, Shenghe Road, Beibei District, Chongqing	100
Climate Bridge (Shanghai) Ltd.	Room 609, building No. 1, No. 388 North Mu Hua Road, Fengxian Dist, Shanghai, 200120	49
CNOOC and Shell Petrochemicals Company Limited	Dayawan Petrochemical Industrial Park, Huizhou, Guangdong, 516086	50
DONGGUAN YADI CHARGING TECHNOLOGY CO., LTD	186, No.1, Floor 16, Donghua Building, No.5, Dongcheng E. Road, Gangbei Community, Dongche ng Sub-D, Dongguan, 523000	100
Fujian Xiangyu and Shell Petroleum Company Limited	Unit 604, 6/F, Building C, No. 3 Yunan Fourth Road, FTPZ Xiamen Sub-zone (Tariff-free Zone), Xiamen, 361000	49
GUANGZHOU YADI NEW ENERGY CO., LTD	Floor 3, No.3, Xicha Road, Shijing Street, Baiyun District, Guangzhou, 510000	100
Hebei Shell Oil Sales Co., Ltd	Unit 1502, Building A, Zhongchu Plaza, Xinhua District, Shijiazhuang, 050051	89
Hubei Shell Energy Company Limited	No.4,5,12/F, Unit A, Oceanwide International Center Office, 249 Huaihai Road, 187 Yunxia Road,CBD, Jianhan District, Wuhan, 430000	100
HUIZHOU YADI CHARGING TECHNOLOGY CO., LTD	Longshan 7th Road, Dayawan West Zone, Huizhou, 516083	100
Hunan Shell Energy Company Limited	Room 2407-2409, Building 15, Fangmaoyuan (Phase II), No. 1177 Huanhu Road, Yuelu District, Changsha, 410006	100
Infineum (China) Co. Ltd.	No. 1 Dongxin Road, Jiangsu Yangtze River International, Chemical Industry Park, Zhangjiagang, Jiangsu, 215600	50
Jiangsu Shell Energy Company Limited	Room 1801, Building 1, International Finance Center, No. 347, Jiangdong Middle Road, Jianye District, Nanjing, Jiangsu, 210019	100
Qingdao Shell Oil Co., Ltd.	NO.50 Donghai West Road, Shinan, District, Qingdao City, Shandong Province, qingdao, 266071	89
Shandong Shell Oil Co., Ltd.	51, 27th Floor, Block A, Shandong Chamber of Commerce Building, Weier Road, Shizhong District, Shandong Province, Jinan, 250001	89
Shanghai Shenergy and Shell New Energy Company Limited	Block 10, No.860 Xinyang Road, Lingang Special Area, pilot free trade zone, Shanghai, 201413	50
SHAOGUAN YADI CHARGING TECHNOLOGY CO., LTD	No.3, Lingnan Road, East Suburban Area, Zhenjiang District, Shaoguan, 512023	100
Shell (Beijing) Real Estate Consulting Ltd.	Unit 01, 32/F, No. 16 Building, No. 1 Courtyard, Jian Guo Men Wai Avenue, Chaoyang District, Beijing, 100004	100
Shell (China) Limited	30/F Unit 01-02, No. 16 Building, No. 1 Courtyard, Jian Guo Men Wai Avenue, Chaoyang District, Beijing, 100004	100
Shell (China) Projects & Technology Limited	Unit 01-08, Level 31, No. 16 Building, No. 1 Jian Guo Men Wai Avenue, Chaoyang District, Beijing, 100004	100
Shell (Shanghai) Petroleum Company Limited	8/F, No. 818 Shenchang Road, Minhang District, Shanghai, 201107	100
Shell (Shanghai) Technology Limited	Building 4, Jin Chuang Building, No. 4560, Jin Ke Road, Pilot Free Trade Zone, Shanghai	100
Shell (Tianjin) Lubricants Company Limited	North to Gang Bei Road and East to Hai Gang Road, Nangang Industrial Zone, Tianjin Economic-Technological Development Area, Tianjin, 300280	100
Shell (Tianjin) Oil and Petrochemical Company Limited	No. 286 Nansan Road, Tianjin Harbour Nanjiang Dev. Zone, Tanggu, Binhai NewDistrict, Tianjin, 300452	100
Shell (Zhejiang) Petroleum Trading Limited	No. 1 Wangjiaba, Xinmiaozi Village, Puyuan Town, Tongxiang, Jiaying, Zhejiang, 314502	100
Shell (Zuhai) Lubricants Company Limited	Nanjin Wan, Gaolan Dao, Gaolan Harbour Economic Zone, Zuhai, 519050	100
Shell Energy (China) Limited	Room 530, 5th Floor, Building 1, No. 239 Gang'ao Road, China (Shanghai) Free Trade Zone, Shanghai, 200137	100
Shell Management and Consulting Company Limited	8/F, Building 1, No. 818 Shenchang Road, Minhang District, Shanghai, 201106	100
Shell North China Petroleum Group Co., Ltd.	Room 518, 5th Floor, Office Building, Tianjin Food Group Company Ltd, No. 96, Qixiangtai Road, Hexi District, Tianjin, 300074	49
Shell Road Solutions (Zhenjiang) Co. Ltd	No. 68 Xianiejia, Dagang, Zhenjiang New District, Zhenjiang, 212132	100
Shell Road Solutions Xinyue (Foshan) Co. Ltd.	Baisha, Hekou, Sanshui District, Foshan, Guangdong, 528133	60
Shell Ventures Company Limited	8/F, Building 1, No. 818 Shenchang Road, Minhang District, Shanghai, 201106	100
Shenzhen BYD Electric Vehicle Investment Company Limited	Shenzhen,Guangdong, Shenzhen, 518118	80
Sinopec and Shell (Jiangsu) Petroleum Marketing Company Limited	No. 100, Xingang Dadao, Nanjing Economic and Technological Development Zone, Nanjing, Jiangsu, 210000	40
Suzhou Liyuan Retail Site Management Co., Ltd.	No. 358 Zhuhui Road, Suzhou, 215000	50
Suzhou Yiwei NewEnergy Technology Company Limited	Room 611,6th Floor, Building B, Vitality Business Square, 185 Jumao Street, Xiangcheng, Suzhou, 215100	100
Wuhu Shell Energy Company Limited	Runxiang Business Center A707D, ZheLu Street, JingHu District, Wuhu, 241000	100
XI'AN YADI CHARGING TECHNOLOGY CO., LTD	Office Building, No.2, Yadi Road, Xiliu Jieban Xinxing Industrial Park, High-Tec h Zone, Xian, 710000	100
Yanchang and Shell (Guangdong) Petroleum Co., Ltd.	39th Floor, Leatop Plaza, No. 32 East Zhujiang Road, Zhujiang New Town, Tianhe District, Guangdong, 510623	49
Yanchang and Shell (Sichuan) Petroleum Company Limited	23F, Yanlord Square, Section 2, Renmin South Road, Chengdu, Sichuan, 610016	45
Yanchang and Shell Petroleum Company Limited	18th Floor, Tower 1, Yongli International Finance Centre, Jinye No. 1 Road, High-tech District, Xi'an, 710075	45
Zhangjiakou City Transport and Shell New Energy Co., Ltd	Building No. 2, Hebei Guokong Northern Silicon Valley High-tech New City, No. 28 East Zhanqian Street, Qiaodong District, Zhangjiakou, 075000	48
Zhejiang Shell Energy Development Company Limited	Rm 1503, Building 2, Plaza of ZBA, No. 939 Minhe Road, Ningwei Street, Xiaoshan, Hangzhou, Zhejiang, 311215	100
Zhejiang Shell Fuels Company Limited	Room 2103, North Tower, Yefeng Modern Center, No. 161, Shaoxing Road, Xiacheng District, Hangzhou, Zhejiang, 310004	49
Zhejiang Shell Oil and Petrochemical Company Limited	The Port of Zhapu, Jiaying Municipality, Zhejiang, 314201	100
COLOMBIA		
Shell Colombia S.A.	Calle 90 No. 19 - 41, Oficina 702- Edificio Quantum, Bogotá, 452	100
Shell Comercializadora Colombia S.A.S.	Calle 90 No. 19 - 41, Oficina 702- Edificio Quantum, Bogotá, 452	100
CÔTE D'IVOIRE		
Cote d'Ivoire GNL	14, Blvd Carde, Imm. Les Heveas, Plateau, Abidjan, BP V 194	13
CYPRUS		

Rosneft-Shell Caspian Ventures Limited	Metochiou str, 37, Agios Andreas, Nicosia, CY-1101	49
CZECH REPUBLIC		
Shell Czech Republic a.s.	Antala Staška 2027/77, Prague, 140 00	100
DENMARK		
DCC & Shell Aviation Denmark A/S	Nærum Hovedgade 8, Nærum, 2850	49
Shell EP Holdingselskab Danmark ApS	c/o Bjørnholm Law, Strandvejen 60, Copenhagen, Hellerup, 2900	100
TetraSpar Demonstrator ApS	Bredgade 30, København K, 1260	66
EGYPT		
Burullus Gas Company S.A.E. [b]	28 Road 270, Maadi, Cairo	25
El Behera Natural Gas Liquefaction Company S.A.E.	City of Rashid, El Behera Governorate	36
IDKU Natural Gas Liquefaction Company S.A.E.	City of Rashid, El Behera Governorate	38
Rashid Petroleum Company S.A.E. [b]	38 Street No. 270, Maadi, Cairo	50
Shell Egypt Trading	Business View Building, No. 79, 90 Street (South), Fifth Settlement- New Cairo, Cairo, 11835	100
Shell Lubricants Egypt	Business View Building, No. 79, 90 Street (South), Fifth Settlement- New Cairo, Cairo, 11835	100
The Egyptian LNG Company S.A.E.	City of Rashid, El Behera Governorate	36
THE EGYPTIAN OPERATING COMPANY FOR NATURAL GAS LIQUEFACTION PROJECTS S.A.E.	City of Rashid, El Behera Governorate	36
EL SALVADOR		
Shell Química de El Salvador S.A.	Bldvlos Proceres Frentea Reparto, Los Heroes, E/s Shell Monumental, San salvador, Sv	100
FINLAND		
Shell Aviation Finland Oy	Teknobulevardi 3-5, Vantaa, 01530	100
FRANCE		
Airefsol Energies	10 place de Catalogne, Paris, 75014	67
Airefsol Energies 2	10 place de Catalogne, Paris, 75014	67
Airefsol Energies 8	10 place de Catalogne, Paris, 75014	67
Airefsol Energies 9	10 place de Catalogne, Paris, 75014	67
Avitair SAS	Tour Pacific, 11/13 Cours Valmy - La Défense, Puteaux, 92800	100
Centrale Photovoltaïque Bouches-du-Rhône 1	10 place de Catalogne, Paris, 75014	100
Centrale Photovoltaïque Haute-Vienne 1	10 place de Catalogne, Paris, 75014	100
Centrale Photovoltaïque Landes 1	10 place de Catalogne, Paris, 75014	100
Centrale Photovoltaïque Var 1	10 place de Catalogne, Paris, 75014	100
Centrales Next S.A.S	75 avenue Parmentier, Paris, 75544	100
Eolfi Offshore France	10 place de Catalogne, Paris, 75014	10
Eolfi SAS	10 place de Catalogne, Paris, 75014	100
Ferme Eolienne Flottante de Groix & Belle-Ile	10 place de Catalogne, Paris, 75014	30
Ferme Eolienne Flottante Stenella Rhône	10 place de Catalogne, Paris, 75014	100
Groupeement Pétrolier Aviation SNC	Aéroport Roissy Charles de Gaulle, Zone de Frêt 1, 3 Rue des Vignes, Tremblay-en-France, 93290	20
Infineum France	Chemins départemental 54, Berre-L'Étang, 13130	50
Parc Eolien Aisne 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien Corrèze 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien Côtes Armor 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien de la Vrène	10 place de Catalogne, Paris, 75014	100
Parc Eolien De Mervent	10 place de Catalogne, Paris, 75014	100
Parc Eolien Haute-Saône 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien HM1	10 place de Catalogne, Paris, 75014	100
Parc Eolien Jura 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien Marne 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien Oise 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien Oise 2	10 place de Catalogne, Paris, 75014	100
Parc Eolien Somme 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien Somme 2	10 place de Catalogne, Paris, 75014	100
Parc Eolien Yonne 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien Yonne 2	10 place de Catalogne, Paris, 75014	100
Service Aviation Paris SNC	Orly Sud No. 144 - Bat. 438, Orly Aerogares, 94541	33
Shell EV Charging Solutions France SAS	Tour Pacific, 11/13 Cours Valmy - La Défense, Puteaux, 92800	100
Shell France SAS	Tour Pacific, 11/13 Cours Valmy - La Défense, Puteaux, 92800	100
Shell Retraites SAS	Tour Pacific, 11/13 Cours Valmy - La Défense, Puteaux, 92800	100
Société de Gestion Immobilière et Immobilière SAS	Tour Pacific, 11/13 Cours Valmy - La Défense, Puteaux, 92800	100
Soc. de. Part. Dans "SPITP" Sarl	135, bd Bineau, neuilly sur seine, F - 92200	53
Ste du Pipeline Sud Européen S.A.	route d'Arles, La Fenouillère, Fos-sur-Mer, 13270	21
GERMANY		
AGES Maut System GmbH & Co. KG	Berghausener Straße 96, Langenfeld, 40764	25
BEB Erdgas und Erdoel GmbH & Co. KG [b]	Vahrenwalder Strasse 238, Hannover, 30179	33

BEB Holding GmbH [b]	Caffamacherreihe 5, Hamburg, 20355	50
Carissa Einzelhandel- und Tankstellenservice GmbH & Co. KG	Willinghusener Weg 5 D-E, Oststeinbek, 22113	100
Carissa Verwaltungsgesellschaft mbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
CRI Deutschland GmbH	Am Haupttor, Bau 8322, Leuna, 06237	100
Deutsche Infineum GmbH & Co. KG	Neusser Landstraße 16, Köln, 50735	50
Deutsche Shell Holding GmbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Deutsche Shell Verwaltungsgesellschaft mbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Deutsche Transalpine Oelleitung GmbH	Paul Wassermann Str. 3, Munich, 81829	19
Energeticum Energiesysteme GmbH	St.-Leonhard-Straße 26, Balzhausen, 86483	100
Enersol GmbH	Einsteinstr. 47, Vaihingen, 71665	100
Erdoel-Raffinerie Deurag-Nerag GmbH	Vahrenwalder Strasse 238, Hannover, 30179	33
euroShell Deutschland GmbH & Co. KG	Suhrenkamp 71 - 77, Hamburg, 22335	100
euroShell Deutschland Verwaltungsgesellschaft mbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
H2 Mobility Deutschland GmbH and Co. KG	EUREF-Campus 10-11, Berlin, 10829	27
Infineum Deutschland Verwaltungsgesellschaft mbH	Neusser Landstraße 16, Köln, 50735	50
Mineraloelraffinerie Oberrhein Verwaltungs GmbH	DEA-Scholven-Str., Karlsruhe, 76187	32
Next Kraftwerke GmbH	Lichtstraße 43g, Koeln, 50825	100
Nord-West Oelleitung GmbH [b]	Zum Oelhafen 207, Wilhelmshaven, 26384	20
Oberrheinische Mineraloelwerke GmbH [b]	DEA-Scholven-Str., Karlsruhe, 76187	42
OLF Deutschland GmbH	Brook 2,Block H, Hamburg, 20457	50
PCK Raffinerie GmbH [b]	Passower Chaussee 111, Schwedt/Oder, 16303	38
Rheinland Kraftstoff GmbH	Auf dem Schollbruch 24-26, Gelsenkirchen, 45899	100
Rhein-Main-Rohrleitungstransportgesellschaft mbH [b]	Godorfer Hauptstrasse 186, Köln, 50997	63
SBRS GmbH	H✓nxer Straße 149, Dinslaken, 46537	100
Shell Catalysts & Technologies Leuna GmbH	Am Haupttor, Bau 8322, Leuna, 06237	100
Shell Deutschland Additive GmbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Shell Deutschland GmbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Shell Deutschland Wasserstoff GmbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Shell Energy Deutschland GmbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Shell Energy Retail GmbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Shell Erdgas Beteiligungsgesellschaft mbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Shell Erdgas Marketing GmbH & Co. KG	Suhrenkamp 71 - 77, Hamburg, 22335	67
Shell Erdoel und Erdgas Exploration GmbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Shell EV Charging Solutions Germany GmbH	Wattstraße 11, Berlin, 13355	100
Shell Exploration and Development Libya GmbH I	Suhrenkamp 71 - 77, Hamburg, 22335	100
Shell Exploration and Production Colombia GmbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Shell Exploration and Production Libya GmbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Shell Exploration et Production du Maroc GmbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Shell Exploration New Ventures One GmbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Shell Global Solutions (Deutschland) GmbH	Hohe-Schaar-Straße 36, Hamburg, 21107	100
Shell Hydrogen Deutschland GmbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Shell Tunisia Offshore GmbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Shell Verwaltungsgesellschaft f✓r Erdgasbeteiligungen mbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Sonnen eServices Deutschland GmbH	Am Riedbach 1, Wildpoldsried, 87499	100
Sonnen eServices GmbH	Am Riedbach 1, Wildpoldsried, 87499	100
Sonnen GmbH	Am Riedbach 1, Wildpoldsried, 87499	100
Sonnen Holding GmbH	Am Riedbach 1, Wildpoldsried, 87499	100
SPNV Deutschland Beteiligungsges. mbH	Suhrenkamp 71 - 77, Hamburg, 22335	100
Toll4Europe GmbH	Französische Straße 33 a-c, Berlin, 10117	15
Ubimeter GmbH	EUREF-Campus 7-8, Berlin, 10829	100
Ubitercity Gesellschaft f✓r verteilte Energiesysteme mbH	EUREF-Campus 7-8, Berlin, 10829	100
Wasserbeschaffungsverband Wesseling-Hersel	Bruehler Str. 95, Wesseling, 50389	35
GHANA		
Shell Energy Ghana Limited	8th Floor, One Airport Square, Airport Bypass Road, Airport, Accra, GL-126-6169	100
GIBRALTAR		
Shell LNG Gibraltar Limited	57/63 Line Wall Road, P.O. Box 199, Gibraltar	51
GREECE		
Shell & MOH Aviation Fuels A.E.	151 Kifisias Ave., Marousi, Athens, 15124	51
GUAM		
Shell Guam Inc.	643 Chalan San Antonio, Suite 100, Tamuning, GU 96911	100
HONG KONG		
AFSC Operations Limited	3 Scenic Road, Chek Lap Kok, Lantau	11

AFSC Refuelling Limited	3 Scenic Road, Chek Lap Kok, Lantau	11
Fulmart Limited	35/F AIA Kowloon Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon	100
Hong Kong Response Limited	Eso Tsing Yi Terminal, Lot 46 Tsing Yi Road, Tsing Yi Island, New Territories	25
Ocean Century Tf Limited [g]	35/F AIA Kowloon Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon	100
Shell Developments (HK) Limited [g]	35/F AIA Kowloon Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon	100
Shell Hong Kong Limited	35/F AIA Kowloon Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon	100
Shell Korea Limited	35/F AIA Kowloon Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon	100
Shell Macau Limited	35/F AIA Kowloon Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon	100
HUNGARY		
Shell Hungary Trading close Company Limited by shares	Bocskai út 134-146., Budapest, 1113	100
INDIA		
Amrut Nature Solutions Private Limited	EnKing Embassy, Plot 48, Scheme 78 Part-2, Vijay Nagar, Indore, 452010	49
BG India Energy Private Limited	301 World Trade Tower, Barakhamba Lane, New Delhi, 110001	100
BG India Energy Services Private Limited	301 World Trade Tower, Barakhamba Lane, New Delhi, 110001	100
BG India Energy Solutions Private Limited	301 World Trade Tower, Barakhamba Lane, New Delhi, 110001	100
BG LNG Regas India Private Limited	3-C World Trade Tower, New Barakhamba Lane, New Delhi, 110001	100
Greenlots Technology India LLP	Platina Tower MG Road, Near Sikandarapur Metro Station, Section, Haryana, Gurugram, 122001	100
Hazira Port Private Limited	Office No 2008, Westgate - D Block, Nr YMCA Club, S.G.Highway, Makarba, Ahmedabad, Gujarat, 380051	100
Machine Max India Private Limited	8-2-293/82/A/732 Sasi Icon, Road no.36, Jubilee Hills, Hyderabad, Telangana, 500033	100
Shell Energy India Private Limited	Office No 2008, Westgate - D Block, Nr YMCA Club, S.G.Highway, Makarba, Ahmedabad, Gujarat, 380051	100
Shell Energy Marketing and Trading India Private Limited	2nd floor, Campus 4A, RMZ Millenia Business Park II, 143 Dr MGR Road, Kandhanchavady, Perungudi, Chennai, TN 600096	100
Shell India Markets Private Limited	2nd floor, Campus 4A, RMZ Millenia Business Park II, 143 Dr MGR Road, Kandhanchavady, Perungudi, Chennai, TN 600096	100
Shell MRPL Aviation Fuels and Services Limited	102, Prestige Sigma, Vittal Mallya Road, Bangalore, 560001	50
Shell Pahal Social Welfare Association	7, Bangalore Hardware Park, Devanahalli Industrial Park, Mahadeva-Kodigehalli, Bangalore, 562149	100
Sprng Energy Private Limited	Unit No FF, First Floor, Omaxe Square, Plot No.14, Jasola District Centre, New Delhi, 110025	100
Tiki Tar and Shell India Private Limited	Tiki Tar Industries Village Road, Near Bhandup village, Bhandup West Mumbai, Mumbai, MH 400078	50
INDONESIA		
PT EcoOils Jaya Indonesia	Wisma GKBL, 39th Floor, Jl. Jenderal Sudirman Kav. 28, Bendungan Hilir, Tanah Abang, Central Jakarta, 61151	90
PT. Gresik Distribution Terminal	Talavera Office Park 22-26th Floor, Jl. Letjen. TB Simatupang Kav. 22-26, Jakarta Selatan, Jakarta, 12430	100
PT Shell LNG Indonesia	Talavera Office Park 22-26th Floor, Jl. Letjen. TB Simatupang Kav. 22-26, Jakarta Selatan, Jakarta, 12430	100
PT. Shell Indonesia	Talavera Office Park 22-26th Floor, Jl. Letjen. TB Simatupang Kav. 22-26, Jakarta Selatan, Jakarta, 12430	100
PT. Shell Manufacturing Indonesia	Talavera Office Park 22-26th Floor, Jl. Letjen. TB Simatupang Kav. 22-26, Jakarta Selatan, Jakarta, 12430	100
PT. Shell Solar Indonesia	Talavera Office Park 22-26th Floor, Jl. Letjen. TB Simatupang Kav. 22-26, Jakarta Selatan, Jakarta, 12430	100
IRAQ		
Basrah Gas Company	Khor Al Zubair, Basrah	44
IRELAND		
Asiatic Petroleum Company (Dublin) Limited	1st Floor, Temple Hall, Temple Road, Blackrock, Co. Dublin, A94 K3K0	100
Emerald Offshore Wind Limited	Woodbine Hill, Youghal, County Cork, P36 NW52	51
Irish Shell Trust Designated Activity Company	1st Floor, Temple Hall, Temple Road, Blackrock, Co. Dublin, A94 K3K0	100
Shell and Topaz Aviation Ireland Limited	Suite 7 Northwood House, Northwood Business Park, Santry, Dublin, 9	50
Western Star Wind Limited	Woodbine Hill, Youghal, County Cork, P36 NW52	51
ISLE OF MAN		
Petrolon Europe Limited	First Names House, Victoria Road, Douglas, IM2 4DF	100
Petrolon International Limited	First Names House, Victoria Road, Douglas, IM2 4DF	100
Shell Marine Personnel (I.O.M.) Limited	Euromanx House, Freeport, Ballasalla, IM9 2AP	100
Shell Ship Management Limited	Euromanx House, Freeport, Ballasalla, IM9 2AP	100
ISRAEL		
Ravin Al Ltd.	Derech Aba Hilel 16, Ramat Gan, 5250608	36
ITALY		
Alle S.R.L.	Via Vittor Pisani 16, Milano, 20124	100
Anagni S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Aquila S.p.A.	Via Vittor Pisani 16, Milano, 20124	100
Barberio S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Baroni S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Baroninuovi S.r.l	Galleria Vintler 17, Bolzano, 39100	100
BG Italia Power S.r.l	Via Tortona 25, Milano, 20144	100
Bonacaro S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Carlucci S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Centrali Next Srl	Via Clelia Bertini Attilj 34/D, Rome, 00137	100
Colangelo S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Depalma S.r.l.	Galleria Vintler 17, Bolzano, 39100	100

Development S.R.L.	Via Vittor Pisani 16, Milano, 20124	100
Dimassa S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Elios Energy S.r.l.	Via Vittorio Veneto, 137, Rovigo, 45100	100
Guarini S.r.l.	Galleria Vintler 17, Bolzano, 39100 AVV	100
Infineum Italia S.R.L.	Strada di Scorrimento 2, Vado Ligure, Savona, 17047	50
Marco Polo Solar 2 S.R.L.	Via Vittor Pisani 16, Milano, 20124	100
Marco Polo Solar S.R.L.	Via Vittor Pisani 16, Milano, 20124	100
Mesagne S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
MSTS Consorzio [c]	via Giovanni Giolitti, Torino, 10123	100
Natuzzi S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Ottobiano S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Paliano S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Ramacca Solar S.R.L.	Via Vittor Pisani 16, Milano, 20124	100
Ricchiuti S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Rotello S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Sanfrancesco S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Sardinia Solar Energy S.R.L.	Via Vittor Pisani 16, Milano, 20124	100
Sasso S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Serracapriola S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Shell Energy Italia S.R.L.	Via Vittor Pisani 16, Milano, 20124	100
Shell Fleet Solutions Consorzio	Via Susa 40, Torino, 10138	100
Shell International Exploration and Development Italia S.p.A.	Piazza San Silvestro 8, Rome, 00187	100
Shell Italia E&P S.p.A.	Piazza San Silvestro 8, Rome, 00187	100
Shell Italia Holding S.p.A.	Via Vittor Pisani 16, Milano, 20124	100
Shell Italia Oil Products S.R.L.	Via Vittor Pisani 16, Milano, 20124	100
Shell Mobility Italia S.r.l.	Via Vittor Pisani 16, Milano, 20124	100
Sicilia S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Societa Italiana per l'Oleodotto Transalpino S.p.A.	Via Muggia #1, San Dorligo della Valle, Trieste, 34147	19
Societa' Oleodotti Meridionali S.p.A.	Via Giorgio Ribotta 51, Rome, 00144	30
Solar-Konzept Italia S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Sonnen eServices Italia S.R.L.	Via Autostrada 32, Bergamo, 24126	100
Sonnen S.R.L.	Via Autostrada 32, Bergamo, 24126	100
Suncore 5 Amaranto 1 S.r.l.	Contrada San Giovanni in Golfo 140, Campobasso, 86100	100
Teodoro S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Tuturano S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Vulci S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
Zamboni S.r.l.	Galleria Vintler 17, Bolzano, 39100	100
JAPAN		
AJIGASAWA OFFSHORE WIND POWER GENERATION K.K	Sumitomo Fudosan Onarimon-ekimae Bldg, 6-17-21, Shimbashi, Minato-Ku, Tokyo, 105-0004	50
CO2-free Hydrogen Energy Supply-chain TRA	7F Kokuryu Shiba Koen Building 2-6-15, Shiba Koen, Minato-ku, Tokyo, 105-0011	25
Fukuoka Offshore Wind Power No. 1 K.K	2-1-13, Motoazabu, Minato-ku, Tokyo, 106-0046	80
K.K. Red and Yellow	13F Fukoku Seimei Building, 2-2-2 Uchisaiwai-cho, Chiyoda-ku, Tokyo, 100-0011	100
K.K. SVC Tokyo	4052-2 Nakatsu, Aikawa-cho, Aiko-gun, Kanagawa, 243-0303	100
Nagaoka Power Generation Limited	1-11-1 Marunouchi, Chiyoda-ku, Tokyo, 100-0005	100
Next Kraftwerke Toshiba Corporation	72-34, Horikawa-cho, Saiwai-ku, Kawasaki, Kawasaki, 212-8585	49
Sakhalin LNG Services Company Ltd.	2-3, Kanda, Awaji-cho, Chiyoda-ku, Tokyo, 101-0063	50
Shell Japan Limited	12F Pacific Century Place Marunouchi, 1-11-1, Marunouchi, Chiyoda-Ku, Tokyo, 100-6216	100
Shell Lubricants Japan K.K.	12F Pacific Century Place Marunouchi, 1-11-1, Marunouchi, Chiyoda-ku, Tokyo, 100-6212	100
Shell Solar Japan G.K.	Kuwano Building 2F, Shibuya-ku, Tokyo, 23-4Jingumae 6-chome	100
Sonnen Japan Kabushiki Kaisha	12F Pacific Century Place Marunouchi, 1-11-1, Marunouchi, Chiyoda-Ku, Tokyo, 100-6216	100
Y.K. Nishi-Kobe Bosai Center	1-1-5 Wakamiya-cho, Suma-ku, Kobe-shi, Hyogo, 654-0049	33
JERSEY		
Shell Service Station Properties Limited	13 Castle Street, St Helier, JE1 1ES	100
KENYA		
Shell Bitumen East Africa Limited	Lr 209/4266 Kampala Road., P.O. Box 46644, Nairobi, 00100	100
Shell Chemicals East Africa Limited	Shell & BP House., Harambee Avenue, P.o. Box 43561, Nairobi, 00100	100
LUXEMBOURG		
Denham International Power SCSp [d]	412F, route d'Esch, Luxembourg, L-2086	32
Shell Finance Luxembourg Sarl	7, Rue de l'Industrie, Bertrange, Luxembourg, L-8069	100
Shell Luxembourgeoise Sarl	7, Rue de l'Industrie, Bertrange, Luxembourg, L-8005	100
MACAO		
Shell Macau Petroleum Company Limited	876 Avenida da Amizade, Edificio Marina Gardens, Room 310, 3rd Floor	100

MALAYSIA

Bonuskad Loyalty Sdn. Bhd. [g]	Level 8, Symphony House, Block D13, Pusat Dagangan Dana 1, Jalan PJU 1A/46, Petaling Jaya/Selangor Darul Ehsan, 47301	33
Ecolnovation Sdn. Bhd.	Lot 303, Jalan Pekeliling, Pasir Gudang Industrial Estate, 81700 Pasir Gudang, Johor, 81700	100
EcoOils (Negeri Sembilan) Sdn. Bhd.	Lot No. 303, Jalan Pekeliling, Pasir Gudang Industrial Estate, 81707 Pasir Gudang, Johor, 81707	100
EcoOils Sdn. Bhd.	Suite 9D, Level 9, Menara Ansar, 65 Jalan Trus, 80000 Johor Bahru, Johor, 80000	100
IOT Management Sdn. Bhd.	Lot 7689 and Lot 7690, Section 64, Kuching Town Land District, Jalan Pending, Kuching, Sarawak, 93450	7
Kebahangan Petroleum Operating Company Sdn. Bhd. [b]	Suite 13.03, 13 Floor, Menara Tan & Tan, 207 Tun Razak, Kuala Lumpur/Federal Territory, 50400	30
P S Pipeline Sendirian Berhad	Level 30, Tower 1, Petronas Twin Towers, KLCC, Kuala Lumpur/Federal Territory, 50088	50
P S Terminal Sendirian Berhad	Level 11, Menara TH 1 Sentral, Jalan Rakyat, Kuala Lumpur Sentral, Wilayah Persekutuan, Kuala Lumpur, 50470	35
Pertini Vista Sdn. Bhd.	Level 11, Menara TH 1 Sentral, Jalan Rakyat, Kuala Lumpur Sentral, Wilayah Persekutuan, Kuala Lumpur, 50470	100
Pixelbyte Sdn Bhd	Wisma Goshen, 2nd Floor, 60, 62 & 64, Jalan SS22/21, Damansara Jaya, 47400 Petaling Jaya, Selangor, Petaling Jaya, 47400	50
Provista Ventures Sdn. Bhd.	Level 11, Menara TH 1 Sentral, Jalan Rakyat, Kuala Lumpur Sentral, Wilayah Persekutuan, Kuala Lumpur, 50470	100
Sarawak Shell Berhad	Level 11, Menara TH 1 Sentral, Jalan Rakyat, Kuala Lumpur Sentral, Wilayah Persekutuan, Kuala Lumpur, 50470	100
Shell Business Service Centre Sdn. Bhd.	Level 11, 1 Sentral, Jalan Rakyat, Kuala Lumpur Sentral, 50470 Kuala Lumpur, Malaysia, Kuala Lumpur, 50470	100
Shell Global Solutions (Malaysia) Sdn. Bhd.	Level 11, Menara TH 1 Sentral, Jalan Rakyat, Kuala Lumpur Sentral, Wilayah Persekutuan, Kuala Lumpur, 50470	100
Shell Malaysia Trading Sendirian Berhad	Level 11, Menara TH 1 Sentral, Jalan Rakyat, Kuala Lumpur Sentral, Wilayah Persekutuan, Kuala Lumpur, 50470	100
Shell MDS (Malaysia) Sendirian Berhad	Level 11, Menara TH 1 Sentral, Jalan Rakyat, Kuala Lumpur Sentral, Wilayah Persekutuan, Kuala Lumpur, 50470	72
Shell New Ventures Malaysia Sdn. Bhd. [g]	Level 11, Menara TH 1 Sentral, Jalan Rakyat, Kuala Lumpur Sentral, Wilayah Persekutuan, Kuala Lumpur, 50470	100
Shell People Services Asia Sdn. Bhd.	Level 11, 1 Sentral, Jalan Rakyat, Kuala Lumpur Sentral, 50470 Kuala Lumpur, Malaysia, Kuala Lumpur, 50470	100
Shell Sabah Selatan Sendirian Berhad	Level 11, Menara TH 1 Sentral, Jalan Rakyat, Kuala Lumpur Sentral, Wilayah Persekutuan, Kuala Lumpur, 50470	100
Shell Timur Sdn. Bhd.	Level 11, Menara TH 1 Sentral, Jalan Rakyat, Kuala Lumpur Sentral, Wilayah Persekutuan, Kuala Lumpur, 50470	70
Shell Treasury Malaysia (L) Limited	Kensington Gardens, No. U1317, Lot 7616, Jalan Jumidar Buyong, Labuan F.T., 87000	100
Tanjung Manis Oil Terminal Management Sdn. Bhd.	Lot 7689 and Lot 7690, Section 64, Kuching Town Land District, Jalan Pending, Kuching, Sarawak, 93450	14

MAURITIUS

BG Mauritius LNG Holdings Ltd	6th Floor, Tower A, 1 Cybercity, Ebene, 72201	100
BG Mumbai Holdings Limited	C/O Ocorian Corporate Services Ltd, 6th Floor Tower A, 1 Cybercity, Ebene	100
Pennzoil Products International Company	33 Edith Cavell Street, Port Louis, 11324	100
Solenergi Power Private Limited	Les Cascades Edith Cavell Street, Port Louis	100

MEXICO

Comercial Importadora S.A. De C.V.	Prolongacion Paeso De La Reforma No. 600, Santa Fe, Alvaro Obregón, Ciudad de México, 1210	50
Concilia Asesores y Servicios, S.A. de C.V.	Guillermo González Camarena No. 400, Santa Fe, Ivaro Obregón, Ciudad de México, 1210	50
Gas Del Litoral, S. de R.L. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	75
Mega Gasolineras SA de CV	Avenida Cerro Gordo del Campestre, number 201, interior 202, of Colonia Las Quintas, León, Guanajuato, 37125	50
Shell Energy Mexico, S.A. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	100
Shell Exploracion y Exrtraccion de Mexico, S.A. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	100
Shell México Gas Natural, S. de R.L. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	100
Shell México, S.A. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	100
Shell Servicios México, S.A. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	100
Shell Solutions Mexico S.A. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	100
Shell Trading México, S. de R.L. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	100

NETHERLANDS

Accorsis B.V.	Laarderhoogtweg 18, Amsterdam, 1101 EA	23
Amsterdam Schiphol Pijpleiding Beheer B.V.	Amsterdamseweg 55, 1182 GP Amstelveen, P.O. Box 75650, Luchthaven Schiphol, 1118 ZS	40
Attiki Gas B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
B.R.E. B.V.	Weena 505, Rotterdam, 3013 AL	100
B.V. Dordtsche Petroleum Maatschappij	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
B.V. Petroleum Assurantie Maatschappij	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
BG Gas Brazil E&P 12 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
BG Gas Brazil Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
BG GAS INTERNATIONAL HOLDINGS BV	Carel van Bylandtlaan 30, The Hague, 2596 HR	100

BG Gas Netherlands Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
BG Gas Sao Paulo Investments B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
BJS Oil Operations B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	80
BJS Exploration and Production B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Blauwwind II C.V. [d]	Weena 70, Rotterdam, 3012 CM	20
Blauwwind Management II B.V.	Weena 70, Rotterdam, 3012 CM	20
BlueAlp Holding B.V.	Voorstraat 67, Groot-Ammers, 2964 AJ	21
Bogstone Holding B.V.	Herikerbergweg 238, Amsterdam, 1101 CM	51
Caspi Meruerty Operating Company B.V. [b]	Muiderstraat 1, Amsterdam, 1011 PZ	40
Chosun Shell B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Cicerone Holding B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	51
CrossWind Beheer B.V. [b]	Hofplein 20, Rotterdam, 3032AC	80
Crosswind C.V. [b] [d]	Hofplein 20, Rotterdam, 3032AC	80
Ellba B.V. [b]	Vondelingenweg 601, Vondelingenplaat, Rotterdam, 3196 KK	50
Ellba C.V. [b] [d]	Vondelingenweg 601, Vondelingenplaat, Rotterdam, 3196 KK	50
Energiepark Pottendijk B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Euroshell Cards B.V.	Weena 505, Rotterdam, 3013 AL	100
Gasterra B.V.	P.O. Box 477, Groningen, 9700 AL	25
Geocombinatie Leeuwarden B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	30
Guara B.V.	Weena 762, 9e verdieping, Rotterdam, 3014 DA	30
HKN LP 1 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
HKN LP 2 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
HKN LP 3 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
HKN LP 4 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
HKN LP 5 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
HKN LP 6 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Iara B.V.	Weena 762, 9e verdieping, Rotterdam, 3014 DA	4
iLNG B.V.	Wijnand van Armhemweg 8, Oosterbeek, 6862 XM	28
Infineum Holdings B.V.	Herikerbergweg 238, Amsterdam, 1101 CM	50
Integral Investments B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Investancia Group B.V. [b]	Stationsplein 45, 4th floor, Rotterdam, 3013 AK	30
Jordan Oil Shale Company B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Karachaganak Petroleum Operating B.V. [b]	Strawinskylaan 1345, Amsterdam, 1077 XX	29
KE STP Company B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
KE Suriname B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Lapa Oil & Gas B.V.	Weena 762, 9e verdieping, Rotterdam, 3014 DA	30
Libra Oil & Gas B.V.	Weena 762, 9e verdieping, Rotterdam, 3014 DA	20
LNG Shipping Operation Services Netherlands B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Loyalty Management Netherlands B.V.	Polaris Avenue 81, P.O. Box 2047, Hoofddorp, 2132 JH	40
Maasvlakte Olie Terminal C.V. [d]	Europaweg 975, Maasvlakte, Rotterdam, 3199 LC	16
MS Europe B.V.	Volmerlaan 5, Rijswijk, 2288 GC	100
Multi Tank Card B.V.	Antareslaan 39, P.O. Box 3068, Hoofddorp, 2132 JE	30
N.V. Rotterdam-Rijn Pijpleiding Maatschappij [b]	Butaanweg 215, Vondelingplaat, Rotterdam, 3196 KC	56
NAM Offshore B.V.	Schepersmaat 2, Assen, 9405 TA	25
Nederlandse Aardolie Maatschappij B.V.	Schepersmaat 2, Assen, 9405 TA	50
Netherlands Alng Holding Company B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Next Kraftwerke Benelux B.V.	Graaf Engelbertlaan 75, Breda, 4837DS	100
Noordzeewind B.V.	Carel van Bylandtlaan 30, Gravenhage, 2596 HR	100
Noordzeewind C.V. [d]	2e Havenstraat 5b, IJmuiden, 1976 CE	100
North Caspian Operating Company N.V. [b]	Oostduinlaan 2, The Hague, 2596 JM	17
Paqell B.V.	Reactorweg 301, unit 1.3, Utrecht, 3542 AD	50
Portfolio Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Pottendijk Energie B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Pottendijk Wind B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Pottendijk Zon B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
POWER LINE UTILISING GRID B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
PTC Kampen B.V.	Voorstraat 67, Groot-Ammers, 2964AJ	80
Raffinaderij Shell Mersin N.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
RESCO B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Rotterdam Hydrogen Company B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Salym Petroleum Development N.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	50
Shell & AMG Recycling B.V. [d]	Strawinskylaan 1343, Amsterdam, 1077 XX	50

Shell Abu Dhabi B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Additives Holdings (I) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Additives Holdings (II) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Albania Block 4 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell and Vivo Lubricants B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	50
Shell Brazil Holding B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Business Development Central Asia B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Caspian B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Caspian Pipeline Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Chemicals Europe B.V.	Weena 505, Rotterdam, 3013 AL	100
Shell China B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell China Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Deepwater Borneo B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Deepwater Tanzania B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Development Iran B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Downstream Services International B.V.	Weena 505, Rotterdam, 3013 AL	100
Shell E and P Offshore Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Egypt N.V. [e]	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Energy Europe B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Energy Retail B.V.	Weena 505, Rotterdam, 3013 AL	100
Shell EP Holdings (EE&ME) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell EP Middle East Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell EP Oman B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell EP Russia Investments (III) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell EP Russia Investments (V) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell EP Somalia B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell EP Wells Equipment Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell EV Charging Solutions B.V.	Rigakade 20, Amsterdam, 1013 BC	100
Shell Exploration and Production (100) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (101) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (102) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (103) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (107) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (82) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (84) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (89) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (92) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (93) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (94) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (96) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (99) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (L1) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (LVIII) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (LXI) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (LXII) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (LXV) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (LXVI) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (LXXI) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (LXXV) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Brunei B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Investments B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Mauritania (C10) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Mauritania (C19) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Services (RF) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production South Africa B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Ukraine Investments (I) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Ukraine Investments (II) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production West-Siberia B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration Company (RF) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration Company (West) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100

Shell Exploration Company B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration Venture Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Finance (Netherlands) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Gas & Power Developments B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Gas (LPG) Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Gas B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Gas Iraq B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Gas Nigeria B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Gas Venezuela B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Generating (Holding) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Geothermal B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Global Solutions (Eastern Europe) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Global Solutions International B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Global Solutions Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell HKW-A LP 1 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell HKW-A LP 2 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell HKW-A LP 3 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell HKW-A LP 4 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell HKW-A LP 5 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell HKW-A LP 6 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell HKW-A LP 7 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell HKW-B B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell HKW-B LP 1 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell HKW-B LP 2 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell HKW-B LP 3 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell HKW-B LP 4 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell HKW-B LP 5 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell HKW-B LP 6 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell HKW-B LP 7 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Hydrogen Operations & Production BV	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Information Technology International B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Integrated Gas Oman B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell International B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell International Exploration and Production B.V.	Carel van Bylandtlaan 16, The Hague, 2596 HR	100
[*] Shell International Finance B.V. [a]	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Internationale Research Maatschappij B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Internet Ventures B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Iraq Petroleum Development B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Iraq Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Kazakhstan B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Kazakhstan Development B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Kuwait Exploration and Production B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell LNG Bunkering B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell LNG Port Spain B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Low Carbon Fuels B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Lubricants Supply Company B.V.	Weena 505, Rotterdam, 3013 AL	100
Shell Manufacturing Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Mozambique B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell MSPO 2 Holding B.V.	Vondelingenweg 601, Vondelingenplaat, Rotterdam, 3196 KK	100
Shell Namibia Upstream B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Nanhai B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Nederland B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Nederland Chemie B.V. [g]	Chemieweg 25, P.O. Box 6060, Moerdijk, 4780 LN	100
Shell Nederland Raffinaderij B.V.	Vondelingenweg 601, Vondelingenplaat, Rotterdam, 3196 KK	100
Shell Nederland Verkoopmaatschappij B.V.	Weena 505, Rotterdam, 3013 AL	100
Shell Netherlands Canada Financing B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell New Energies Holding Europe B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell New Energies NL B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Offshore (Personnel) Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Offshore Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Offshore Upstream South Africa B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell OKLNG Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100

Shell Olie OG Gas Holding B.V. [i]	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Oman Exploration and Production B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Overseas Holdings (Oman) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Overseas Investments B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
[*] Shell Petroleum N.V. [aj]	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Project Development (VIII) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell RDS Holding B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Renewables and Energy Solutions Europe B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Sakhalin Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Sakhalin Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Salym Development B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Sao Tome and Principe B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Services Oman B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Shared Services (Asia) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell South Syria Exploration B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell TapUp B.V.	Weena 505, Rotterdam, 3013 AL	100
Shell Trademark Management B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Trading Rotterdam B.V.	Weena 505, Rotterdam, 3013 AL	100
Shell Trading Russia B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Upstream Albania B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Upstream Development B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Upstream Indonesia Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Upstream Turkey B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
SHELL VENTURES BV	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Ventures Investments B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Western LNG B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Windenergy Netherlands B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Windenergy NZW I B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Snijders Olie B.V.	Weena 505, Rotterdam, 3013 AL	100
Solar-EP I B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Solar-EP II B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Solar-EW II B.V.	Carel van Bylandtlaan 30, Den Haag, 2596 HP	100
SolarNow B.V.	Zeelandsestraat 1, Millingen aan de Rijn, 6566 DE	23
STICHTING FOR THE HOLDING AND ADMIN OF SHARES UNDER THE RDS EMPLOYEE SHARE PLANS	Herikerbergweg 28, Amsterdam, 1101	100
Syria Shell Petroleum Development B.V. [h]	Carel van Bylandtlaan 30, The Hague, 2596 HR	65
Tamba B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	50
Tankstation Exploitatie Maatschappij Holding B.V.	Weena 505, Rotterdam, 3013 AL	100
The Green Near Future 5 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Travis Road Services International B.V.	Dr. Hub van Doorneweg 183, Tilburg, 5026 RD	34
Tupi B.V.	Weena 762, 9e verdieping, Rotterdam, 3014 DA	23
Waalbrug Exploitatie Maatschappij B.V.	Weena 505, Rotterdam, 3013 AL	100
Zeolyst C.V.	Oosterhorn 36, Farmsum, 9936 HD	50
NEW ZEALAND		
Energy Finance NZ Limited	c/o Baker Tilly Staples Rodway Taranaki Limited, 109-113 Powderham Street, P.O. Box 146, New Plymouth, Taranaki, 4340	100
Energy Holdings Offshore Limited	c/o Baker Tilly Staples Rodway Taranaki Limited, 109-113 Powderham Street, P.O. Box 146, New Plymouth, Taranaki, 4340	100
Shell (Petroleum Mining) Company Limited	c/o Baker Tilly Staples Rodway Taranaki Limited, 109-113 Powderham Street, P.O. Box 146, New Plymouth, Taranaki, 4340	100
Shell Energy Asia Limited	c/o Baker Tilly Staples Rodway Taranaki Limited, 109-113 Powderham Street, P.O. Box 146, New Plymouth, Taranaki, 4340	100
Shell Investments NZ Limited	c/o Baker Tilly Staples Rodway Taranaki Limited, 109-113 Powderham Street, P.O. Box 146, New Plymouth, Taranaki, 4340	100
Shell New Zealand Pensions Limited	Mercer (N.Z.) Limited, Floor 2, 20 Customhouse Quay, Wellington, 6011	100
Southern Petroleum No Liability	c/o Baker Tilly Staples Rodway Taranaki Limited, 109-113 Powderham Street, P.O. Box 146, New Plymouth, Taranaki, 4340	100
NIGERIA		
All on Partnerships for Energy Access Limited by Guarantee	Freeman House, 21/22 Marina, Lagos	100
BG Exploration and Production Nigeria Limited	Freeman House, 21/22 Marina, Lagos	100
BG Upstream A Nigeria Limited	Freeman House, 21/22 Marina, Lagos	100
Delta Business Development Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Nigeria LNG Limited	Corporate Office, Intels Aba Road Estate, Km16 Aba Expressway, Port Harcourt, 500211	26
NLNG Shipping Management Limited	Corporate Office, Intels Aba Road Estate, Km16 Aba Expressway, Port Harcourt, 500211	20
Shell Exploration and Production Africa Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Business Operations Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100

Shell Nigeria Closed Pension Fund Administrator Ltd	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Exploration and Production Company Ltd	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Exploration Properties Charlie Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Gas Ltd (SNG)	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Infrastructure Development Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Oil Products Limited (SNOP)	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
SHELL NIGERIA SUPPORT SERVICES LTD	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Ultra Deep Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Upstream Ventures Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Thrift & Loan Fund Trustees Nig Ltd	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	99
The Shell Petroleum Development Company of Nigeria Limited	Shell Industrial Area, P.O. Box 263, Rivers State, Port Harcourt, 500272	100
NORWAY		
A/S Norske Shell	Tankvegen 1, Tananger, 4056	100
Aviation Fuelling Services Norway AS	Kristian Augusts Gate 13, Oslo, 0164	50
Enhanced Well Technologies Group AS	Kongsgårdbakken 1, Stavanger, 4005	22
Northern Lights JV DA [d]	Byfjordparken 15, Stavanger, 4007	33
Ormen Lange Eiendom DA	Nyhamna, Aukra, 6480	18
Technology Centre Mongstad DA	Mongstad 71A, Mongstad, 5954	9
OMAN		
Oman LNG LLC	P.O. Box 560, Mina Al Fahal, Muscat, 116	30
Petroleum Development Oman LLC	P.O. Box 81, Mina Al Fahal, Muscat, 113	33
Shell Development Oman LLC	Bait Salam, Salam Square, P.O. Box 74, Muscat, P.C. 116	100
Shell Oman Marketing Company SAOG	P.O. Box 38, Mina Al Fahal, Muscat, 116	49
Sohar Solar Qabas (FZC) LLC	P.O. Box 398, Sohar Free Zone, North Al Batinah Governorate, Sohar, 322	100
PAKISTAN		
Pak Arab Pipeline Company Limited	Office no 8, Level 3, Ground Floor, Serena Business Complex, Khayaban-e-Suhrdwardy, G-5/1, Islamabad, 44000	20
Pakistan Energy Gateway Limited	E110, Khayaban e Jinnah, Lahore Cantonement, Punjab, Cantonement, 54810	33
Shell Energy Pakistan (Private) Limited	Shell House, 6 Ch. Khaliqzaman Road, Karachi, 75530	100
Shell Pakistan Limited	Shell House, 6 Ch. Khaliqzaman Road, Karachi, 75530	77
PERU		
Shell GNL Peru S.A.C.	Calle Dean Valdivia 111, Oficina 802, San Isidro, Lima, Lima 27	100
Shell Operaciones Peru S.A.C.	Calle Dean Valdivia 111, Oficina 802, San Isidro, Lima, Lima 27	100
PHILIPPINES		
Bonifacio Gas Corporation	2nd Floor, Bonifacio Technology Center, 31st Street corner 2nd Avenue, Bonifacio Global City, Taguig, Metro Manila, 1635	24
Greenlight Renewables Holding Inc	Unit 1, 9TH Floor, ORE Central Tower, 31ST Street Corner 9th Avenue, Bonifacio Global City, Taguig City, Metro Manila, Fort Bonifacio 1634	40
Kamayon Realty Corporation	NDC Bldg., 116 Tordesillas St., Salcedo Village, Makati City, Metro Manila, 1227	22
Pilipinas Shell Petroleum Corporation	41st Floor, The Finance Center, 26th Street corner 9th Avenue, Bonifacio Global City, Taguig, Metro Manila, 1635	55
Shell Chemicals Philippines, Inc.	41st Floor, The Finance Center, 26th Street corner 9th Avenue, Bonifacio Global City, Taguig, Metro Manila, 1635	100
Shell Energy Philippines Inc	41st Floor, The Finance Center, 26th Street corner 9th Avenue, Bonifacio Global City, Taguig, Metro Manila, 1635	100
Shell Gas and Energy Philippines Corporation	41st Floor, The Finance Center, 26th Street corner 9th Avenue, Bonifacio Global City, Taguig, Metro Manila, 1635	100
Shell Gas Trading (Asia Pacific), Inc.	Subic Bay Free Port Zone, Olangapo City, 2200	100
Shell Solar Philippines Corporation	41st Floor, The Finance Center, 26th Street corner 9th Avenue, Bonifacio Global City, Taguig, Metro Manila, 1635	100
Tabangao Realty, Inc.	Unit D 9th Floor Inoza Tower, 40th Street, North Bonifacio, Bonifacio Global City, Taguig, Metro Manila, 1634	40
Tablas Strait Offshore Wind Power Corporation [b]	Level 3B, 111 Paseo de Roxas Bldg., Paseo de Roxas Ave, Legaspi Village, San Lorenzo, Makati City, 0000	39
POLAND		
Amber Baltic Wind 1 Sp z o.o.	Bitwy Warszawskiej 1920 Roku 7A, Warsaw, 02-366	100
Amber Baltic Wind 10 Sp z o.o.	Bitwy Warszawskiej 1920 Roku 7A, Warsaw, 02-366	100
Amber Baltic Wind 11 Sp z o.o.	Bitwy Warszawskiej 1920 Roku 7A, Warsaw, 02-366	100
Amber Baltic Wind 2 Sp z o.o.	Bitwy Warszawskiej 1920 Roku 7A, Warsaw, 02-366	100
Amber Baltic Wind 3 Sp z o.o.	Bitwy Warszawskiej 1920 Roku 7A, Warsaw, 02-366	100
Amber Baltic Wind 4 Sp z o.o.	Bitwy Warszawskiej 1920 Roku 7A, Warsaw, 02-366	100
Amber Baltic Wind 5 Sp z o.o.	Bitwy Warszawskiej 1920 Roku 7A, Warsaw, 02-366	100
Amber Baltic Wind 6 Sp z o.o.	Bitwy Warszawskiej 1920 Roku 7A, Warsaw, 02-366	100
Amber Baltic Wind 7 Sp z o.o.	Bitwy Warszawskiej 1920 Roku 7A, Warsaw, 02-366	100
Amber Baltic Wind 8 Sp z o.o.	Bitwy Warszawskiej 1920 Roku 7A, Warsaw, 02-366	100
Amber Baltic Wind 9 Sp z o.o.	Bitwy Warszawskiej 1920 Roku 7A, Warsaw, 02-366	100
Next Kraftwerke Sp. z o.o.	Astoria, Przeskok 2, Warsaw, 00-032	100
Shell Energy Retail Poland Sp. z o.o.	ul. Pawia 21, Krakow, 31-154	100

Shell Mobility Polska Sp. z o.o.	Ul. Bitwy Warszawskiej 1920r. 7a, Warsaw, 02-366	100
Shell Polska Sp. z o.o.	ul. Bitwy Warszawskiej 1920 r. nr 7A, Warsaw, 02-366	100
PUERTO RICO		
Station Managers of Puerto Rico, Inc.	P.O. Box 186, Yabucoa, PR 00767-0186	100
QATAR		
Marine LNG Solutions LLC [b]	1st Floor, Al-Mirqab Tower, Doha	50
Qatar Liquefied Gas Company Limited (4)	P.O. Box 22666, Doha	30
Qatar Liquefied Gas Company Limited (6)	QatarEnergy HQ Tower 4, Podium Level, Building No. 4, Street No. 951, Doha, Zone 63	25
Qatar Shell Research & Technology Centre QSTP-LLC	Qatar Science & Technology Park Tech1, Office 101, P.O. Box 3747, Doha	100
Qatar Shell Service Company W.L.L.	Tower 121, 6th Floor, Zone No.66, Street No.100, Building.121, Doha, P.O. Box 3747	100
ROMANIA		
Shell Romania S.R.L.	Ing. George Constantinescu Street, no. 4B and 2-4, Building A, Floor 7, office 727, District 2, Bucharest, 20337	100
RUSSIA		
Khanty-Mansiysk Petroleum Alliance Closed Joint Stock Company [b]	24 A Yakubovicha ul., Saint Petersburg, 190000	50
Limited Liability Company "Shell Neftegaz Development (V)"	9 Lesnaya street, floor 4, Moscow, 125196	100
LLC Shell NefteGaz Development	9 Lesnaya street, floor 4, Moscow, 125196	100
Syriaga Neftegaz Development LLC	9 Lesnaya street, floor 4, Moscow, 125196	100
SAINT KITTS AND NEVIS		
Shell Oil & Gas (Malaysia) LLC	Morning Star Holdings Limited, Main Street, Suite 556, Charlestown	90
SAINT LUCIA		
BG Atlantic 2/3 Holdings Limited	Mercury Court, Choc Estate, Castries	100
SAUDI ARABIA		
Al Jomaih and Shell Lubricating Oil Co.Ltd.	P.O. Box 41467, Riyadh, 11521	50
Shell Global Solutions Saudi Arabia LLC	P.O. Box 16996, Riyadh, 11474	100
SINGAPORE		
Best Petrol and Diesel Supply Pte. Ltd. [d]	5 Benoi Place, #02, Singapore, 629926	45
BG Asia Pacific Holdings Pte. Limited	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
BG Asia Pacific Services Pte. Ltd.	8 Marina View, #11-03, Asia Square Tower 1, Singapore, 18960	100
BG Exploration & Production Myanmar Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
BG INSURANCE COMPANY (SINGAPORE) PTE. LTD.	10 Collyer Quay, #10-01, Ocean Financial Centre, Singapore, 49315	100
BG Myanmar Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Changi Airport Fuel Hydrant Installation Pte. Ltd.	15, Airline Road, Singapore, 819828	11
Cleantech Renewable Assets Pte Ltd	25 Church Street, 03-04 Capital Square three, Singapore, 049482	49
Connected Freight Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	78
EcoOils Limited	54 Chulia Street, 49-01 OCBC Centre, OCBC Centre, 04951	100
Fueling Pte. Ltd [b]	50 Gul Road, Singapore, 629351	50
Infineum Singapore LLP	1 Harbourfront Avenue, #08-01/08, Keppel Bay Tower, Singapore, 098632	50
LRDTECH PTE LTD	100 Peck Seah Street, #10-18 Ps100, Singapore, 079333	—
Orb Energy Pte Ltd.	50 Raffles Place #06-00, Singapore Land Tower, Singapore, 048623	24
QPI and Shell Petrochemicals (Singapore) Pte Ltd	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	51
Shell Catalysts & Technologies Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Chemicals Seraya Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Eastern Petroleum (Pte) Ltd [g]	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Eastern Trading (Pte) Ltd [g]	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Gas Marketing Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Integrated Gas Thailand Pte.Limited	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell International Shipping Services (Pte) Ltd	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Myanmar Energy Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Pulau Moa Pte Ltd	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Tankers (Singapore) Private Limited	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Treasury Centre East (Pte) Ltd	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Singapore Lube Park Pte. Ltd. [b]	160 Tuas South Avenue 5, Singapore, 637364	44
Sirius Well Manufacturing Services Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	50
Zeco Systems Pte. Ltd.	1 Commonwealth Lane, #09-30, One Commonwealth, Singapore, 149544	99
SLOVAKIA		
SHELL Slovakia s.r.o.	Einsteinova 23, Bratislava, 851 01	100
SLOVENIA		
Shell Adria d.o.o.	Bravnicarjeva ulica 13, Ljubljana, 1000	100
SOUTH AFRICA		
Bitugard Southern Africa (Pty) Ltd	Twickenham, The Campus, 57 Sloan Street, Epsom Downs, Bryanston, 2021	36
Blendcor (Pty) Ltd. [b]	Honshu Road, Durban, 4001	36

Sekelo Oil Trading (Pty) Limited	1st Floor Oxford Parks, 199 Oxford Road, Dunkeld, Gauteng, 2196	43
Shell & BP South African Petroleum Refineries (Pty) Limited [b]	Reunion, Durban, 4001	36
Shell Downstream South Africa (Pty) Ltd	Twickenham, The Campus, 57 Sloan Street, Epsom Downs, Bryanston, 2021	72
Shell Global Customer Services Centre Cape Town (Pty) Ltd	10 Rua Vasco de Gama, Foreshore, Cape Town, 8000	100
Shell South Africa Energy (Pty) Ltd	Twickenham, The Campus, 57 Sloan Street, Epsom Downs, Bryanston, 2021	100
Shell South Africa Exploration (Pty) Limited	Twickenham, The Campus, 57 Sloan Street, Epsom Downs, Bryanston, 2021	100
Shell South Africa Holdings (Pty) Ltd	Twickenham, The Campus, 57 Sloan Street, Epsom Downs, Bryanston, 2021	100
STISA (Pty) Limited	Twickenham, The Campus, 57 Sloan Street, Epsom Downs, Bryanston, 2021	72
SOUTH KOREA		
Hankook Shell Oil Company	No. 250, Sinsun-ro, Nam-gu, Busan, 48561	54
Hyundai and Shell Base Oil Co., Ltd	640-6, Daejuk-ri, Daesan-eup, Seosan-shi, Chungchongnam-do, 356-713	40
Korea Impact Carbon Corporation	#704-3, Tower B.Hyundai Knowledge Industrial Center, 70 Dusan-ro, Geumcheon-gu, Seoul, 08584	40
MunmuBaram Co.,Ltd.	Unit 210, 164, Jangchun-ro, Jung-gu, Ulsan, 44530	80
Shell Renewables Korea Co., Ltd.	7FL., Chongkundang Building, 8, Choongjeong-ro, Seoul, 3742	100
SPAIN		
BG ENERGY IBERIAN HOLDINGS S.L.	Paseo de la Castellana, 257-6°, Madrid, 28046	100
EXAENERGIA S.L.U.	C/ Claudio Guerin, Sevilla, 41005	100
Shell & Disa Aviation España, S.L.	Rio Bullaque, 2, Madrid, 28034	50
Shell Desarrollo 1 S.L.	2 Floor 18 Torre Sevilla, Plaza Alcalde Sanchez Monteseirin, Sevilla, 41092	100
Shell Desarrollo 10 S.L.	2 Floor 18 Torre Sevilla, Plaza Alcalde Sanchez Monteseirin, Sevilla, 41092	100
Shell Desarrollo 11 S.L.	2 Floor 18 Torre Sevilla, Plaza Alcalde Sanchez Monteseirin, Sevilla, 41092	100
Shell Desarrollo 12 S.L.	2 Floor 18 Torre Sevilla, Plaza Alcalde Sanchez Monteseirin, Sevilla, 41092	100
Shell Desarrollo 14 S.L.	2 Floor 18 Torre Sevilla, Plaza Alcalde Sanchez Monteseirin, Sevilla, 41092	100
Shell Desarrollo 2 S.L.	2 Floor 18 Torre Sevilla, Plaza Alcalde Sanchez Monteseirin, Sevilla, 41092	100
Shell Desarrollo 3 S.L.	2 Floor 18 Torre Sevilla, Plaza Alcalde Sanchez Monteseirin, Sevilla, 41092	100
Shell Desarrollo 4 S.L.	2 Floor 18 Torre Sevilla, Plaza Alcalde Sanchez Monteseirin, Sevilla, 41092	100
Shell Desarrollo 5, S.L.	2 Floor 18 Torre Sevilla, Plaza Alcalde Sanchez Monteseirin, Sevilla, 41092	100
Shell Desarrollo 7, S.L.	2 Floor 18 Torre Sevilla, Plaza Alcalde Sanchez Monteseirin, Sevilla, 41092	100
Shell España, S.A.	Paseo de la Castellana, 257-6°, Madrid, 28046	100
Shell Spain LNG, S.A.U.	Paseo de la Castellana, 257-6°, Madrid, 28046	100
SONNEN IBÉRICA, S.L.	Avenida de Girona 2, Girona, Olot, 17800	100
SWEDEN		
A Flygbränslehantering Aktiebolag	P.O. Box 135, Stockholm-Arlanda, 190 46	25
BG International Services AB	Deloitte, P.O. Box 450, Ostersund, 831 26	100
Gothenburg Fuelling Company AB	P.O. Box 2154, Gothenburg, 438 14	33
Malmö Fuelling Services AB	Sturup Flygplats, P.O. Box 22, Malmö, 230 32	33
Shell Aviation Sweden AB	Vasagatan 28, Stockholm, 111 20	100
Stockholm Fuelling Services AB	P.O. Box 85, Stockholm-Arlanda, 190 45	25
SWITZERLAND		
Saraco SA	Route de Pré-Bois 17, Cointrin, 1216	20
Shell (Switzerland) AG	Baarermatte, Baar, 6340	100
Shell Brands International AG	Baarermatte, Baar, 6340	100
Shell Holdings Switzerland AG	Baarermatte, Baar, 6340	100
Shell Lubricants Switzerland AG	Steigerhubelstrasse 8, Bern, 3008	100
Shell Trading Switzerland AG	Baarermatte, Baar, 6340	100
SOGEP Société Genevoise des Pétroles SA	Route de Vernier 132, Vernier, 1214	34
Solen Versicherungen AG	Baarermatte, Baar, 6340	100
Stazioni Autostradali Bellinzona SA	Autostrada A2 (direzione Gottardo), Hotel Bellinzona Sud, Monte Carasso, 6513	50
Suisse Next GmbH	Bahnhofstr. 10, Zurich, 8001	100
UBAG - Unterflurbetankungsanlage Flughafen Zürich AG	Zw scheteich, R milang, 8153	20
SYRIA		
Al Badiyah Petroleum Company	Damascus New Sham Western Dummar, Island No. 1 - Property 2299, P.O. Box 7660, Damascus	22
Al Furat Petroleum Company	Damascus New Sham Western Dummar, Island No. 1 - Property 2299, P.O. Box 7660, Damascus	20
TAIWAN		
CPC Shell Lubricants Co. Ltd	No. 2, Tso-Nan Road, Nan-Tze District, P.O. Box 25-30, Kaohsiung, 811	51
Shell Taiwan Limited	International Trade Building, Room 2001, 20th Floor, 333, Keelung Road Section 1, Taipei, 110	100
TANZANIA		
Fahari Gas Marketing Company Limited	1st Floor Kilwa House, Plot 369, Toure Drive, Oyster Bay, P.O. Box 105833, Dar es Salaam	53
Mzalendo Gas Processing Company Limited	1st Floor Kilwa House, Plot 369, Toure Drive, Oyster Bay, P.O. Box 105833, Dar es Salaam	53
Ruvuma Pipeline Company Limited	1st Floor Kilwa House, Plot 369, Toure Drive, Oyster Bay, P.O. Box 105833, Dar es Salaam	53
Shell Tanzania Limited	1st Floor Kilwa House, Plot 369, Toure Drive, Oyster Bay, P.O. Box 105833, Dar es Salaam	100
Tanzania LNG Limited	1st Floor Kilwa House, Plot 369, Toure Drive, Oyster Bay, P.O. Box 105833, Dar es Salaam	100

THAILAND		
Pattanaadhorn Company Limited	10 Soonthornkosa Road, Klongtoey, Bangkok, 10110	42
Sahapanichkijphun Company Limited	10 Soonthornkosa Road, Klongtoey, Bangkok, 10110	42
Shell Global Solutions (Thailand) Limited	10 Soonthornkosa Road, Klongtoey, Bangkok, 10110	100
Shell Global Solutions Holdings (Thailand) Limited	10 Soonthornkosa Road, Klongtoey, Bangkok, 10110	100
Shell Global Solutions Service (Thailand) Company Limited	10 Soonthornkosa Road, Klongtoey, Bangkok, 10110	100
Thai Energy Company Limited	90 Cyberworld Tower A, Room A 2401, 24th Floor, Ratchadapisek Road Kwaeng Huaykwang, Khet Huay Kwang, Bangkok, 10110	100
Unitas Company Limited	10 Soonthornkosa Road, Klongtoey, Bangkok, 10110	42
TRINIDAD AND TOBAGO		
Point Fortin LNG Exports Limited	5 Saint Clair Avenue, Saint Clair, Port of Spain	81
Shell Gas Supply Trinidad Limited	5 Saint Clair Avenue, Saint Clair, Port of Spain	100
Shell LNG T&T Ltd	5 Saint Clair Avenue, Saint Clair, Port of Spain	100
Shell Manatee Limited	5 Saint Clair Avenue, Saint Clair, Port of Spain	100
SHELL RENEWABLES CARIBBEAN LIMITED	Avenida Brigadeiro Faria Lima, Port Of Spain, Trinidad	100
Shell T&T Investments Limited	5 Saint Clair Avenue, Saint Clair, Port of Spain	100
Shell Trinidad Central Block Limited	5 Saint Clair Avenue, Saint Clair, Port of Spain	100
Shell Trinidad Ltd	Shell Energy House, 5 St. Clair Avenue, Port of Spain	100
Shell Trinidad North Coast Limited	5 Saint Clair Avenue, Saint Clair, Port of Spain	100
The International School of Port of Spain Limited	1 International Drive, Westmoorings	25
TRINLING Limited	5 Saint Clair Avenue, Saint Clair, Port of Spain	100
TUNISIA		
Amilcar Petroleum Operations S.A.	Immeuble Mezghenni, Rue du Lac Windermere, Les Berges du Lac, Tunis, 1053 - BP 36	50
Shell Tunisia LPG S.A.	Immeuble Le Tanit du Lac, Rue du Lac Windermere, Les Berges du Lac, Tunis, 1053	100
Tunisian Processing S.A.	Immeuble Le Tanit du Lac, Rue du Lac Windermere, Les Berges du Lac, Tunis, 1053	100
TURKEY		
Ambarli Depolama Hizmetleri Ltd. Sti.	Yakuplu Mah. Gencosman Cad. No:7, Beylikduzu, Istanbul, 34524	35
Cekisan Depolama Hizmetleri Ltd. Sti.	Liman Mahallesi 60. Sokak No. 25, Konyaalti, Antalya, 07070	46
Marmara Depoculuk Hizmetleri A.S.	Sultankoy Mahallesi Maltepe Sokak No:66, Marmara Ereglisi, Tekirdag, 59750	35
Samsun Akaryakit VE Depolama A.S.	Dilovasi Organize Sanayi Bolgesi 1.Kisim, 1004 Sokak No:10, Dilovasi, Kocaeli	35
Shell & Turcas Petrol A.S.	Gulbahar Mah.Salih Tozan Sok., Karamancilar Is Merkezi B Blok No:18, Esentepe, Sisli, Istanbul, 34394	70
Shell Enerji A.S.	Gulbahar Mah.Salih Tozan Sok., Karamancilar Is Merkezi B Blok No:18, Esentepe, Sisli, Istanbul, 34394	100
Shell Petrol A.S.	Gulbahar Mah.Salih Tozan Sok., Karamancilar Is Merkezi B Blok No:18, Esentepe, Sisli, Istanbul, 34394	70
UKRAINE		
Alliance Holding LLC [d]	M. Hrinchenko, 4, Kiev, 03038	51
Invest-Region LLC [d]	M. Hrinchenko, 4, Kiev, 03038	51
Shell Energy Ukraine LLC	100 Chervonoarmiyska Str, 8th Floor, Kyiv, 03150	100
Shell Oil Products Ukraine [c]	Mykoly Grinchenka str, 4B, Kiev, 03038	100
UNITED ARAB EMIRATES		
Abu Dhabi Gas Industries Limited (GASCO)	P.O. Box 665, Abu Dhabi	15
Emdad Aviation Fuel Storage FZCO	Emdad Aviation Fuel Storage FZCO, P.O. Box 261781, Jebel Ali, Dubai	33
Shell International Trading Middle East Limited FZE	JAFZA Building #LB10, POBox 16968, Jebel Ali Free Zone, Dubai, 0000	100
UK		
Applied Blockchain Ltd	Level 39, One Canada Square, London, E14 5AB	22
Autogas Limited	Athena House, Athena Drive, Tachbrook Park, Warwick, CV34 6RL	50
BG CENTRAL HOLDINGS LIMITED	Shell Centre, London, SE1 7NA	100
BG Cyprus Limited	Shell Centre, London, SE1 7NA	100
BG Delta Limited	Shell Centre, London, SE1 7NA	100
BG Employee Shares Trustees Limited	30 Finsbury Square, London, EC2A 1AG	100
BG Energy Capital Plc	Shell Centre, London, SE1 7NA	100
BG Energy Holdings Limited	Shell Centre, London, SE1 7NA	100
BG Energy Marketing Limited	Shell Centre, London, SE1 7NA	100
BG Equatorial Guinea Limited	Shell Centre, London, SE1 7NA	100
BG Gas Services Limited	Shell Centre, London, SE1 7NA	100
BG General Holdings Limited	Shell Centre, London, SE1 7NA	100
BG General Partner Limited	7 Exchange Crescent, Conference Square, Edinburgh, EH3 8AN	100
BG Global Employee Resources Limited	10 Fleet Place, London, EC4M 7RB	100
BG Great Britain Limited	Shell Centre, London, SE1 7NA	100
BG Group Employee Shares Trustees Limited	30 Finsbury Square, London, EC2A 1AG	100
BG GROUP LIMITED	Shell Centre, London, SE1 7NA	100
BG Group Pension Trustees Limited	Shell Centre, London, SE1 7NA	100
BG Group Trustees Limited	Shell Centre, London, SE1 7NA	100
BG Intellectual Property Limited	Shell Centre, London, SE1 7NA	100

BG International Limited	Shell Centre, London, SE1 7NA	100
BG Karachaganak Limited	Shell Centre, London, SE1 7NA	100
BG Kenya L10A Limited	Shell Centre, London, SE1 7NA	100
BG Kenya L10B Limited	Shell Centre, London, SE1 7NA	100
BG LNG Investments Limited	Shell Centre, London, SE1 7NA	100
BG Mongolia Holdings Limited	Shell Centre, London, SE1 7NA	100
BG Netherlands	30 Finsbury Square, London, EC2A 1AG	100
BG Netherlands Financing Unlimited	Shell Centre, London, SE1 7NA	100
BG Norge Limited	30 Finsbury Square, London, EC2A 1AG	100
BG North Sea Holdings Limited	Shell Centre, London, SE1 7NA	100
BG OKLNG Limited	Shell Centre, London, SE1 7NA	100
BG Overseas Holdings Limited	Shell Centre, London, SE1 7NA	100
BG Overseas Investments Limited	30 Finsbury Square, London, EC2A 1AG	100
BG Overseas Limited	Shell Centre, London, SE1 7NA	100
BG Rosetta Limited	Shell Centre, London, SE1 7NA	100
BG South East Asia Limited	Shell Centre, London, SE1 7NA	100
BG Subsea Well Project Limited	Shell Centre, London, SE1 7NA	100
BG Tanzania Holdings Limited	Shell Centre, London, SE1 7NA	100
BG Trinidad LNG Limited	Shell Centre, London, SE1 7NA	100
BG UK Holdings Limited	Shell Centre, London, SE1 7NA	100
Brazil Shipping I Limited	Shell Centre, London, SE1 7NA	100
British Pipeline Agency Limited	5-7 Alexandra Road, Hemel Hempstead, Hertfordshire, HP2 5BS	50
B-Snug Limited	Shell Centre, London, SE1 7NA	100
CAMPIONWIND LIMITED [b]	50 Lothian Road, Festival Square, Edinburgh, EH3 9WJ	50
Corallian Energy Limited	8 Devonshire Square, London, EC2M 4PL	100
CRI Catalyst Company Europe Limited	Shell Centre, London, SE1 7NA	100
CSE23 Limited	8 Devonshire Square, London, EC2M 4PL	100
Derivatives Trading Atlantic Limited	Shell Centre, London, SE1 7NA	100
Dragon LNG Group Limited [b]	Main Road, Waterston, Milford Haven, Pembrokeshire, SA73 1DR	50
Eastham Refinery Limited [b]	Shell Centre, London, SE1 7NA	50
Enterprise Oil Limited	Shell Centre, London, SE1 7NA	100
Enterprise Oil Middle East Limited	Shell Centre, London, SE1 7NA	100
Enterprise Oil Norge Limited	Shell Centre, London, SE1 7NA	100
Enterprise Oil Operations Limited	15 Canada Square, London, E14 5GL	100
Enterprise Oil U.K. Limited	Shell Centre, London, SE1 7NA	100
First Telecommunications Limited	Shell Energy House, Westwood Business Park, Westwood Way, Coventry, CV4 8HS	100
First Utility Limited	Shell Energy House, Westwood Business Park, Westwood Way, Coventry, CV4 8HS	100
Gainrace Limited	Shell Centre, London, SE1 7NA	100
Gatwick Airport Storage and Hydrant Company Limited	One Bartholomew Close, London, EC1A 7BL	13
Glossop Limited	Shell Centre, London, SE1 7NA	100
GOGB Limited	Shell Centre, London, SE1 7NA	100
Heathrow Airport Fuel Company Limited	Building 1204, Sandringham Road, Heathrow Airport, Hounslow, Middlesex, TW6 3SH	14
Heathrow Hydrant Operating Company Limited	Building 1204, Sandringham Road, Heathrow Airport, Hounslow, Middlesex, TW6 3SH	10
Impello Limited	Shell Energy House, Westwood Business Park, Westwood Way, Coventry, CV4 8HS	100
Infineum International Limited	PO Box 1, Milton Hill, Abingdon, Oxfordshire, OX13 6BB	50
Kite Power Systems Limited	Johnston Carmichael Office, G08 (Ground Floor) Birchin Court, 20 Birchin Lane, London, EC3V9DU	34
Limejump Energy Limited	Unit 2.13, Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Intermediate 1 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Ltd	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 1 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 10 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 11 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 12 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 13 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 14 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 15 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 2 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 3 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 4 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 5 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 6 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 7 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100

Limejump Virtual 8 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 9 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Machine Max Limited	Shell Centre, London, SE1 7NA	100
Manchester Airport Storage and Hydrant Company Limited	One Bartholomew Close, London, EC1A 7BL	25
MARRAMWIND LIMITED [b]	50 Lothian Road, Festival Square, Edinburgh, EH3 9WJ	50
Meteor Lead Limited	10 Fleet Place, London, EC4M 7QS	100
Methane Services Limited	Shell Centre, London, SE1 7NA	100
Murphy Schiehallion Limited	Shell Centre, London, SE1 7NA	100
Private Oil Holdings Oman Limited	Shell Centre, London, SE1 7NA	85
Sabah Shell Petroleum Company Limited	Shell Centre, London, SE1 7NA	100
Saxon Oil Limited	Shell Centre, London, SE1 7NA	100
Saxon Oil Miller Limited	Shell Centre, London, SE1 7NA	100
SELAP LIMITED	Shell Centre, London, SE1 7NA	100
SHELL AIRCRAFT LIMITED	Shell Centre, London, SE1 7NA	100
Shell Aviation Limited	Shell Centre, London, SE1 7NA	100
Shell Business Development Middle East Limited	Shell Centre, London, SE1 7NA	100
Shell Caribbean Investments Limited	Shell Centre, London, SE1 7NA	100
Shell Catalysts & Technologies Limited	Shell Centre, London, SE1 7NA	100
Shell Chemical Company of Eastern Africa Limited	Shell Centre, London, SE1 7NA	100
Shell Chemicals Limited	Shell Centre, London, SE1 7NA	100
Shell Chemicals (Hellas) Limited	30 Finsbury Square, London, EC2A 1AG	100
Shell Chemicals U.K. Limited	Shell Centre, London, SE1 7NA	100
Shell China Exploration and Production Company Limited	Shell Centre, London, SE1 7NA	100
Shell Clair UK Limited	Shell Centre, London, SE1 7NA	100
Shell Club Corringham Limited	Shell Centre, London, SE1 7NA	100
SHELL COMPANY (HELLAS) LIMITED	Shell Centre, London, SE1 7NA	100
Shell Company (Pacific Islands) Limited	Shell Centre, London, SE1 7NA	100
SHELL COMPANY OF TURKEY LIMITED (THE)	Shell Centre, London, SE1 7NA	100
Shell Corporate Director Limited	Shell Centre, London, SE1 7NA	100
Shell Corporate Secretary Limited	Shell Centre, London, SE1 7NA	100
Shell Distributor (Holdings) Limited	Shell Centre, London, SE1 7NA	100
Shell Employee Benefits Trustee Limited	Shell Centre, London, SE1 7NA	100
Shell Energy Europe Limited	Shell Centre, London, SE1 7NA	100
Shell Energy Investments Limited	Shell Centre, London, SE1 7NA	100
Shell Energy Retail Limited	Shell Energy House, Westwood Business Park, Westwood Way, Coventry, CV4 8HS	100
SHELL ENERGY SUPPLY UK LTD	Shell Centre, London, SE1 7NA	100
Shell Energy UK Limited	Shell Energy House, Westwood Business Park, Westwood Way, Coventry, CV4 8HS	100
Shell EP Offshore Ventures Limited	Shell Centre, London, SE1 7NA	100
Shell EV Charging Solutions UK Limited	3 Waterhouse Square, 138 - 142 Holborn, London, EC1N 2SW	100
Shell Exploration and Production Tanzania Limited	Shell Centre, London, SE1 7NA	100
Shell Finance GB Limited	Shell Centre, London, SE1 7NA	100
Shell Gas Holdings (Malaysia) Limited	Shell Centre, London, SE1 7NA	100
Shell Gas Marketing U.K Limited	Shell Centre, London, SE1 7NA	100
Shell Global LNG Limited	Shell Centre, London, SE1 7NA	100
Shell Group Limited	Shell Centre, York Road, London, SE1 7NA	100
Shell Hasdrubal Limited	Shell Centre, London, SE1 7NA	100
Shell Holdings (U.K.) Limited	Shell Centre, London, SE1 7NA	100
Shell Information Technology International Limited	Shell Centre, London, SE1 7NA	100
Shell International Gas Limited	Shell Centre, London, SE1 7NA	100
Shell International Limited	Shell Centre, London, SE1 7NA	100
Shell International Petroleum Company Limited	Shell Centre, London, SE1 7NA	100
Shell International Trading and Shipping Company Limited	Shell Centre, London, SE1 7NA	100
Shell Malaysia Limited	Shell Centre, London, SE1 7NA	100
Shell Marine Products Limited	Shell Centre, London, SE1 7NA	100
SHELL MEX AND B.P. LIMITED	Shell Centre, London, SE1 7NA	60
Shell New Energies Holding Limited	Shell Centre, London, SE1 7NA	100
Shell New Energies UK Ltd	Shell Centre, London, SE1 7NA	100
Shell Overseas Holdings Limited	Shell Centre, London, SE1 7NA	100
Shell Overseas Services Limited	Shell Centre, London, SE1 7NA	100
Shell Pension Reserve Company (SIPF) Limited	Shell Centre, London, SE1 7NA	100
Shell Pension Reserve Company (SOCPF) Limited	Shell Centre, London, SE1 7NA	100
Shell Pension Reserve Company (UK) Limited	Shell Centre, London, SE1 7NA	100

Shell Pensions Trust Limited	Shell Centre, London, SE1 7NA	100
Shell Property Company Limited	Shell Centre, London, SE1 7NA	100
Shell QGC Holdings Limited [g]	Shell Centre, London, SE1 7NA	100
Shell QGC Midstream 1 Limited [g]	Shell Centre, London, SE1 7NA	100
Shell QGC Midstream 2 Limited	Shell Centre, London, SE1 7NA	100
Shell QGC Upstream 1 Limited	Shell Centre, London, SE1 7NA	100
Shell QGC Upstream 2 Limited	Shell Centre, London, SE1 7NA	100
Shell Research Limited	Shell Centre, London, SE1 7NA	100
Shell Response Limited	Shell Centre, London, SE1 7NA	100
Shell South Asia LNG Limited	Shell Centre, London, SE1 7NA	100
Shell Supplementary Pension Plan Trustees Limited	Shell Centre, London, SE1 7NA	100
Shell Tankers (U.K.) Limited	Shell Centre, London, SE1 7NA	100
Shell Trading International Limited	Shell Centre, London, SE1 7NA	100
[*] Shell Treasury Centre Limited	Shell Centre, London, SE1 7NA	100
[*] Shell Treasury Dollar Company Limited	Shell Centre, London, SE1 7NA	100
Shell Treasury Euro Company Limited	Shell Centre, London, SE1 7NA	100
Shell Treasury UK Limited	Shell Centre, London, SE1 7NA	100
Shell Trinidad 5(A) Limited	Shell Centre, London, SE1 7NA	100
Shell Trinidad and Tobago Limited	Shell Centre, London, SE1 7NA	100
Shell Trinidad Block E Limited	Shell Centre, London, SE1 7NA	100
Shell Trustee Solutions Limited	1 Altens Farm Road, Nigg, Aberdeen, AB12 3FY	100
Shell Tunisia Upstream Limited	Shell Centre, London, SE1 7NA	100
Shell U.K. Limited	Shell Centre, London, SE1 7NA	100
Shell U.K. North Atlantic Limited	Shell Centre, London, SE1 7NA	100
Shell U.K. Oil Products Limited	Shell Centre, London, SE1 7NA	100
Shell Upstream Overseas Services (I) Limited	Shell Centre, London, SE1 7NA	100
Shell Ventures New Zealand Limited	Shell Centre, London, SE1 7NA	100
Shell Ventures U.K. Limited	Shell Centre, London, SE1 7NA	100
SM Realisations Limited	Shell Centre, London, SE1 7NA	60
Stansted Fuelling Company Limited	44-46 Old Steine, Brighton, BN1 1NH	14
Steam Company Limited	Pannone Corporate LLP, 378-380 Deansgate, Castlefield, Manchester, M3 4LY	33
STOEL Limited	Shell Centre, London, SE1 7NA	100
STT (Das Beneficiary) Limited [a]	Shell Centre, London, SE1 7NA	100
Synthetic Chemicals (Northern) Limited	Shell Centre, London, SE1 7NA	100
Telegraph Service Stations Limited	Shell Centre, London, SE1 7NA	100
The Anglo-Saxon Petroleum Company Limited	Shell Centre, London, SE1 7NA	100
The Asiatic Petroleum Company Limited	Shell Centre, London, SE1 7NA	100
The Consolidated Petroleum Company Limited	Shell Centre, London, SE1 7NA	50
The Mexican Eagle Oil Company Limited	Shell Centre, London, SE1 7NA	100
The Shell Company (W.I.) Limited	Shell Centre, London, SE1 7NA	100
The Shell Company of Hong Kong Limited	Shell Centre, London, SE1 7NA	100
The Shell Company of India Limited	Shell Centre, London, SE1 7NA	100
The Shell Company of Nigeria Limited	Shell Centre, London, SE1 7NA	100
The Shell Company of Thailand Limited	Shell Centre, London, SE1 7NA	100
The Shell Company of The Philippines Limited	Shell Centre, London, SE1 7NA	75
The Shell Marketing Company of Borneo Limited	Shell Centre, London, SE1 7NA	100
[*] The Shell Petroleum Company Limited	Shell Centre, London, SE1 7NA	100
[*] The Shell Transport and Trading Company Limited	Shell Centre, London, SE1 7NA	100
Thermocomfort Limited	Shell Centre, London, SE1 7NA	100
Ubitricity Distributed Energy Systems UK Limited	16 Great Queen Street, Covent Garden, London, WC2B 5AH	100
UK Shell Pension Plan Trust Limited	Shell Centre, London, SE1 7NA	100
United Kingdom Oil Pipelines Limited [b]	5-7 Alexandra Road, Hemel Hempstead, Hertfordshire, HP2 5BS	48
Walton-Gatwick Pipeline Company Limited [b]	5-7 Alexandra Road, Hemel Hempstead, Hertfordshire, HP2 5BS	52
West London Pipeline and Storage Limited [b]	5-7 Alexandra Road, Hemel Hempstead, Hertfordshire, HP2 5BS	38
USA		
ACADIAN SUN ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Adams Creek Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
ADMIRAL BLVD LAND GROUP, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Aera Energy LLC [b]	10000 Ming Avenue, Bakersfield, CA 93311	52
Aera Energy Services Company	10000 Ming Avenue, Bakersfield, CA 93311	50
Airbiquity Inc.	1191 2nd Avenue, Suite 1900, Seattle, WA 98101-2993	20
Amberjack Pipeline Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	63

ANABRANCH ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Arizona A1 LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
ATHENS CREEK ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Atlantic 1 Holdings LLC [c]	RL & F Service Corp, 920 N King St Floor 2, New Castle, Wilmington, DE 19801	46
Atlantic 2/3 Holdings LLC [c]	RL & F Service Corp, 920 N King St Floor 2, New Castle, Wilmington, DE 19801	58
Atlantic 4 Holdings LLC [c]	RL & F Service Corp, 920 N King St Floor 2, New Castle, Wilmington, DE 19801	51
Atlantic Shores Offshore Wind, LLC [c]	Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	50
Au Energy, LLC	41805 Albrae Street, Fremont, CA 94538	50
Austin Parkway Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Baconton Power LLC [c]	2237 Hatcher Hill Road, Baconton, GA 31716	35
Bankson Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
BELL BRANCH SOLAR PROJECT, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Bengal Pipeline Company LLC	Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	58
Between The Rows, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
BG Brasilia, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
BG Energy Merchants, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
BG Gulf Coast LNG, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
BG LNG Services, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
BG LNG Trading, LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
BG North America, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
BG US Services, Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Black Hawk Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Blackjack Plains Solar Project, LLC	422 Admiral Blvd, Kansas City, MO 64106	100
BLACKS CREEK ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Bluegrass Plains Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Bluware Headwave Ventures Inc.	16285 Park Ten Place, Suit 300, Houston, TX 77084	20
Bogalusa West Pv i, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Brazos Wind Ventures, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Bronx Shores Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Buchanan County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
BUFFALO GRASS ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Buffalo Meadow Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Caesar Oil Pipeline Company, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	15
Calhoun County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
California Western Grid Development, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
CALLOWAY ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
CANADIAN COUNTY SOLAR PROJECT, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Cane Flats Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
CASS COUNTY SOLAR PROJECT, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
CATTLE STAR ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Centennial Sky Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Centerville Pike Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Chimney Hill Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Choctaw County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Choctaw Fields Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
CLEAR MOUNTAIN ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Colbea Enterprises, LLC	2050 Plainfield Pike, Cranston, RI 02921	50
Colonial Pipeline Company	Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	16
Concha Chemical Pipeline LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Crab Run Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Crane Brook Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
CRAY FIELDS ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Crestwood Permian Basin LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	50
CRI Sales and Services Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
CRI Zeolites Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Cumberland Road North Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Cumberland Road South Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Cumulus Digital Systems, Inc.	Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	30
D.Light Design Inc.	2100 Geng Road, Suite 210, Santa Clara, Palo Alto, CA 94303	34
DAKOTA PRAIRIE ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Dale County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Diamond Energy, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	50

Dillon Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Distributed Generation Solutions LLC	2441 High Timbers Drive, Suite 220, The Woodlands, TX 77380	33
Dove Run Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
East Setauket Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Eleox LLC [c]	850 New Burton Road, Suite 201, Dover, Delaware, DE 19904	17
Elkhart County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Ellwood Land Holdings, LLC (f/k/a Rilette Springs, LLC) [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
EMERGENT VALLEY SOLAR PROJECT, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Endymion Oil Pipeline Company, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	10
Energy Pastures Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Enterprise Oil North America Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
EPP LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201-3136	100
Equilon Enterprises LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
ERM Business Energy LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
Escambia County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Explorer Pipeline Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	39
Fairborn Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
FALKIRK FIELDS ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Farnham Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Fentress Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Five Oaks Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Flickertail Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
FOGHORN ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Free State Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Gaviota Terminal Company [d]	150 N. Dairy Ashford, Houston, TX 77079	20
Gold Harvest Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
GOLDEN SPIRIT ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Goose Creek Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
GOOSE QUILL ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Great River Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Gsd Farming Co. LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Gunlock Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Hancock County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Haycraft Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Headland-Wiregrass Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Herman Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
HERRINGTON SOLAR PROJECT, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
High Oasis II Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Hill Tucker Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Holbrook Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Holtsville Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Huckleberry Line Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Husk Power Systems, Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	30
Hyder PVS LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Infineum USA Inc	1900 East Linden Avenue, Linden, NJ 07036	50
Infineum USA L.P. [f]	Corporation Service Company, 2711 Centerville Road, Suite 400, Wilmington, DE 19808	50
Inspire Digital Services California, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Inspire Digital Services PJM, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Inspire Digital Services USA, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Inspire Energy Capital, LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Inspire Energy Holdings, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Inspire Energy Technologies, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Irwin Solar I, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Jiffy Lube International, Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
K RIVER ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Kcr Rto Da, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Keller Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Kidman Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Kings Fork Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Kiowa County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
KLAMATH FALLS ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Lake County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100

Lawrence County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Levy Solar I, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
LOCAP LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	41
Longnecker Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
LOOP LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	46
LOPEZ CANYON ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Macon County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Macon Parkway Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Madison County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Madison Fields Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Manor River Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Maple Power Holdings LLC [b]	Bechtel Enterprises, 12011 Sunset Hills Road, Reston, VA 20190	68
Maple Pv I, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Marion County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Marquette County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Mars Oil Pipeline Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	72
MARTHA FIELDS ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Martin County II Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Martin County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Mattox Pipeline Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	79
May Valley Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Mayflower Wind Energy LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	50
Mchenry County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Mercer County II Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Mercer County III Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Mercer County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
MICHAELS CREEK ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Mid-Atlantic Offshore Development, LLC [c]	15445 Innovation Drive, San Diego, CA, 92128	50
MIDLAND VALLEY SOLAR PROJECT, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Midland-Wiregrass Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
MP2 Energy LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201-3136	100
MP2 Energy NE LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201-3136	100
MP2 Energy NY LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201-3136	100
MP2 Energy Retail Holdings LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201-3136	100
MP2 Energy Texas LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201-3136	100
MP2 Generation LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201-3136	100
MP2 Mesquite Creek Wind LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201-3136	100
Mpower2 LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201-3136	100
Muscatine County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Muskegon Green Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Mustang Country Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
NEW MOON ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Nicholas County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Noble Assurance Company	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201-3136	100
North Seneca Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Oak Ridge Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Oak Run Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Odyssey Pipeline L.L.C. [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	71
Orangeburg County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Orangeburg South Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Orangeburg West Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
ORYX CASPIAN PIPELINE L.L.C. [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
OZARK PRAIRIE ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Pacwest Energy, LLC	3450 E. Commercial Ct., Meridian, ID 83642	50
Page Street Development, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Painted Rock Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Payne County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Pecten Arabian Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pecten Brazil Exploration Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pecten Midstream LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pecten Orient Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pecten Orient Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100

Pecten Producing Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pecten Trading Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pecten Victoria Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pecten Yemen Masila Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pennzoil-Quaker State Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pennzoil-Quaker State International Corporation	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pennzoil-Quaker State Nominee Company	CT Corporation System, 701 S. Carson Street, Suite 200, Carson City, NV 89701	100
Peru LNG Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	20
Pike County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Pine Flats Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
PLANO SKIES ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Port Jefferson Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Portage County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Poseidon Oil Pipeline Company, LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	36
Positive Energies, LLC [c]	CT Corporation System, 7700 E Arapahoe Rd, Ste 220, Centennial, CO 80112-1268	100
Power Limited Partnership [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
POWERS BUTTE ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
PR Microgrids LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Prairie Canyon Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
PRAIRIE NOON ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Premium Velocity Auto LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Proteus Oil Pipeline Company, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	10
Pulse Power, LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Qmb 1 Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Qmb 2 Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Quaker State Investment Corporation	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Quantic Energy Solutions, Inc.	Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	38
Queen Flats Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Quogue Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Randolph County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
RANEGRAS PLAINS ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Rayos Del Sol II Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
RDK Ventures, LLC	4080 West Jonathan Moore Pike, Columbus, IN 47201	50
Red Clover Solar Project, LLC [c]	C/ Claudio Guerin, Kansas, MO/64106	100
RED CYPRESS ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
RIVER DUNE ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
RK Caspian Shipping Company, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
ROLLING BLUFF ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
S T Exchange, Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
SAGE MEADOW ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Sand Dollar Pipeline LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
SARAH LAKE SOLAR PROJECT, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Saratoga Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Savion Chesapeake Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Savion Construction Management, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Savion LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Savion Solar Equipment, LLC	422 Admiral Blvd, Kansas City, MO 64106	100
SCOGI GP [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Setauket Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Shell & Whitmore Reliability Solutions, LLC [c]	930 Whitmore Drive, Rockwall, 75087	50
Shell (US) Gas & Power M&T Holdings, Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell California Pipeline Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Catalysts & Technologies Americas LP [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Catalysts & Technologies Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Catalysts & Technologies Holdings Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Catalysts & Technologies LP [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Catalysts & Technologies US LP [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Catalysts Ventures Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Chemical Appalachia LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Chemical LP [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Chemicals Arabia L.L.C. [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Communications, Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100

Shell Deepwater Royalties Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Downstream Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Energy Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Energy Holding GP LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Energy North America (US), L.P. [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Energy Resources Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Enterprises LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell EP Holdings Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Expatriate Employment US Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Exploration & Production Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Exploration Company Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Frontier Oil & Gas Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Gas Gathering Corp. #2	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Global Solutions (US) Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell GOM Pipeline Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Gulf of Mexico Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Information Technology International Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell International Exploration and Production Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Lake Charles Operations, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Leasing Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Legacy Holdings LLC	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
Shell Marine Products (US) Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Midstream LP Holdings LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Midstream Operating LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Midstream Partners GP LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Midstream Partners, L.P.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell MS Fuel Card, LLC [c]	CT Corporation System, 1200 South Pine Island Road, Plantation, 33324	100
Shell NA Gas & Power Holding Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell NA LNG LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell New Energies US LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell North America Gas & Power Services Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Offshore and Chemical Investments Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Offshore Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Offshore Response Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Oil Company Investments Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Oil Products Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
SHELL ONSHORE VENTURES LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
[*] Shell Petroleum Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
SPG Energy Group LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
Shell Pipeline Company LP [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Pipeline GP LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Retail and Convenience Operations LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell RSC Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Thailand E&P Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Trademark Management Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Trading (US) Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Trading North America Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Trading Risk Management, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Trading Services Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Transportation Holdings LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Treasury Center (West) Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell US E&P Investments LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell US Gas & Power LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell US Hosting Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell US LNG, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
[*] Shell USA, Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Ventures LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell WindEnergy Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell WindEnergy Services Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Sherburne County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Sheridan Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Ship Shoal Pipeline Company LLC [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	43

Silicon Ranch Corporation	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	44
SOI Finance Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Sonnen Inc	2048 Weems Road, Bldg C, Tucker, GA 30084	100
SOPC Holdings East LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
SOPC Holdings West LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
SOPC SOUTHEAST INC. (F/K/A MOTIVA COMPANY)	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Source Operations Group LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
Source Power & Gas LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
SOUTH HILL SOLAR PROJECT, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
South Suffolk Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Southern Plains Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
St. Clair County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Stamp Bainbridge Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Stamp Hilltop Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Steel Branch Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
STEEL RAIL ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
STILLY WAY ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Stony Landing Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Stony Run Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
STRAWBERRY ACRES ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Studio X LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Sturgeon Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Su Ranch Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Suffolk County Energy Storage II, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Suffolk County Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Sugar Harvest Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Sugar Tree Solar Project, LLC	422 Admiral Blvd, Kansas City, MO 64106	100
Sun Cactus Solar Project, LLC	422 Admiral Blvd, Kansas City, MO 64106	100
Sun Park Solar, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Sunflower Sky Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Sunflower Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
SUNSET PRAIRIE SOLAR PROJECT, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Superior Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Sutherland Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Sweeney Run Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
SWEET VALLEY ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
SWEPI LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Tejas Coral GP, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Tejas Coral Holding, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Tejas Power Generation, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Texas Petroleum Group LLC	11111 Wilcrest Green, Suite 100, Houston, TX 77042	100
Texas-New Mexico Pipe Line Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
TFH Reliability Group, LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
The Bootheel Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
The Panhandle Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
The Valley Camp Coal Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Thibodaux Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Three Wind Holdings, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	50
TMR Company LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
TONTOGANY PLAINS SOLAR PROJECT, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Tri Star Energy LLC	1740 Ed Temple Blvd, Nashville, TN 37208	33
Tri-State II Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Tri-State Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Triton Diagnostics Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Triton Terminals LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Triton West LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
True North Energy LLC	10346 Brecksville Rd, Brecksville, OH 44141	50
TWENTY-SIX MILE ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
URSA Oil Pipeline Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	45
Walworth County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Washington Vines Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
West Babylon Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100

West Shore Pipe Line Company	Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	19
White Moon Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Wild Peach Solar Project, LLC	422 Admiral Blvd, Kansas City, MO 64106	100
WILD PLUM ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Wild Rose Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Wildwood Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Wolfe County Solar Project, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Yaphank Energy Storage, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
YELLOW FEATHER ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
YELLOW ROSEBUSH ENERGY CENTER, LLC [c]	422 Admiral Blvd, Kansas, MO 64106	100
Zeco Holdings, Inc.	1013 Centre Road, County of New Castle, Delaware, Wilmington, DE 19805	100
Zeco Systems, Inc.	1013 Centre Road, County of New Castle, Delaware, Wilmington, DE 19805	100
Zeolyst International	3333 Hwy 6 South, Houston, TX 77082	50
Zydeco Pipeline Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
URUGUAY		
BG (Uruguay) S.A.	La Cumparsita, 1373 4th Floor, Montevideo, 11200	100
Dinarel S.A.	La Cumparsita, 1373 4th Floor, Montevideo, 11200	50
Gasoducto Cruz del Sur S.A.	La Cumparsita, 1373 4th Floor, Montevideo, 11200	40
VANUATU		
Savannah Oaks Solar Project, LLC	422 Admiral Blvd, Kansas City, MO 64106	100
VENEZUELA		
Shell Venezuela Productos, C.A.	Avenida Orinoco, Edificio Centro Empresarial, Premium Piso 2 Oficina 2-B, Urbanización Las Mercedes, Caracas, 1060	100
Shell Venezuela, S.A.	Avenida Orinoco, Edificio Centro Empresarial, Premium Piso 2 Oficinas 2-A y 2-B, Urbanización Las Mercedes, Caracas, 1060	100
Sucre Gas, S.A.	Avenida Leonardo Da Vinci, Edificio PDV Servicios, Caracas, Distrito Capital	30
VIETNAM		
Shell Vietnam Ltd	Go Dau Industrial Zone, Phuoc Thai Commune, Long Thanh District, Dong Nai Province	100
ZAMBIA		
Shell Zambia Limited	7th Floor,National Savings & Credit Bank Building,North End,Cairo Road,Lusaka	72
ZIMBABWE		
Central African Petroleum Refineries (Private) Limited	Block 1, Tendeseka Office Park, CNR Samora Machel Avenue, Renfrew Road, Harare	21

Exhibit 12.1

I, Wael Sawan, certify that:

1. I have reviewed this annual report on Form 20-F of Shell plc (the Company);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this report;
4. The Company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the Company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the Company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting; and
5. The Company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company's Board of Directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal control over financial reporting.

/s/ Wael Sawan

Wael Sawan
Chief Executive Officer
March 8, 2023

Exhibit 12.2

I, Sinead Gorman, certify that:

1. I have reviewed this annual report on Form 20-F of Shell plc (the Company);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this report;
4. The Company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the Company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the Company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting; and
5. The Company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company's Board of Directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal control over financial reporting.

/s/ Sinead Gorman

Sinead Gorman
Chief Financial Officer
March 8, 2023

Exhibit 13.1

In connection with this annual report on Form 20-F of Shell plc, a public limited company organized under the laws of England and Wales (the Company), for the year ended December 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the Report), each of the undersigned officers of the Company certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to such officer's knowledge, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company as of, and for, the periods presented in the Report.

The foregoing certification is provided solely for purposes of complying with the provisions of Section 906 of the Sarbanes-Oxley Act of 2002 and is not intended to be used or relied upon for any other purpose.

/s/ Wael Sawan

Wael Sawan
Chief Executive Officer

/s/ Sinead Gorman

Sinead Gorman
Chief Financial Officer
March 8, 2023

Exhibit 99.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statements on Form F-3 (No. 333-254137 and No. 333-254137-01) and in the Registration Statement on Form S-8 (No. 333-262396) of Shell plc of our reports dated March 8, 2023, with respect to the consolidated financial statements and the effectiveness of internal control over financial reporting of Shell plc, included in this Form 20-F for the year ended December 31, 2022.

/s/ Ernst & Young LLP

Ernst & Young LLP
London, United Kingdom
March 8, 2023

Exhibit 99.2

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statements on Form F-3 (No. 333-254137 and No. 333-254137-01) and in the Registration Statement on Form S-8 (No. 333-262396) of Shell plc of our reports dated March 8, 2023, with respect to the Royal Dutch Shell Dividend Access Trust Financial Statements and the effectiveness of internal control over financial reporting of the Royal Dutch Shell Dividend Access Trust, included in this Form 20-F for the year ended December 31, 2022.

/s/ Ernst & Young LLP

Ernst & Young LLP
London, United Kingdom
March 8, 2023