CDP Climate Change 2023 Information Request – Shell plc

www.shell.com/ghg

C0. Introduction

(C0.1) Give a general description and introduction to your organization.

For the purposes of the present submission Shell aims to follow the definitions and structure used by CDP as much as reasonably feasible. However, some of the terminology used by CDP lends itself to various meanings and interpretation. CDP's drop-down menus do not always offer options phrased how we would describe Shell's position in our own words and we have been guided by selecting what comes closest to reflecting our position. In addition, the terms and definitions adopted in the judgment issued by the District Court in The Hague, Netherlands, referred in C2.2a, which was appealed by Shell in March 2022, have the meanings given to them by the Court and, as such, may not be consistent with the definitions and structure used by CDP.
The comprehensive list of disclosures by Shell is available on www.shell.com.

The following clarifications apply to this submission:

- Key: AR=Annual Report and Accounts 2022; SR=Sustainability Report 2022; ETPR=Energy Transition Progress Report 2022 (find all reports at www.shell.com/about-us/annual-publications).
- C0.3: refer to our Annual Report and Accounts 2022 for a full overview of our operations (AR, p6: "Shell is a global group of energy and petrochemical companies, ...with operations in more than 70 countries.")
- C0.5: In Shell's Annual Report and Accounts 2022, GHG emissions related data is reported on a 100% basis in respect of activities where Shell is the operator. Shell definition for GHG emissions reporting under "operational control": total direct (Scope 1) GHG emissions from assets and activities under operational control boundary, and total indirect (Scope 2) GHG emissions from imported energy from assets and activities under operational control boundary; indirect GHG emissions (Scope 3) based on the energy product sales included in the NCF boundary. See www.shell.com for information on Shell's NCF methodology.
- C0.7: at Shell, biofuels and CCUS are not considered "divisions".
- C4.3b: projects have been aggregated in categories.
- C9.3a: reported as "Crude Distillation Capacity"; AR, p69.
- OG9.3d: See refinery processing outturn, AR, p69.
- C12.3a: Our response comprises examples of our advocacy. These examples are not meant to fully reflect Shell's disclosures on this topic.

Shell plc ("Shell") is a public, limited company registered in England and Wales, headquartered in London, UK.
Shell is a global group of energy and petrochemical companies, employing 93,000 people (as of December 31, 2022) and with operations in more than 70 countries.

(AR, p14) **ORGANISATION**
INTEGRATED GAS, RENEWABLES & ENERGY SOLUTIONS (R&ES)
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. 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, 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.
DOWNSTREAM
Marketing manages the Mobility, Lubricants, and Sectors & Decarbonisation activities. Mobility operates Shell's retail network, incl electric vehicle charging services. Lubricants produces, markets and sells lubricants for road transport and machinery. Sectors & Decarbonisation sells fuels, speciality products and services incl. low-carbon energy solutions to a broad range of commercial customers. Chemicals & Products manages chemical manufacturing plants with their own marketing network and refineries. Downstream also includes the pipeline activities, and trading of crude oil, oil products and petrochemicals.
PROJECTS & TECHNOLOGY (P&T)
P&T 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 GHG management.

Changes effective 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.

(C0.2) State the start and end date of the year for which you are reporting data and indicate whether you will be providing emissions data for past reporting years.

Reporting year

Start date: January 1, 2022

End date: December 31, 2022

Indicate if you are providing emissions data for past reporting years - No previous years indicated

(C0.3) Select the countries/areas in which you operate.

Australia, Canada, Germany, Malaysia, Netherlands, Nigeria, Singapore, United Kingdom of Great Britain and Northern Ireland, United States of America

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

(C-OG0.7) Which part of the oil and gas value chain and other areas does your organization operate in?

Oil and gas value chain

Upstream
Midstream
Downstream
Chemicals

Other divisions

Biofuels
Carbon capture and storage/utilization

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	A3C99G

C1. Governance

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual or committee	Responsibilities for climate-related issues
Board-level committee	(AR, p163-164) 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. Example of climate-related activities:

	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 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.

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	• Reviewing and guiding annual budgets • Overseeing major capital expenditures • Overseeing acquisitions, mergers, and divestitures • Overseeing and guiding employee incentives • Reviewing and guiding strategy • Monitoring the implementation of a transition plan • Overseeing the setting of corporate targets	(AR, p80) Our governance framework is designed to effectively deliver on the energy transition ambitions of Shell's Powering Progress strategy. 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. See "Governance", in AR, p132. 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). See "Climate change governance organogram" in AR, p80. The SESCo provides oversight of our technical delivery when it comes to reducing our carbon

	• Monitoring progress towards corporate targets • Reviewing and guiding the risk management process	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 SESCo's activities in 2022, see AR, p163. 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 AR, p165. 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" (AR, p178) and the "Annual Report on Remuneration" (AR, p184). 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" (AR, p178) for further information.

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues

Yes	(AR, p152) 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: o Shell's safety and core values; o Board governance; o Group strategy and portfolio; o Key businesses and functions; and o Climate change and energy transition; • Biographies of key executives. • Other elements of the onboarding programme for Non-executive Directors include: o Briefing meetings with key executives (both business and functional) customised to Non-executive Directors' needs and phased based on forthcoming Board agenda items; o 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 o Virtual and physical site visits (either specifically for onboarding or by inviting the new Directors to committees' site visits).

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Position or committee

Chief Executive Officer (CEO)

Climate-related responsibilities of this position

Other, please specify

(AR, p81) 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.

Reporting line

Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line

More frequently than quarterly

Please explain

(AR, p81)

• 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 Carbon Management Framework (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.

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, 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.
• The Carbon Reporting Committee (CRC) 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.

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

Provide incentives for the management of climate-related issues	Comment
Yes	(AR, p80) 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. (AR, p183) Shell's journey in the energy transition weighted with 15%: - Selling lower-carbon products 5% - reducing operational emissions 5% - partnering to decarbonise 5% (AR, p181) 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%.

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive

Chief Executive Officer (CEO)

Type of incentive

Monetary reward

Incentive(s)

Other, please specify: For example, both short-term and long-term incentive plans, bonus.

Performance indicator(s)

Progress towards a climate-related target
Reduction in absolute emissions
Reduction in emissions intensity

Incentive plan(s) this incentive is linked to

Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)

Climate performance and remuneration
(AR, p80) 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

(AR, p183) Scorecard architecture
Shell's journey in the energy transition weighted with 15%:
• Selling lower-carbon products 5%
• Reducing operational emissions 5%
• Partnering to decarbonise 5%

(AR, p181) 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%.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

(AR, p203) 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.

(AR, p181) 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.

Entitled to incentive

Chief Financial Officer (CFO)

Type of incentive

Monetary reward

Incentive(s)

Other, please specify: For example, both short-term and long-term incentive plans, bonus.

Performance indicator(s)

Progress towards a climate-related target
Reduction in absolute emissions
Reduction in emissions intensity

Incentive plan(s) this incentive is linked to

Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)

Climate performance and remuneration
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C2. Risks and opportunities

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	3	(AR, p83) 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	3	10	(AR, p83) 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	10		(AR, p83) 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.

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

In general, we think of substantial financial or strategic impact as an event that could have a large adverse or positive effect separately, or in combination, on our earnings, cash flows and/or financial condition. These could impair our ability to operate our business activities and/or, impact the company´s delivery of its strategy. Such events would typically have an extended impact over multiple businesses and multiple years.
(AR, p83)
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" (AR, p92). 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 15-26.
(AR, 215)
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.
(AR, 216)

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.

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations, Upstream, Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term, Medium-term, Long-term

Description of process

(AR, p92-94) Shell's processes for identifying and assessing climate-related risks (AR extract)
Identifying climate-related risks
As discussed in "Energy transition strategy" (AR, p83), 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);
▪ 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.

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 (CF). 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;
▪ 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 CF 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.

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.

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 CF 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;
▪ 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.

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.

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.
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.

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 CF, ensuring that it is integrated into the overall risk management processes of the Group.

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	(AR, p84) The transition to a low-carbon economy will 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. 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. (AR, p16) 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. Hence, this risk type is relevant to us and included in our assessment. Example of current regulation risk type: (AR, p84) 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" in AR, pages 261-262).
Emerging regulation	Relevant, always included	(AR, p17) 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, including those related to climate change. (AR, p15) 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 (AR, p16) 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. (AR, p84) 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" in AR on pages 252-260 for more information). This exposure also takes into account the estimated impact of free allowances as relevant to assets based on their location. Hence, this risk type is relevant to us and included in our assessment. Example of emerging regulation risk type: (AR, p83) 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.
Technology	Relevant, always included	(AR, p23) 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. Hence, this risk type is relevant to us and included in our assessment. Example of technology risk type: (AR, p84) 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.
Legal	Relevant, always included	(AR, p85) There is an increasing risk for 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. (AR, p17) 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. (AR, p85) 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. Hence, this risk type is relevant to us and included in our assessment. Example of legal risk type: (AR, p85) 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).
Market	Relevant, always included	(AR, p84) 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. (AR, p15) 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. (AR, p16) 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. Hence, this risk type is relevant to us and included in our assessment. Example of market risk type: (AR, p15) 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.
Reputation	Relevant, always included	(AR, p20) 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. Hence, this risk type is relevant to us and included in our assessment. Example of reputation risk type: In 2022, many people protested about climate change, sometimes directly targeting Shell.
Acute physical	Relevant, always included	(AR, p85) The potential physical effects of climate change may impact Shell's assets, operations, supply chains, employees and markets.

		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. Hence, this risk is relevant to us and included in our assessment. Example of acute physical risk type: (AR, p260) 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.
Chronic physical	Relevant, always included	(AR, p85) The potential physical effects of climate change may impact Shell’s assets, operations, supply chains, employees and markets. 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. Hence, this risk is relevant to us and included in our assessment.

		Example of acute physical risk type: (AR, p260) 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.

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation

Other, please specify: Mandates on and regulation of existing products and services

Primary potential financial impact

Increased direct costs

Company-specific description

(AR, p216) 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" in AR on page 17). 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" in AR on page 23). 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" in AR on page 16 and "Our journey to net zero" on pages 78-105).
(AR, p16) 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.

Hence, this risk type is relevant to us and included in our assessment.
We expect that the impact of such regulatory risks could be seen in the short, medium and long term.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

4,005,000,000

Explanation of financial impact figure

(AR, Note 4, p252-260) Note 4: Financial planning and assumptions (p253)

This section of Note 4 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.

(AR, Note 5, p261) Shell's cost of emission schemes and related environmental programmes recognised in the Consolidated Statement of Income was $4,005 million in 2022.

Out of the total amount: $2,918 million, represents the cost of biofuel certificates required for compliance purposes over and above those generated from self-blending activities. This includes the cost under the German Fuel Emissions Trading Act (BEHG) applying since January 1, 2021.

The total associated with the emissions trading schemes: $493 million, and for renewable power this was $594 million.

(AR, p262) 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.

Cost of response to risk

7,059,000,000

Description of response and explanation of cost calculation

(ETPR, p24) Since the first quarter of 2022, we have reported separately on the performance of our five business segments [A].
[A] On January 31, 2023, we announced that our Integrated Gas and Upstream businesses will be combined to form a new Integrated Gas and Upstream Directorate. The Downstream business will be combined with Renewables and Energy Solutions to form a new Downstream and Renewables Directorate. These changes are expected to take effect on July 1, 2023, and will not affect Shell's financial reporting segments in 2023. Please refer to the "Our organisation" section in the Annual Report and Accounts 2022.

For the businesses Marketing, Renewables and Energy Solutions, Integrated Gas, Chemicals and Products, and Upstream, our target returns consider the risks and uncertainties associated with our investments, and the scale of spending that is required to develop opportunities. For example, in our Upstream business, they reflect the costs of exploration, feasibility studies and construction, as well as risks linked to commodity prices.
In 2022, our cash capital expenditure [C] was around $25 billion and our operating expenses were around $39 billion. The table on page 24 of our Energy Transition Progress Report 2022 (https://reports.shell.com/energy-transition-progress-report/2022/_assets/downloads/shell-energy-transition-progress-report-2022.pdf) shows how much we spent and the cash flow from operations in 2021 and 2022 across our businesses.
[C] Please refer to the Annual Report and Accounts 2022 for the definitions of cash capital expenditure and operating expenses.

Explanation of cost calculation
(AR, p74) Renewables and Energy Solutions
Operating expenses [B]: $3,590,000,000
Cash capital expenditure [B]: $3,469,000,000
($3,590,000,000 + $3,469,000,000 = $7,059,000,000)
[B] See Non-GAAP measures reconciliations” in Annual Report and Accounts 2022, pages 362-365.
All numbers rounded.

Comment

Note: "Risk1" only reflects an extract of Shell's approach to managing business risks as part of the energy transition. For comprehensive information please refer to Shell's disclosures on www.shell.com.

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Capital Markets Day, slide 35: Particular example: growing our low-carbon fuels business (https://www.shell.com/investors/investor-presentations/capital-markets-day-2023/_jcr_content/root/main/section/simple/text_1695238364_copy_695577015.multi.stream/1686739511216/018241635a98a83269986e2b3fab2365078083ce/CMD23-slides.pdf)

General context:

(AR, p86) 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.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure – minimum (currency)

1,000,000,000

Potential financial impact figure – maximum (currency)

2,000,000,000

Explanation of financial impact figure

Capital Markets Day, slide 35: Particular example: growing our low-carbon fuels business (https://www.shell.com/investors/investor-presentations/capital-markets-day-2023/_jcr_content/root/main/section/simple/text_1695238364_copy_695577015.multi.stream/1686739511216/018241635a98a83269986e2b3fab2365078083ce/CMD23-slides.pdf)
$1-2 billion EBITDA [A] by 2030

[A] Adjusted EBITDA representing the full value chain of Low Carbon Fuels across Shell reporting (sub-)segments.

Cost to realize opportunity

1,000,000,000

Strategy to realize opportunity and explanation of cost calculation

(ETPR, p24) Since the first quarter of 2022, we have reported separately on the performance of our five business segments [A].
[A] On January 31, 2023, we announced that our Integrated Gas and Upstream businesses will be combined to form a new Integrated Gas and Upstream Directorate. The Downstream business will be combined with Renewables and Energy Solutions to form a new Downstream and Renewables Directorate. These changes are expected to take effect on July 1, 2023, and will not affect Shell's financial reporting segments in 2023. Please refer to the "Our organisation" section in the Annual Report and Accounts 2022.

For the businesses Marketing, Renewables and Energy Solutions, Integrated Gas, Chemicals and Products, and Upstream, our target returns consider the risks and uncertainties associated with our investments, and the scale of spending that is required to develop opportunities. For example, in our Upstream business, they reflect the costs of exploration, feasibility studies and construction, as well as risks linked to commodity prices.

Explanation of cost calculation:
Capital Markets Day, slide 35: Particular example: growing our low-carbon fuels business
(https://www.shell.com/investors/investor-presentations/capital-markets-day-2023/_jcr_content/root/main/section/simple/text_1695238364_copy_695577015.multi.stream/1686739511216/018241635a98a83269986e2b3fab2365078083ce/CMD23-slides.pdf)
$ ~1 billion cash capex p.a. 2024-2025

Comment

Note: "Opp1" only reflects an extract of Shell's approach to manage business opportunities as part of the energy transition. For comprehensive information please refer to Shell's disclosures on www.shell.com.

C3. Business Strategy

(C3.1) Does your organization's strategy include a climate transition plan that aligns with a 1.5°C world?

Climate transition plan

No, our strategy has been influenced by climate-related risks and opportunities, but we do not plan to develop a climate transition plan within two years

Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world and any plans to develop one in the future

(See also C-FI, full disclaimer) Shell's operating plan, outlook and budgets are forecasted for a ten-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 Net Carbon Intensity (NCI) targets over the next ten 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 be significant risk that Shell may not meet this target.

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

Use of climate-related scenario analysis to inform strategy
Yes, qualitative and quantitative

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios: Customized publicly available transition scenario	Company-wide	1.5ºC	(AR, p7) 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.
Transition scenarios: Customized publicly available transition scenario	Company-wide	1.5ºC	(AR, p99) 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. 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.

Physical climate scenarios: RCP 4.5	Other, please specify Only select assets/facilities; not company exhaustive for Shell assets		(AR, p85) The potential physical effects of climate change may impact Shell's assets, operations, supply chains, employees and markets. 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.

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Focal questions

If different price outlooks from external and often normative climate change scenarios were used, how would this impact the recoverability of certain assets recognised in the Consolidated Balance Sheet as at December 31, 2022.

Results of the climate-related scenario analysis with respect to the focal questions

(AR, p86) 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.

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	(AR, p89) 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. Example of a strategic decision influenced by climate-related risks and opportunities related to products and services: (AR, p90) 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.
Supply chain and/or value chain	Yes	(AR, p99) 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.

		Examples (AR, p90) 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.
Investment in R&D	Yes	(AR, p86) 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. Examples 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.
Operations	Yes	(AR, p104/105) 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. 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. 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.

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

Financial planning elements that have been influenced	Description of influence
• Direct costs • Capital expenditures • Capital allocation	(AR, p87) Our financial planning processes: (Capital allocation) 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

• Acquisitions and divestments • Access to capital • Assets	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 (AR section) "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 (AR section) "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. (Direct cost/capital expenditures) (AR, p88) 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. 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. (Acquisitions and divestments) (AR, p75) Extract from RENEWABLES AND ENERGY SOLUTIONS segment: 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. (Access to capital) (AR, p84) 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' in AR on page 89. (Assets) (AR, p15) We are exposed to macroeconomic risks including fluctuating prices of crude oil, natural gas, oil products and chemicals. 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.

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

Identification of spending/revenue that is aligned with your organization's climate transition

C4. Targets and performance

(C4.1) Did you have an emissions target that was active in the reporting year?

Absolute target

Intensity target

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

[Note: for reading convenience, in this question, we deleted all items that we did not respond to.]

Target reference number

Abs 1 - World Bank Zero Routine Flaring by 2030 initiative

Is this a science-based target?

No, but we are reporting another target that is science-based

Year target was set

2015

Target coverage

Company-wide

Scope(s)

Scope 1

Base year

2015

Base year Scope 1 emissions covered by target (metric tons CO2e)

7,400,000

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

7,400,000

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

10.28

Target year

2025

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

300,000

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

300,000

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

World Bank Zero Routine Flaring by 2030 initiative
(https://www.shell.com/inside-energy/zero-routine-flaring-by-2025.html)
As a signatory to the World Bank's Zero Routine Flaring by 2030 initiative, we continue to pursue our 2015 commitment to eliminate associated gas flaring at our facilities.

Plan for achieving target, and progress made to the end of the reporting year

(SR, p28/29) We are working to reduce flaring, which is inefficient and contributes to climate change. Routine flaring of gas occurs during normal oil production if it is not possible to use the gas or reinject it into the well.
Flaring of gas in our Upstream and Integrated Gas businesses contributed around 6% to our overall direct greenhouse gas emissions in 2022.
In 2022, 0.8 million tonnes of hydrocarbons were flared, which is down from 1.3 million tonnes in 2021. Also in 2022, routine hydrocarbon flaring was 0.1 million tonnes, a decrease from 0.2 million tonnes in 2021.

Target reference number

Abs 2 - Net-zero Scope 1 and Scope 2 emissions from our operations (manufacture of all products) by 2050

Is this a science-based target?

Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Target ambition

1.5°C aligned

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 1, Scope 2

Scope 2 accounting method

Market-based

Base year

2016

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

83,000,000

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

100

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year

2050

Targeted reduction from base year (%)

100

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

58,000,000

% of target achieved relative to base year [auto-calculated]

30.1204819277

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

Net-zero Scope 1 and Scope 2 emissions from our operations (manufacture of all products) by 2050

(AR, p95) 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.

Note: Currently (July 2023), SBTi does not provide a method for oil and gas companies to have targets assessed, and commitments are not accepted by SBTi.

Plan for achieving target, and progress made to the end of the reporting year

Note our disclaimer under C-FI: (extract) Shell's operating plan, outlook and budgets are forecasted for a ten-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 Net Carbon Intensity (NCI) targets over the next ten 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 be

significant risk that Shell may not meet this target.

(ETPR, p10) To decarbonise our operations, we are focusing on:
- making portfolio changes such as acquisitions 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; and
- developing carbon capture and storage (CCS) for our facilities.

(AR, p99) 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 105) and purchase of renewable electricity.
These decreases were partly offset by the commissioning of Shell Polymers Monaca.

Target reference number

Abs 3 - Net zero Scope 3 emissions from the energy products Shell sells

Is this a science-based target?

Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Target ambition

1.5°C aligned

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 3

Scope 3 category(ies)

Category 1: Purchased goods and services
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
Category 9: Downstream transportation and distribution
Category 11: Use of sold products

Base year

2016

Base year total Scope 3 emissions covered by target (metric tons CO2e)

1,545,000,000

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

1,545,000,000

Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

100

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year

2050

Targeted reduction from base year (%)

100

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

0

Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)

1,174,000,000

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

1,174,000,000

% of target achieved relative to base year [auto-calculated]

24.0129449838

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

Net zero Scope 3 emissions from the energy products Shell sells

(AR, p95) 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).

(AR, p97) Indirect GHG emissions (Scope 3) based on the energy product sales included in NCI using equity boundary.

(AR, p103) 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.

Note: Currently (July 2023), SBTi does not provide a method for oil and gas companies to have targets assessed, and commitments are not accepted by SBTi.

Plan for achieving target, and progress made to the end of the reporting year

Note our disclaimer under C-FI: (extract) Shell's operating plan, outlook and budgets are forecasted for a ten-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 Net Carbon Intensity (NCI) targets over the next ten 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 be significant risk that Shell may not meet this target.

(AR, p91) 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.
(AR, p99) 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.

Target reference number

Abs 4 - Net-zero Scope 1 and Scope 2 emissions from our operations (manufacture of all products) by 2030

Is this a science-based target?

Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Target ambition

1.5°C aligned

Year target was set

2021

Target coverage

Company-wide

Scope(s)

Scope 1, Scope 2

Scope 2 accounting method

Market-based

Base year

2016

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

83,000,000

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

100

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year

2030

Targeted reduction from base year (%)

50

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

41,500,000

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

58,000,000

% of target achieved relative to base year [auto-calculated]

60.2409638554

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

Net-zero Scope 1 and Scope 2 emissions from our operations (manufacture of all products) by 2030

(AR, p95) 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.

Note: Currently (July 2023), SBTi does not provide a method for oil and gas companies to have targets assessed, and commitments are not accepted by SBTi.

Plan for achieving target, and progress made to the end of the reporting year

(ETPR, p10)

To decarbonise our operations, we are focusing on:

- making portfolio changes such as acquisitions 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; and
- developing carbon capture and storage (CCS) for our facilities.

(AR, p99) Our direct GHG emissions (Scope 1) (consolidated using the operational control boundary) decreased from 60 million tonnes of carbon dioxide equivalent (CO_2e) in 2021 to 51 million tonnes CO_2e 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 105) and purchase of renewable electricity.

These decreases were partly offset by the commissioning of Shell Polymers Monaca.

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

[Note: for reading convenience, in this question, we deleted all items that we did not respond to.]

Target reference number

Int 1 - Net Carbon Intensity (NCI) target 2022

Is this a science-based target?

Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Target ambition

1.5°C aligned

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 1, Scope 2, Scope 3

Scope 2 accounting method

Market-based

Scope 3 category(ies)

Category 1: Purchased goods and services
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
Category 9: Downstream transportation and distribution
Category 11: Use of sold products

Intensity metric

Other, please specify: Grams of CO2e per megajoule

Base year

2016

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

79

% of total base year emissions in all selected Scopes covered by this intensity figure

100

Target year

2022

Targeted reduction from base year (%)

3

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

76.63

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

76

% of target achieved relative to base year [auto-calculated]

126.582278481

Target status in reporting year

Achieved

Please explain target coverage and identify any exclusions

Net Carbon Intensity (NCI) target 2022

(AR, p iii) Shell's "Net Carbon Intensity" referred to in Shell's Annual Report and Accounts 2022 includes 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.

(AR, p8) 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.

(SR, p24) Shell's net carbon intensity is the average intensity, weighted by sales volume, of the energy products sold by Shell. It is tracked, measured and reported using the Net Carbon Footprint methodology.

In 2022, Shell's net carbon intensity was 76 gCO2e/MJ, a 1.3% decrease from the previous year and a 3.8% reduction compared with 2016, the reference year.

Note: Currently (July 2023), SBTi does not provide a method for oil and gas companies to have targets assessed, and commitments are not accepted by SBTi.

List the emissions reduction initiatives which contributed most to achieving this target

(SR, p24) The decrease in our net carbon intensity in 2022 was primarily due to an increased proportion of renewable power and corresponding reduction in the carbon intensity of our power sales.

Target reference number

Int 2 - Net Carbon Intensity (NCI) target 2023

Is this a science-based target?

Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Target ambition

1.5°C aligned

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 1, Scope 2, Scope 3

Scope 2 accounting method

Market-based

Scope 3 category(ies)

Category 1: Purchased goods and services
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)

Category 9: Downstream transportation and distribution
Category 11: Use of sold products

Intensity metric

Other, please specify: Grams of CO2e per megajoule

Base year

2016

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

79

% of total base year emissions in all selected Scopes covered by this intensity figure

100

Target year

2023

Targeted reduction from base year (%)

6

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

74.26

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

76

% of target achieved relative to base year [auto-calculated]

63.2911392405

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

Net Carbon Intensity (NCI) target 2023

(AR, p iii) Shell's "Net Carbon Intensity" referred to in Shell's Annual Report and Accounts 2022 includes 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.

(AR, p8) 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.

(SR, p24) Shell's net carbon intensity is the average intensity, weighted by sales volume, of the energy products sold by Shell. It is tracked, measured and reported using the Net Carbon Footprint methodology.

Note: Currently (July 2023), SBTi does not provide a method for oil and gas companies to have targets assessed, and commitments are not accepted by SBTi.

Plan for achieving target, and progress made to the end of the reporting year

Plan

(AR, p101) 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.

Progress

(SR, p24) In 2022, Shell's net carbon intensity was 76 gCO2e/MJ, a 1.3% decrease from the previous year and a 3.8% reduction compared with 2016, the reference year.

The decrease in our net carbon intensity in 2022 was primarily due to an increased proportion of renewable power and corresponding reduction in the carbon intensity of our power sales.

Target reference number

Int 3 - Net Carbon Intensity (NCI) target 2024

Is this a science-based target?

Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Target ambition

1.5°C aligned

Year target was set

2022

Target coverage

Company-wide

Scope(s)

Scope 1, Scope 2, Scope 3

Scope 2 accounting method

Market-based

Scope 3 category(ies)

Category 1: Purchased goods and services
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
Category 9: Downstream transportation and distribution
Category 11: Use of sold products

Intensity metric

Other, please specify: Grams of CO2e per megajoule

Base year

2016

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

79

% of total base year emissions in all selected Scopes covered by this intensity figure

100

Target year

2024

Targeted reduction from base year (%)

9

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

71.89

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

76

% of target achieved relative to base year [auto-calculated]

42.194092827

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

Net Carbon Intensity (NCI) target 2024

(AR, p iii) Shell's "Net Carbon Intensity" referred to in Shell's Annual Report and Accounts 2022 includes 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.

(AR, p8) 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.

(SR, p24) Shell's net carbon intensity is the average intensity, weighted by sales volume, of the energy products sold by Shell. It is tracked, measured and reported using the Net Carbon Footprint methodology.
Note: Currently (July 2023), SBTi does not provide a method for oil and gas companies to have targets assessed, and commitments are not accepted by SBTi.

Plan for achieving target, and progress made to the end of the reporting year

Plan
(AR, p101) 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.

Progress
(SR, p24) In 2022, Shell's net carbon intensity was 76 gCO2e/MJ, a 1.3% decrease from the previous year and a 3.8% reduction compared with 2016, the reference year.
The decrease in our net carbon intensity in 2022 was primarily due to an increased proportion of renewable power and corresponding reduction in the carbon intensity of our power sales.

Target reference number

Int 4 - Net Carbon Intensity (NCI) target 2025

Is this a science-based target?

Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Target ambition

1.5°C aligned

Year target was set

2021

Target coverage

Company-wide

Scope(s)

Scope 1, Scope 2, Scope 3

Scope 2 accounting method

Market-based

Scope 3 category(ies)

Category 1: Purchased goods and services
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
Category 9: Downstream transportation and distribution
Category 11: Use of sold products

Intensity metric

Other, please specify: Grams of CO2e per megajoule

Base year

2016

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

79

% of total base year emissions in all selected Scopes covered by this intensity figure

100

Target year

2025

Targeted reduction from base year (%)

9

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

71.89

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

76

% of target achieved relative to base year [auto-calculated]

42.194092827

Target status in reporting year

New

Please explain target coverage and identify any exclusions

Net Carbon Intensity (NCI) target 2025

(AR, p iii) Shell's "Net Carbon Intensity" referred to in Shell's Annual Report and Accounts 2022 includes 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.

(AR, p8) 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.

(SR, p24) Shell's net carbon intensity is the average intensity, weighted by sales volume, of the energy products sold by Shell. It is tracked, measured and reported using the Net Carbon Footprint methodology.

Note: Currently (July 2023), SBTi does not provide a method for oil and gas companies to have targets assessed, and commitments are not accepted by SBTi.

Plan for achieving target, and progress made to the end of the reporting year

Plan

(AR, p101) 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.

Progress

(SR, p24) In 2022, Shell's net carbon intensity was 76 gCO2e/MJ, a 1.3% decrease from the previous year and a 3.8% reduction compared with 2016, the reference year.

The decrease in our net carbon intensity in 2022 was primarily due to an increased proportion of renewable power and corresponding reduction in the carbon intensity of our power sales.

Target reference number

Int 5 - Net Carbon Intensity (NCI) target 2030

Is this a science-based target?

Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Target ambition

1.5°C aligned

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 1, Scope 2, Scope 3

Scope 2 accounting method

Market-based

Scope 3 category(ies)

Category 1: Purchased goods and services
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
Category 9: Downstream transportation and distribution
Category 11: Use of sold products

Intensity metric

Other, please specify: Grams of CO2e per megajoule

Base year

2016

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

79

% of total base year emissions in all selected Scopes covered by this intensity figure

100

Target year

2030

Targeted reduction from base year (%)

20

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

63.2

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

76

% of target achieved relative to base year [auto-calculated]

18.9873417722

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

Net Carbon Intensity (NCI) target 2030

(AR, p iii) Shell's "Net Carbon Intensity" referred to in Shell's Annual Report and Accounts 2022 includes 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.

(AR, p8) 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.

(SR, p24) Shell's net carbon intensity is the average intensity, weighted by sales volume, of the energy products sold by Shell. It is tracked, measured and reported using the Net Carbon Footprint methodology.

Note: Currently (July 2023), SBTi does not provide a method for oil and gas companies to have targets assessed, and commitments are not accepted by SBTi.

Plan for achieving target, and progress made to the end of the reporting year

Plan

(AR, p101) 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.

Progress
(SR, p24) In 2022, Shell's net carbon intensity was 76 gCO2e/MJ, a 1.3% decrease from the previous year and a 3.8% reduction compared with 2016, the reference year.
The decrease in our net carbon intensity in 2022 was primarily due to an increased proportion of renewable power and corresponding reduction in the carbon intensity of our power sales.

Target reference number
Int 6 - Net Carbon Intensity (NCI) target 2035

Is this a science-based target?
Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Year target was set
2020

Target coverage
Company-wide

Scope(s)
Scope 1, Scope 2, Scope 3

Scope 2 accounting method

Market-based

Scope 3 category(ies)

Category 1: Purchased goods and services
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
Category 9: Downstream transportation and distribution
Category 11: Use of sold products

Intensity metric

Other, please specify: Grams of CO2e per megajoule

Base year

2016

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

79

% of total base year emissions in all selected Scopes covered by this intensity figure

100

Target year

2035

Targeted reduction from base year (%)

45

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

43.45

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

76

% of target achieved relative to base year [auto-calculated]

8.4388185654

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

Net Carbon Intensity (NCI) target 2035

(AR, p iii) Shell's "Net Carbon Intensity" referred to in Shell's Annual Report and Accounts 2022 includes 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.

(AR, p8) 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.

(SR, p24) Shell's net carbon intensity is the average intensity, weighted by sales volume, of the energy products sold by Shell. It is tracked, measured and reported using the Net Carbon Footprint methodology.

Note: Currently (July 2023), SBTi does not provide a method for oil and gas companies to have targets assessed, and commitments are not accepted by SBTi.

Plan for achieving target, and progress made to the end of the reporting year

Note our disclaimer under C-FI: (extract) Shell's operating plan, outlook and budgets are forecasted for a ten-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 Net Carbon Intensity (NCI) targets over the next ten 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 be significant risk that Shell may not meet this target.

Plan

(AR, p8) 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).

Progress

(SR, p24) In 2022, Shell's net carbon intensity was 76 gCO2e/MJ, a 1.3% decrease from the previous year and a 3.8% reduction compared with 2016, the reference year.
The decrease in our net carbon intensity in 2022 was primarily due to an increased proportion of renewable power and corresponding reduction in the carbon intensity of our power sales.

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Target(s) to reduce methane emissions
Net-zero target(s)
Other climate-related target(s)

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number

Oth 1 - Methane Intensity

Year target was set

2018

Target coverage

Company-wide

Target type: absolute or intensity

Intensity

Target type: category & Metric (target numerator if reporting an intensity target)

Methane reduction target
Total methane emissions in m3

Target denominator (intensity targets only)

Other, please specify: Gas available for sale in m^3

Base year

2018

Figure or percentage in base year

0.08

Target year

2025

Figure or percentage in target year

0.2

Figure or percentage in reporting year

0.05

% of target achieved relative to base year [auto-calculated]

-25

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

(SR, p27) Shell's methane emissions intensity target covers all oil and gas assets (including liquefied natural gas) for which Shell is the operator.

Plan for achieving target, and progress made to the end of the reporting year

Methane Intensity

(SR, p27/28) In 2022, we met our target to keep methane emissions intensity below 0.2%. Our methane emissions intensity averaged 0.05% for assets with marketed gas and 0.01% for assets without marketed gas. It ranged from below 0.01% to 0.7% in 2022, compared with below 0.01% to 1.5% in 2021.

In 2022, Shell’s total methane emissions were 40 thousand tonnes compared with 55 thousand tonnes in 2021. The decrease was, in part, due to a shutdown of the Trans Niger Pipeline, the handover of operations in OML 11 and reduced flaring at SNEPCo (all in Nigeria), as well as the divestment of our Permian assets in the USA. Methane emissions were less than 2% of Shell’s greenhouse gas emissions on a CO2e-basis in 2022. Around 65% of our reported methane emissions in 2022 came from flaring and venting in our upstream and midstream operations.

Over the last few years, we have implemented more accurate methods for calculating fugitive emissions. We also encourage industry-wide action on methane emissions reduction by participating in voluntary initiatives.

For example, we co-developed the voluntary UN-led Oil & Gas Methane Partnership (OGMP) 2.0 reporting framework and continue to implement

enhanced methane emissions measurement and reporting. Under OGMP 2.0, Shell achieved Gold Standard status for two consecutive reporting years.

We participate in other multi-stakeholder groups, such as the Methane Guiding Principles (MGP) coalition, which we initiated in 2017, the Oil and Gas Climate Initiative (OGCI) and the World Bank's Zero Routine Flaring by 2030 initiative. In 2022, members of MGP, including Shell, developed an oil and gas sector toolkit, which connects policymakers and regulators with resources and institutions to support methane policy and regulation development in countries that joined the Global Methane Pledge. In 2022, OGCI launched the Aiming for Zero Methane Emissions by 2030 initiative, which Shell joined.

We continue to reduce methane emission sources across Shell-operated assets. For instance, we have reduced reported methane emissions at our QGC natural gas project in Australia by using multiple approaches to detect and prevent emissions, including reduced flaring and venting, as well as implementing more accurate methods for calculating fugitive emissions.

(C4.2c) Provide details of your net-zero target(s).

Target reference number

NZ1 - Scope 1 and 2 of our operations (manufacture of all products) by 2050

Target coverage

Company-wide

Absolute/intensity emission target(s) linked to this net-zero target

Abs2 - Net-zero Scope 1 and Scope 2 emissions from our operations (manufacture of all products) by 2050

Target year for achieving net zero

2050

Is this a science-based target?

Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Please explain target coverage and identify any exclusions

NZ1 - Scope 1 and 2 of our operations (manufacture of all products) by 2050

(AR, p8) 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).

Note: Currently (July 2023), SBTi does not provide a method for oil and gas companies to have targets assessed, and commitments are not accepted by SBTi.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?

Yes

Planned milestones and/or near-term investments for neutralization at target year

Note our disclaimer under C-FI: (extract) Shell's operating plan, outlook and budgets are forecasted for a ten-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 Net Carbon Intensity (NCI) targets over the next ten 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 be significant risk that Shell may not meet this target.

(AR, p95) 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.

Planned actions to mitigate emissions beyond your value chain (optional)

--

Target reference number

NZ2 - Scope 3 emissions by 2050

Target coverage

Company-wide

Absolute/intensity emission target(s) linked to this net-zero target

Abs3 - Net-zero Scope 3 emissions from the energy products we sell

Target year for achieving net zero

2050

Is this a science-based target?

Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Please explain target coverage and identify any exclusions

NZ2 - Scope 3 emissions by 2050

(AR, p8) We have a long-term target to become a net-zero emissions energy business by 2050. The target covers emissions from our customers' use of the energy products we sell (Scope 3).

Note: Currently (July 2023), SBTi does not provide a method for oil and gas companies to have targets assessed, and commitments are not accepted by SBTi.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?

Yes

Planned milestones and/or near-term investments for neutralization at target year

Note our disclaimer under C-FI: (extract) Shell's operating plan, outlook and budgets are forecasted for a ten-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 Net Carbon Intensity (NCI) targets over the next ten 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 be significant risk that Shell may not meet this target.

(AR, p91) 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.

(AR, p99) 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.

Planned actions to mitigate emissions beyond your value chain (optional)

--

Target reference number

NZ3 - Net Carbon intensity (NCI) of our energy products

Target coverage

Company-wide

Absolute/intensity emission target(s) linked to this net-zero target

Abs2 - Net-zero Scope 1 and Scope 2 emissions from our operations (manufacture of all products) by 2050
Abs3 - Net-zero Scope 3 emissions from the energy products we sell

Target year for achieving net zero

2050

Is this a science-based target?

Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative in the next two years

Please explain target coverage and identify any exclusions

NZ3 - Net Carbon intensity (NCI) of our energy products
(AR, p8) 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).
Note: Currently (July 2023), SBTi does not provide a method for oil and gas companies to have targets assessed, and commitments are not accepted by SBTi.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?

Yes

Planned milestones and/or near-term investments for neutralization at target year

Note our disclaimer under C-FI: (extract) Shell's operating plan, outlook and budgets are forecasted for a ten-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 Net Carbon Intensity (NCI) targets over the next ten 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 be significant risk that Shell may not meet this target.

(AR, p86) 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
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.

Planned actions to mitigate emissions beyond your value chain (optional)

--

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	137	80,458.33
To be implemented*	103	31,018.18
Implementation commenced*	97	69,948.08

Implemented*	153	1,931,365.56
Not to be implemented	305	31,734.98

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Other, please specify

Other, please specify: Upstream projects / decommissioning; aggregation of projects

Estimated annual CO2e savings (metric tonnes CO2e)

182,900

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

Investment required (unit currency – as specified in C0.4)

Payback period

>25 years

Estimated lifetime of the initiative

21-30 years

Comment

Upstream projects / decommissioning; aggregation of projects

Initiative category & Initiative type

Low-carbon energy generation

Other, please specify: Upstream project that purchases renewable energy credits

Estimated annual CO2e savings (metric tonnes CO2e)

3,757

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

Investment required (unit currency – as specified in C0.4)

3,538

Payback period

No payback

Estimated lifetime of the initiative

21-30 years

Comment

Upstream project that purchases renewable energy credits

Initiative category & Initiative type

Other, please specify

Other, please specify: Gulf of Mexico projects / reducing flaring emissions; aggregation of projects

Estimated annual CO2e savings (metric tonnes CO2e)

3,525

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

3,123

Investment required (unit currency – as specified in C0.4)

1,114

Payback period

<1 year

Estimated lifetime of the initiative

>30 years

Comment

Gulf of Mexico projects / reducing flaring emissions; aggregation of projects

---

Initiative category & Initiative type

Energy efficiency in production processes

Other, please specify: Gulf of Mexico upstream projects / decommissioning; aggregation of projects

Estimated annual CO2e savings (metric tonnes CO2e)

74,000

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

126

Investment required (unit currency – as specified in C0.4)

172

Payback period

1-3 years

Estimated lifetime of the initiative

>30 years

Comment

Gulf of Mexico upstream projects / decommissioning; aggregation of projects

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Initiative category & Initiative type

Other, please specify

Other, please specify: Upstream projects / increasing energy efficiency and reducing flaring; aggregation of projects

Estimated annual CO2e savings (metric tonnes CO2e)

279,927

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

7,668

Investment required (unit currency – as specified in C0.4)

9,012

Payback period

1-3 years

Estimated lifetime of the initiative

>30 years

Comment

Upstream projects / increasing energy efficiency and reducing flaring; aggregation of projects

---

Initiative category & Initiative type

Other, please specify

Other, please specify

Downstream Scope 2 reduction / including purchase of renewable energy credits and solar power installations; aggregation of opportunities

Estimated annual CO2e savings (metric tonnes CO2e)

75,786

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

Investment required (unit currency – as specified in C0.4)

Payback period

No payback

Estimated lifetime of the initiative

<1 year

Comment

Downstream Scope 2 reduction / including purchase of renewable energy credits and solar power installations; aggregation of opportunities

---

Initiative category & Initiative type

Other, please specify

Other, please specify: Downstream projects / decommissioning; aggregation of projects

Estimated annual CO2e savings (metric tonnes CO2e)

870,967

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

Investment required (unit currency – as specified in C0.4)

1,319

Payback period

No payback

Estimated lifetime of the initiative

>30 years

Comment

Downstream projects / decommissioning; aggregation of projects

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Initiative category & Initiative type

Energy efficiency in production processes

Other, please specify: Downstream projects / emissions reduction through energy efficiency in production operations; aggregation of projects

Estimated annual CO2e savings (metric tonnes CO2e)

80,858

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

19

Investment required (unit currency – as specified in C0.4)

16

Payback period

16-20 years

Estimated lifetime of the initiative

>30 years

Comment

Downstream projects / emissions reduction through energy efficiency in production operations; aggregation of projects

Initiative category & Initiative type

Fugitive emissions reductions

Oil/natural gas methane leak capture/prevention

Estimated annual CO2e savings (metric tonnes CO2e)

17,309

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

Investment required (unit currency – as specified in C0.4)

1

Payback period

No payback

Estimated lifetime of the initiative

>30 years

Comment

Integrated Gas projects / emission reduction associated with methane; aggregation of projects

Initiative category & Initiative type

Other, please specify

Other, please specify: Integrated Gas projects / emissions reduction associated with flaring; aggregation of projects

Estimated annual CO2e savings (metric tonnes CO2e)

81,197

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

Investment required (unit currency – as specified in C0.4)

11

Payback period

No payback

Estimated lifetime of the initiative

>30 years

Comment

Integrated Gas projects / emissions reduction associated with flaring; aggregation of projects

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Initiative category & Initiative type

Energy efficiency in production processes

Other, please specify: Integrated Gas projects / increasing energy efficiency through production operations; aggregation of projects

Estimated annual CO2e savings (metric tonnes CO2e)

188,297

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

55

Investment required (unit currency – as specified in C0.4)

8

Payback period

No payback

Estimated lifetime of the initiative

>30 years

Comment

Integrated Gas projects / increasing energy efficiency through production operations; aggregation of projects

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	(AR, p261) 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.
Internal price on carbon	(AR, p82) 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 [of our Annual Report and Accounts 2022] 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.
Internal incentives/recognition programs	(AR, p80) 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.
Partnering with governments on technology development	(ETPR, p27) We aim to be at the forefront of the drive for greater transparency around climate and energy-transition-related policy engagement. We set out our approach, policy and advocacy positions, and information about our industry association memberships, on our website. In March 2023, we published our first Climate and Energy Transition Lobbying Report. This report reviews our lobbying in 2022 and our memberships of industry associations. We continue to work to ensure our memberships of industry associations support our climate and energy transition policy positions. (ETPR, p21) Example: Carbon capture and storage (CCS) Shell continues to work with governments, customers and partners to unlock the potential for CCS to reduce emissions where there are currently few viable low-carbon alternatives. 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 invested 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. In Norway, our Northern Lights CCS joint venture (Shell interest 33%) signed a letter of intent on cross-border CO2 transport and storage in August. Under this agreement, some 800,000 tonnes of CO2 will be captured, compressed and liquefied at a Yara ammonia and fertiliser plant in

	the Netherlands from early 2025. The CO2 will then be transported to Norway for permanent storage 2,600 metres below the seabed in the North Sea. In November 2022, construction started on the first two ships that will be used to transport CO2 to the Northern Lights facilities. We are making progress in other CCS projects in our portfolio. In Canada, for example, the Alberta government selected the Atlas Sequestration Hub (with Shell as 50% partner) to move to the next stage for further evaluation in April 2022.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation

Group of products or services

Taxonomy used to classify product(s) or service(s) as low-carbon

The EU Taxonomy for environmentally sustainable economic activities

Type of product(s) or service(s)

Other

Other, please specify

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. E.g. E-Mobility, low-carbon fuels; renewable power generation; hydrogen; CCUS.

Description of product(s) or service(s)

(AR, p88) Products and services:

Products in business lines E-Mobility and Electric Vehicle Charging Services; Low-carbon Fuels; Renewable Power Generation; Environmental Solutions; Hydrogen; and Carbon Capture, Utilisation and Storage. 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.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

Methodology used to calculate avoided emissions

Other, please specify

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Functional unit used

Reference product/service or baseline scenario used

Life cycle stage(s) covered for the reference product/service or baseline scenario

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

Explain your calculation of avoided emissions, including any assumptions

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

(C-OG4.6) Describe your organization's efforts to reduce methane emissions from your activities.

(SR, p27/28) Shell's methane emissions intensity target covers all oil and gas assets (including liquefied natural gas) for which Shell is the operator.
In 2022, we met our target to keep methane emissions intensity below 0.2%. Our methane emissions intensity averaged 0.05% for assets with marketed gas and 0.01% for assets without marketed gas. It ranged from below 0.01% to 0.7% in 2022, compared with below 0.01% to 1.5% in 2021.
In 2022, Shell's total methane emissions were 40 thousand tonnes compared with 55 thousand tonnes in 2021. The decrease was, in part, due to a shutdown of the Trans Niger Pipeline, the handover of operations in OML 11 and reduced flaring at SNEPCo (all in Nigeria), as well as the divestment of our Permian

assets in the USA. Methane emissions were less than 2% of Shell's greenhouse gas emissions on a CO2 equivalent basis in 2022. Around 65% of our reported methane emissions in 2022 came from flaring and venting in our upstream and midstream operations. Over the last few years, we have implemented more accurate methods for calculating fugitive emissions. We also encourage industry-wide action on methane emissions reduction by participating in voluntary initiatives.

For example, we co-developed the voluntary UN-led Oil & Gas Methane Partnership (OGMP) 2.0 reporting framework and continue to implement enhanced methane emissions measurement and reporting. Under OGMP 2.0, Shell achieved Gold Standard status for two consecutive years.

We participate in other multi-stakeholder groups, such as the Methane Guiding Principles (MGP) coalition, which we initiated in 2017, the Oil and Gas Climate Initiative (OGCI) and the World Bank's Zero Routine Flaring by 2030 initiative. In 2022, members of MGP, including Shell, developed an oil and gas sector toolkit, which connects policymakers and regulators with resources and institutions to support methane policy and regulation development in countries that joined the Global Methane Pledge. In 2022, OGCI launched the Aiming for Zero Methane Emissions by 2030 initiative, which Shell joined.

We continue to reduce methane emission sources across Shell-operated assets. For instance, we have reduced reported methane emissions at our QGC natural gas project in Australia by using multiple approaches to detect and prevent emissions, including reduced flaring and venting, as well as implementing more accurate methods for calculating fugitive emissions.

We also work with our joint ventures to help them develop emission monitoring programmes. For example, in 2022, we held sessions with several joint-venture partners to discuss the importance of methane emissions management and the benefits of the OGMP 2.0 reporting framework.

(C-OG4.7) Does your organization conduct leak detection and repair (LDAR) or use other methods to find and fix fugitive methane emissions from oil and gas production activities?

Yes

(C-OG4.7a) Describe the protocol through which methane leak detection and repair or other leak detection methods, are conducted for oil and gas production activities, including predominant frequency of inspections, estimates of assets covered, and methodologies employed.

Efforts to address climate change require the industry to reduce both deliberate and unintended methane emissions from production to the final consumer. It is important that the gas industry continues to monitor and reduce methane emissions. This includes wider implementation of robust leak detection and repair programmes.

Shell has a well-established recommended practice for LDAR to support our assets in improving the identification, quantification and repair of methane emissions from leaks and abnormally operating equipment. This recommended practice reflects evolving approaches, emerging technologies, Shell's methane commitments, and desire to help LDAR practitioners within our assets find the tools and gain the knowledge they need to successfully reduce methane leaks with their methane improvement programmes. We use LDAR programmes across Shell, with varying levels of complexity. We also have risk-based fit-for-purpose leak detection programmes in place in our refineries and chemical plants. LDAR programme improvements continue to be featured in business and asset-specific greenhouse gas improvement programs to help achieve our methane, and broader greenhouse gas, aspirations and commitments. As part of

Shell's commitment to the Oil and Gas Methane Partnership 2.0 reporting framework, we are continuing to focus on enhancing the accuracy of leak emissions reporting and are building programs that consider direct leak measurement and quantification, according to program requirements.

Shell action
Before methane leaks can be stopped, the sources must first be identified. To do this, we use a broad range of methods and technologies. These include implementing leak detection and repair programmes and using the best available technologies to reduce methane emissions at our sites.
In addition to asset LDAR programmes, Shell has been partnering with GHGSat, a pioneer in methane detection, to determine potential methane emissions from various assets across the globe. The programme began in 2022 and covers all onshore Shell-operated and non-operated assets. These are just one example in a range of remote-sensing, satellite and direct-measurement technologies building upon and strengthening existing methane emissions measurement programmes across Shell. Shell is also supporting the International Methane Emissions Observatory (IMEO) in its development and rollout of the Methane Alert and Response System (MARS) by providing input on satellite programs response planning. MARS is an initiative aimed at scaling up global efforts to detect and act on major emission sources in a transparent manner and accelerate implementation of the Global Methane Pledge (GMP).

Fugitive methane emissions contributed ~14% to our total methane emissions in 2022 (5.5kt in 2022, compared to 7kt in 2021) (all businesses).

(C-OG4.8) If flaring is relevant to your oil and gas production activities, describe your organization's efforts to reduce flaring, including any flaring reduction targets.

Flaring is relevant to our oil and gas production activities.
(SR, p28-29)
Introduction
We are working to reduce flaring, which is inefficient and contributes to climate change. Routine flaring of gas occurs during normal oil production if it is not possible to use the gas or reinject it into the well. In 2021, we brought forward our target to eliminate routine flaring from our Upstream operations to 2025 from 2030. This accelerates our commitment of 2015 to end routine flaring as a signatory to the World Bank's Zero Routine Flaring by 2030 initiative.

Performance
Flaring of gas in our Upstream and Integrated Gas businesses contributed around 6% to our overall direct greenhouse gas emissions in 2022. In 2022, around 10% of greenhouse gas emissions from flaring occurred at facilities where there was no infrastructure to capture the gas, down from around 17% in 2021. Overall flaring decreased to 3.0 million tonnes of carbon dioxide equivalent (CO_2e) in 2022 from 4.5 million tonnes of CO_2e in 2021.

Efforts to reduce flaring - Shell action

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 Limited (SNEPCo). There were reductions in flaring from SPDC-operated facilities of around 45% in 2022 compared with 2021. This was due, in part, to a shutdown of the Trans Niger Pipeline and the handover of operations in OML 11. In addition, flaring at SNEPCo-operated facilities decreased by around 60% in 2022 compared with 2021. This reduction was because a large amount of gas was flared in 2021 at the Bonga offshore production facility, as the facility continued to produce oil while repairs were being made on the gas export line. Read more about our flaring reduction commitment at www.shell.com/inside-energy/zero-routine-flaring-by-2025.

C5. Emissions methodology

(C5.1) Is this your first year of reporting emissions data to CDP?

No

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Has there been a structural change?

Yes, an acquisition

Yes, a divestment

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

(AR/shell.com) Several divestments were completed in 2022.

The list below includes assets and operations that were under our operational control prior to their divestments:

-Divestment of Deer Park Refinery (USA)

-Divestment of Mobile refinery (USA)

-Divestment of Shell Philippines Exploration (Philippines)

-Handover of operations in oil mining lease (OML) 11 (Nigeria) and Tunisia Miskar concession

There were several acquisitions in 2022.

Examples include Sprng Energy and Powershop Australia.

Details of structural change(s), including completion dates

The list above includes assets which were divested or acquired in full in 2022 and does not include assets where Shell equity percent partially changed during the year. Base year numbers reported in C5.2 are calculated using the operational control boundary (i.e., 100% of the emissions from assets and activities under our operational control); therefore, partial equity changes or acquisitions or divestments of non-operated assets are not included.

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Yes, a change in methodology	We review and update grid factors for imported electricity on an annual basis to ensure that we use the most recent factors for Scope 2 emissions calculations.

(C5.1c) Have your organization's base year emissions and past years' emissions been recalculated as a result of any changes or errors reported in C5.1a and/or C5.1b?

Base year recalculation	Scope(s) recalculated	Base year emissions recalculation policy, including significance threshold	Past years' recalculation
Yes	Scope 1 Scope 2, market-based	Shell uses the prior year's emissions as the base year for Scope 1 and Scope 2 for comparison purposes. In line with our reporting requirements, the base year is recalculated in the following cases: - Structural changes in operations (such as acquisition or divestment) involving the transfer of ownership or control of emissions-generating activities or operations from one company to another. - Changes in calculation methodology or improvements in the accuracy of emission factors or activity data. - Discovery of significant errors in reported emissions. For all of the above cases, the base year is recalculated if the magnitude of change is >10% of total emissions. Only major installations are included in the scope of the base year review. Major installations are defined as crude oil and natural gas terminals, gas plants, manned offshore production platforms, manned onshore production stations or flow stations, floating production and storage vessels, refineries, chemicals manufacturing facilities, mines or upgraders. For Scope 2 base year recalculation, we use the market-based method.	No

(C5.2) Provide your base year and base year emissions.

Scope 1

Base year start

January 1, 2021

Base year end

December 31, 2021

Base year emissions (metric tons CO2e)

54,000,000

Comment

For the calendar year 2022, our base year was 2021.
Our 2021 base year Scope 1 GHG emissions changed by more than 10% in 2022; therefore, the base year has been recalculated from 60 million tonnes to 54 million tonnes on a CO2e basis.

Scope 2 (location-based)

Base year start

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Base year end

--

Base year emissions (metric tons CO2e)

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Comment

We use the market-based method for the base year; therefore, we have not recalculated our base year using the location-based method.

Scope 2 (market-based)

Base year start

January 1, 2021

Base year end

December 31, 2021

Base year emissions (metric tons CO2e)

8,000,000

Comment

For the calendar year 2022, our base year was 2021.
Our 2021 base year Scope 2 GHG emissions (using the market-based method) did not change by more than 10% in 2022; therefore, the base year has not been recalculated.

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

American Petroleum Institute Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry, 2009
Australia - National Greenhouse and Energy Reporting Act
Canadian Association of Petroleum Producers, Calculating Greenhouse Gas Emissions, 2003
Defra Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance, 2019
European Union Emission Trading System (EU ETS): The Monitoring and Reporting Regulation (MMR) – General guidance for installations
ISO 14064-1
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
The Greenhouse Gas Protocol: Scope 2 Guidance
The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard
US EPA Mandatory Greenhouse Gas Reporting Rule
US EPA Emissions & Generation Resource Integrated Database (eGRID)
Other, please specify: Shell's internal Performance Monitoring and Reporting Specification, which sets out the scope of what is to be reported. This is part of our HSSE & SP (Health, Safety, Security, Environment & Social Performance) Control Framework.

C6. Emissions data

(C6.1) What were your organization’s gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

51,000,000

Comment

Emissions have been rounded to the nearest million tonnes CO_2 equivalents.

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

We track and report our Scope 2 emissions using both location-based and market-based methods.

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based

8,000,000

Scope 2, market-based (if applicable)

7,000,000

Comment

Emissions have been rounded to the nearest million tonnes CO_2 equivalents.

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

(C6.4a) Provide details of the sources of Scope 1, Scope 2, or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source of excluded emissions

Some non-material sources

Scope(s) or Scope 3 category(ies)

Scope 1

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Estimated percentage of total Scope 1+2 emissions this excluded source represents

1

Explain why this source is excluded

The following immaterial sources have been identified, for which data was not collected or where simplified methods were used. Collectively, these sources are estimated to be de minimis (< 1%):

- Fugitive emissions from domestic-sized appliances (e.g., refrigerators) were not included. A materiality assessment for our industrial air conditioning units has shown the industrial sources to be non-material, and, therefore, fugitive emissions from domestic-sized appliances are also expected to be non-material.
- GHG emissions from some maintenance activities like welding were not included for all operations;
- GHG emissions from some short-term seismic campaigns or drilling activities were not included for all operations;
- Fugitive emissions of CO_2 from fire extinguishers were not included for all operations;
- Releases of HFCs were converted to CO_2 equivalents using a single Global Warming Potential (GWP);

Where it is impractical to collect individually insignificant emissions, we used simplified methods for estimating the emissions:

- Emissions for some offices were modelled by multiplying the number of employees and contractors assigned to these offices by an emission factor, which was derived from actual data;
- Emissions for some vehicles were estimated by converting kilometres driven to fuel usage, which in turn was used to calculate emissions.

Explain how you estimated the percentage of emissions this excluded source represents

We estimated these emissions to be below 1%. The estimate is based on the materiality assessment from these or similar sources where they have been reported.

Source of excluded emissions

Country Grid Factors

Scope(s) or Scope 3 category(ies)

Scope 2 (location-based)
Scope 2 (market-based)

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source

Emissions are not relevant

Estimated percentage of total Scope 1+2 emissions this excluded source represents

1

Explain why this source is excluded

Some country electricity grid factors are only available in CO_2 and not CO_2 equivalents. Where both are available, the difference between them is immaterial (about 1%).

Explain how you estimated the percentage of emissions this excluded source represents

We estimated the contribution of these emissions to be below 1%. This assessment is based on the contribution of CH4 and N2O to CO_2e where the breakdown by constituent GHG is known.

(C6.5) Account for your organization’s gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

144,000,000

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This value shows estimated well-to-tank emissions from purchased third-party refined oil products, natural gas, LNG, crude oil and biofuels emissions included in our Net Carbon Intensity. It does not include emissions from other purchased goods and services, which are estimated separately. We have also estimated the emissions from other purchased goods and services; however, because these emissions were estimated using the operational control boundary, we have not included them in this table (see: www.shell.com/ghg).

Capital goods

Evaluation status

Relevant, not yet calculated

Please explain

We estimated our Scope 3 emissions from capital goods in 2022 to be around 16,000,000 tonnes based on the operational control boundary. These emissions are published on our website: www.shell.com/ghg. We have not yet been able to estimate category 2 emissions for the equity boundary, but we expect them to be comparable.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

117,000,000

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This value shows:
i) estimated well-to-wire emissions from generation of purchased third-party power included in our Net Carbon Intensity (115 million tonnes), and
ii) well-to-tank emissions from purchased electricity, steam and heat consumed by our assets and the transmission and distribution losses (2 million tonnes). Emissions were estimated using the market-based method.

Upstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Please explain

Some emissions from transportation and distribution are already captured under Scope 1 (e.g., emissions from contractor transport operating under contract modes 1 or 2). Emissions included in Scope 3 category 1 above for purchased third party products already include emissions from transportation - we have not estimated them separately.
For information, we separately estimated Scope 3 emissions from upstream transportation and distribution under operational control. These emissions are published on our website: www.shell.com/ghg.

Waste generated in operations

Evaluation status

Not relevant, explanation provided

Please explain

We estimated our Scope 3 emissions from waste generated in operations in 2022 to be around 400,000 tonnes based on the operational control boundary. These emissions are published on our website: www.shell.com/ghg. We have not yet been able to estimate Scope 3 category 5 emissions for the equity boundary, but we expect them to be comparable.

Business travel

Evaluation status

Not relevant, explanation provided

Please explain

We estimated our Scope 3 emissions from business travel in 2022 to be around 144,000 tonnes based on the operational control boundary. These emissions are published on our website: www.shell.com/ghg. We have not yet been able to estimate Scope 3 category 6 emissions for the equity boundary, but we expect them to be comparable.

Employee commuting

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO2e)

200,000

Emissions calculation methodology

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Estimated maximum emissions from commuting by Shell employees in subsidiaries, joint operations, seconded to non-Shell operated joint operations, joint ventures and associates, assuming each employee travelled 50 km/day every working day in a passenger vehicle with unknown engine size. The estimate has not been adjusted for emissions associated with staff working from home. We expect that the inclusion of emissions associated with telecommuting would result in lower figures. For example, if staff worked from home 25% of the time, the estimated emissions would reduce by ~15-20% based on the above assumptions.

Upstream leased assets

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

3,400,000

Emissions calculation methodology

Asset-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

Emissions from voyage- and time-chartered vessels contracted by Shell Trading and Shipping Company (STASCo) with the contract duration of less than 12 months where the actual data was available. In line with the International Finance Reporting Standard (IFRS) 16 Leases (adopted by Shell with effect from 1 January 2019), GHG emissions from relevant lease contracts with the duration of more than 12 months have been included in our 2022 Scope 1 and 2 equity inventory.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

6,000,000

Emissions calculation methodology

Average data method
Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Estimated emissions from downstream transportation and distribution of oil products, LNG, GTL, natural gas, chemicals and lubricants not included in other Scope 3 categories.

Processing of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

3,000,000

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category includes estimated emissions from third-party processing of sold crude oil (estimated as a difference between crude oil produced by our Upstream and Integrated Gas assets and crude oil intake by our refineries). It does not include emissions from processing of sold intermediate petrochemical products. The Guidance for Measuring and Reporting Corporate Value Chain GHG Emissions in the Chemical Sector (published by WBCSD Chemicals) states that it is difficult to obtain reliable figures for this category for sold intermediate products due to diverse application and customer structure. We believe these emissions to be immaterial in comparison to emissions reported under Scope 3 category 11.

Use of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

910,350,000

Emissions calculation methodology

Asset-specific method

Methodology for direct use phase emissions, please specify: direct use-phase emissions from fuels

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category includes estimated emissions from sales volumes of oil products, natural gas, LNG, GTL and biofuels. The activity data was taken from Shell's Annual Report and Accounts 2022 or internal financial reporting systems, while the emission factors were taken from the 2009 API Compendium. This category also includes metered amounts of CO_2 captured and transferred to a 3rd party (e.g., sold or given for free) as product or feedstock.

End of life treatment of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

17,000,000

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category includes estimated emissions from end-life treatment of chemical and lubricant products sold. This category also includes estimated emissions from lubricants lost in use.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

We have not identified any Downstream leased assets in 2022.

Franchises

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

1,700,000

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This number includes the indirect emissions from the operation of Shell branded sites excluding those that are company-owned and -operated or company-owned and dealer-operated. The average electricity data were collected from survey data in several countries. The average CO_2/CO_2e electricity grid factors were used based on the number of sites in each country.

Investments

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

1,100,000

Emissions calculation methodology

Investment-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

5

Please explain

The data are collected via our investments in major facilities and reflects these facilities' Scope 1 and 2 GHG emissions. These investments in equity instruments are reported under the fair valuation accounting method and, therefore, are not included in our equity Scope 1 and Scope 2 GHG emissions. The numbers are either reported to us by the facilities or estimated.

Other (upstream)

Evaluation status

Not relevant, explanation provided.

Please explain

Not applicable

Other (downstream)

Evaluation status

Not relevant, explanation provided.

Please explain

Not applicable

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

Yes

(C6.7a) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.

CO2 emissions from biogenic carbon (metric tons CO2)	Comment
7,940	This number reflects direct biogenic CO_2 emissions.

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure
0.00024

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
90,000,000

Metric denominator
unit total revenue

Metric denominator: Unit total
381,314,000,000

Scope 2 figure used
Market-based

% change from previous year
42

Direction of change
Decreased

Reason(s) for change
Change in revenue

Please explain
GHG intensity decreased in 2022 mainly due to higher revenue (up 46% compared to 2021).
Shell does not report emissions intensity in relation to financial performance.

(C-OG6.12) Provide the intensity figures for Scope 1 emissions (metric tons CO2e) per unit of hydrocarbon category.

Unit of hydrocarbon category (denominator)
Other, please specify: tonnes hydrocarbon production available for sale

Metric tons CO2e from hydrocarbon category per unit specified

0.18

% change from previous year

4

Direction of change

Increased

Reason for change

The Upstream and Integrated Gas GHG intensity – measured in tonnes of CO_2 equivalent per tonne of hydrocarbon production available for sale – increased from 0.172 in 2021 to 0.179 in 2022. This was in part due to the inclusion of Prelude Floating Liquified Natural Gas (FLNG) in our 2022 intensity. The 2021 figure did not include Prelude FLNG.

Comment

GHG emissions used to calculate Upstream and Integrated Gas GHG intensity comprise Scope 1 and 2 emissions.
We do not calculate intensity for Scope 1 GHG emissions separately.

Unit of hydrocarbon category (denominator)

Other, please specify: Solomon's UEDC™

Metric tons CO2e from hydrocarbon category per unit specified

0.98

% change from previous year

7

Direction of change

Decreased

Reason for change

The Refining GHG intensity – measured in tonnes of CO_2 equivalent per Solomon’s Utilised Equivalent Distillation Capacity (UEDC™) – decreased from 1.05 in 2021 to 0.98 in 2022. The decrease was partly due to higher production and steady operations at Scotford Upgrader in Canada in 2022.

Comment

GHG emissions used to calculate refining GHG intensity comprise Scope 1 and Scope 2 emissions. We do not calculate intensity for Scope 1 GHG emissions separately.

Unit of hydrocarbon category (denominator)

Other, please specify: Tonne of high value chemicals

Metric tons CO2e from hydrocarbon category per unit specified

1

% change from previous year

5

Direction of change

Increased

Reason for change

The Chemicals GHG intensity – measured in tonnes of CO_2 equivalent per tonne of high value chemicals – increased from 0.95 in 2021 to 1.00 in 2022. This was mainly driven by lower production due to adverse market environment and lower demand from customers.

Comment

GHG emissions used to calculate chemicals GHG intensity comprise Scope 1 and Scope 2 emissions. We do not calculate intensity for Scope 1 GHG emissions separately.

(C-OG6.13) Report your methane emissions as percentages of natural gas and hydrocarbon production or throughput.

Oil and gas business division

Upstream, Midstream

Estimated total methane emitted expressed as % of natural gas production or throughput at given division

0.05

Estimated total methane emitted expressed as % of total hydrocarbon production or throughput at given division

0.03

Details of methodology

The methane emissions intensity (0.05%) represents the estimated amount of methane emissions for Shell's operated gas and oil assets as a percentage of the amount of the total gas marketed. In 2022, our overall methane intensity was 0.05% for assets with marketed gas and 0.01% for assets without marketed gas. For the assets that have no marketed gas (e.g., assets that re-inject produced gas), we used the amount of marketed oil and condensate. Methane emissions intensities at individual operating units ranged from below 0.01% to 0.7% in 2022 compared with below 0.01% to 1.5% in 2021. The estimated total methane emitted as a % of total hydrocarbon production (0.03%) reflects the total methane emissions per total hydrocarbon production (gas, oil, LNG GTL) available for sale in our Upstream and Integrated Gas businesses.

C7. Emissions breakdowns

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	49,000,000	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	1,000,000	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	190,000	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	37,000	IPCC Fourth Assessment Report (AR4 - 100 year)
SF6	200	IPCC Fourth Assessment Report (AR4 - 100 year)
PFCs	0	IPCC Fourth Assessment Report (AR4 - 100 year)
NF3	0	IPCC Fourth Assessment Report (AR4 - 100 year)

(C-OG7.1b) Break down your total gross global Scope 1 emissions from oil and gas value chain production activities by greenhouse gas type.

Emissions category

Combustion (excluding flaring)

Value chain

Upstream, Midstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

18,800,000

Gross Scope 1 methane emissions (metric tons CH4)

4,000

Total gross Scope 1 emissions (metric tons CO2e)

18,900,000

Comment

The total gross Scope 1 emissions field above only includes CO_2 and CH4 emissions. Other GHG emissions are shown separately. The numbers have been rounded.

Emissions category

Flaring

Value chain

Upstream, Midstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

2,700,000

Gross Scope 1 methane emissions (metric tons CH4)

10,000

Total gross Scope 1 emissions (metric tons CO2e)

3,000,000

Comment

The total gross Scope 1 emissions field above only includes CO_2 and CH4 emissions. Other GHG emissions are shown separately. The numbers have been rounded.

Emissions category

Venting

Value chain

Upstream, Midstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

540,000

Gross Scope 1 methane emissions (metric tons CH4)

14,000

Total gross Scope 1 emissions (metric tons CO2e)

900,000

Comment

The total gross Scope 1 emissions field above only includes CO_2 and CH4 emissions. Other GHG emissions are shown separately. The numbers have been rounded.

Emissions category

Fugitives

Value chain

Upstream, Midstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

13,000

Gross Scope 1 methane emissions (metric tons CH4)

4,000

Total gross Scope 1 emissions (metric tons CO2e)

120,000

Comment

The total gross Scope 1 emissions field above only includes CO_2 and CH4 emissions. Other GHG emissions are shown separately. The numbers have been rounded.

Emissions category

Process (feedstock) emissions

Value chain

Upstream, Midstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

20

Gross Scope 1 methane emissions (metric tons CH4)

2,000

Total gross Scope 1 emissions (metric tons CO2e)

50,000

Comment

The total gross Scope 1 emissions field above only includes CO_2 and CH4 emissions. Other GHG emissions are shown separately. The numbers have been rounded.

Emissions category

Combustion (excluding flaring), Flaring, Venting, Fugitives, Process (feedstock) emissions

Value chain

Upstream, Midstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

0

Gross Scope 1 methane emissions (metric tons CH4)

0

Total gross Scope 1 emissions (metric tons CO2e)

100,000

Comment

Includes total N2O, HCF and SF6 emissions in CO_2 equivalents. The numbers have been rounded.

Emissions category

Combustion (excluding flaring)

Value chain

Downstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

21,700,000

Gross Scope 1 methane emissions (metric tons CH4)

2,000

Total gross Scope 1 emissions (metric tons CO2e)

21,700,000

Comment

The total gross Scope 1 emissions field above only includes CO_2 and CH4 emissions. Other GHG emissions are shown separately. The numbers have been rounded.

Emissions category

Flaring

Value chain

Downstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

1,480,000

Gross Scope 1 methane emissions (metric tons CH4)

2,000

Total gross Scope 1 emissions (metric tons CO2e)

1,500,000

Comment

The total gross Scope 1 emissions field above only includes CO_2 and CH4 emissions. Other GHG emissions are shown separately. The numbers have been rounded.

Emissions category

Venting

Value chain

Downstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

3,000

Gross Scope 1 methane emissions (metric tons CH4)

400

Total gross Scope 1 emissions (metric tons CO2e)

13,000

Comment

The total gross Scope 1 emissions field above only includes CO_2 and CH4 emissions. Other GHG emissions are shown separately. The numbers have been rounded.

Emissions category

Fugitives

Value chain

Downstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

5,000

Gross Scope 1 methane emissions (metric tons CH4)

1,400

Total gross Scope 1 emissions (metric tons CO2e)

40,000

Comment

The total gross Scope 1 emissions field above only includes CO_2 and CH4 emissions. Other GHG emissions are shown separately. The numbers have been rounded.

Emissions category

Process (feedstock) emissions

Value chain

Downstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

3,870,000

Gross Scope 1 methane emissions (metric tons CH4)

100

Total gross Scope 1 emissions (metric tons CO2e)

3,900,000

Comment

The total gross Scope 1 emissions field above only includes CO_2 and CH4 emissions. Other GHG emissions are shown separately. The numbers have been rounded.

Emissions category

Combustion (excluding flaring), Flaring, Venting, Fugitives, Process (feedstock) emissions

Value chain

Downstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

0

Gross Scope 1 methane emissions (metric tons CH4)

0

Total gross Scope 1 emissions (metric tons CO2e)

100,000

Comment

Includes total N2O, HCF and SF6 emissions in CO_2 equivalents. The numbers have been rounded.

(C7.2) Break down your total gross global Scope 1 emissions by country/area/region.

Country/area/region	Scope 1 emissions (metric tons CO2e)
United States of America [1]	10,000,000
Middle East [2]	8,000,000
Netherlands [3]	7,000,000
Canada [4]	4,000,000
Singapore [5]	4,000,000
Nigeria [6]	3,000,000
Germany [7]	3,000,000
Malaysia [8]	2,000,000
Australia [9]	5,000,000
United Kingdom of Great Britain and Northern Ireland [10]	2,000,000
Other, please specify: International Waters [11]	1,000,000

Other, please specify: Rest of World [12]	1,000,000

[1-12] Emissions have been rounded.

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Upstream	8,300,000
Integrated Gas	14,700,000
Downstream	27,300,000
Other (Projects & Technology and Global Functions)	200,000

C-OG7.4 Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Comment
Oil and gas production activities (upstream)	23,000,000	Includes Upstream and Integrated Gas businesses
Oil and gas production activities (midstream)		
Oil and gas production activities (downstream)	27,300,000	

(C7.5) Break down your total gross global Scope 2 emissions by country/area/region.

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
United States of America [1]	2,300,000	2,300,000
Canada [2]	1,000,000	1,000,000
Australia [3]	2,300,000	1,400,000
Netherlands [4]	1,300,000	1,500,000

Germany [5]	200,000	200,000
Singapore [6]	600,000	600,000
Other, please specify: Rest of World [7]	300,000	200,000

[1-7]Emissions have been rounded.

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Upstream	400,000	500,000
Integrated Gas	2,400,000	1,400,000
Downstream	5,200,000	5,200,000
Other (Projects & Technology and Global Functions)	200,000	100,000

(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

No

(C-OG7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Oil and gas production activities (upstream)	2,800,000	1,900,000	Includes Upstream and Integrated Gas businesses
Oil and gas production activities (midstream)			
Oil and gas production activities (downstream)	5,200,000	5,200,000	

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	82,000	Decreased	0.1	In 2022, our energy indirect GHG emissions decreased by around 0.082 million tonnes CO_2e due to renewable energy consumption, which translates to a reduction of 0.1% of our total Scope 1 and 2 GHG emissions in 2021 (68 million tonnes). We arrived at 0.1% through (0.082/68)*100.
Other emissions reduction activities	1,930,000	Decreased	3	In 2022, our GHG emissions decreased by around 1.9 million tonnes due to our emission reduction projects and permanent shutdowns or conversions of existing assets, which translates to a reduction of 3% of our total Scope 1 and 2 GHG emissions in 2021 (68 million tonnes CO_2e). We arrived at 3% through (1.93/68)*100. Note, this GHG emissions reductions total does NOT include 1 million tonnes of CO2 captured and sequestered by Quest (CCS, Canada) in 2022.
Divestment	7,452,000	Decreased	11	In 2022, our emissions decreased by around 7 million tonnes of GHG due to divestments (see C5.1a), which translates to a decrease of 11% of our total Scope 1 and 2 GHG emissions in 2021 (68 million tonnes CO_2e). We arrived at 11% through (7/68)*100.
Acquisitions	12,000	Increased	0.02	In 2022, our emissions increased by around 0.012 million tonnes of GHG due to acquisitions. We arrived at 0.02% through (0.012/68)*100.
Mergers	0	No change	0	No mergers in 2022
Change in output	930,000	Decreased	1.4	In 2022, our emissions decreased by around 0.9 million tonnes of CO_2 equivalents due to a change in output, which translates to a decrease of 1.4% of our total Scope

				1 and 2 GHG emissions in 2021 (68 million tonnes CO_2e). We arrived at 1.4% through (0.93/68)*100.
Change in methodology	47,000	Decreased	0.1	In 2022, our emissions decreased by around 0.047 million tonnes of CO_2 equivalents due to changes in methodology, which translates to a decrease of 0.1% of our total Scope 1 and 2 GHG emissions in 2021 (68 million tonnes CO_2e). We arrived at 0.1% through (0.047/68)*100.
Change in boundary	257,000	Increased	0.4	In 2022, our emissions increased by around 0.26 million tonnes of CO_2 equivalents due to a change in boundary, which translates to an increase of 0.4% of our total Scope 1 and 2 GHG emissions in 2021 (68 million tonnes CO_2e). We arrived at 0.4% through (0.26/68)*100. The divestment of Deer Park refinery, USA, (accounted for under divestments above) caused Scope 2 emissions for Deer Park Chemicals to increase, because the internal transfers of steam between the refinery and chemicals plant (previously accounted for under Scope 1) became imported steam for the chemicals plant.
Change in physical operating conditions	0	No change	0	No changes in emissions were identified due to physical operating conditions in 2022.
Unidentified	0	No change		--
Other	215,000	Increased	0.3	In 2022, our emissions increased by around 0.215 million tonnes of CO_2 equivalents due other reasons, which translates to an increase of 0.3% of our total Scope 1 and 2 GHG emissions in 2021 (68 million tonnes CO_2e). We arrived at 0.3% through (0.215/68)*100.

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

C8. Energy

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 5% but less than or equal to 10%

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	30,000	176,700,000	176,730,000
Consumption of purchased or acquired electricity		2,200,000	16,600,000	18,800,000
Consumption of purchased or acquired steam		0	12,200,000	12,200,000
Consumption of self-generated non-fuel renewable energy		350,000		350,000
Total energy consumption		2,600,000	205,500,000	208,000,000

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application

Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	Yes

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

Heating value

LHV

Total fuel MWh consumed by the organization

0

Other biomass

Heating value

LHV

Total fuel MWh consumed by the organization

30,000

MWh fuel consumed for self-generation of electricity

-

MWh fuel consumed for self-generation of heat

-

MWh fuel consumed for self-generation of steam

-

MWh fuel consumed for self- cogeneration or self-trigeneration

-

Comment

We do not track fuel consumption by application at a global level. The number included under MWh fuel consumed reflects total energy used for generation of electricity, steam and heat for internal use because we are unable to split them. Numbers have been rounded.

Other renewable fuels (e.g. renewable hydrogen)

Heating value

LHV

Total fuel MWh consumed by the organization

0

Coal

Heating value

LHV

Total fuel MWh consumed by the organization

0

Oil

Heating value

LHV

Total fuel MWh consumed by the organization

165,400,000

MWh fuel consumed for self-generation of electricity

-

MWh fuel consumed for self-generation of heat

-

MWh fuel consumed for self-generation of steam

-

MWh fuel consumed for self- cogeneration or self-trigeneration

-

Comment

This category includes all non-renewable fuel (liquid and gaseous, except for natural gas purchased by our refineries and chemical plants) used for generation of electricity, steam and heat for internal use because we are unable to split them. Natural gas purchased by refineries and chemical plants is shown separately below under Gas. Numbers have been rounded.

Gas

Heating value

LHV

Total fuel MWh consumed by the organization

11,300,000

MWh fuel consumed for self-generation of electricity

-

MWh fuel consumed for self-generation of heat

-

MWh fuel consumed for self-generation of steam

-

MWh fuel consumed for self- cogeneration or self-trigeneration

-

Comment

We have included natural gas purchased by our refineries and chemical plants only under this category. Natural gas purchased or produced and consumed by other assets is included in total fuel figures below.
We do not track fuel consumption by application at a global level. The number included under MWh fuel consumed includes total generation of electricity, steam and heat. Numbers have been rounded.

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value

LHV

Total fuel MWh consumed by the organization

0

Total fuel

Heating value

LHV

Total fuel MWh consumed by the organization

176,730,000

MWh fuel consumed for self-generation of electricity

-

MWh fuel consumed for self-generation of heat

-

MWh fuel consumed for self-generation of steam

-

MWh fuel consumed for self- cogeneration or self-trigeneration

-

Comment

We do not track fuel consumption by application at a global level. The number included under total fuel MWh consumed includes total generation of electricity, steam and heat. Numbers have been rounded.

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity			350,000	12,000
Heat				
Steam				
Cooling				

(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero or near-zero emission factor in the market-based Scope 2 figure reported in C6.3.

Country/area of low-carbon energy consumption

Australia

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify

These certificates are either small-scale technology certificates (STCs) generated from installations like house-hold solar panels and solar hot water systems, or large-scale generation certificates (LGCs) from renewable power generation facilities.

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

1,370,000

Tracking instrument used

Other, please specify: Australian Government REC Registry LGC and STC

Country/area of origin (generation) of the low-carbon energy or energy attribute

Australia

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

United Kingdom of Great Britain and Northern Ireland

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

57,000

Tracking instrument used

REGO

Country/area of origin (generation) of the low-carbon energy or energy attribute

United Kingdom of Great Britain and Northern Ireland

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2003

Comment

REGOs from Wind were estimated based on the percent of REGOs from Wind for April 1, 2021 to March 31, 2022 for operated and non-operated ventures in the UK. Numbers have been rounded.

Country/area of low-carbon energy consumption

United Kingdom of Great Britain and Northern Ireland

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

17,000

Tracking instrument used

REGO

Country/area of origin (generation) of the low-carbon energy or energy attribute

United Kingdom of Great Britain and Northern Ireland

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2015

Comment

REGOs from Solar were estimated based on the percent of REGOs from Solar for April 1, 2021 to March 31, 2022 for operated and non-operated ventures in the UK. Numbers have been rounded.

Country/area of low-carbon energy consumption

United Kingdom of Great Britain and Northern Ireland

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Other biomass

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

115,000

Tracking instrument used

REGO

Country/area of origin (generation) of the low-carbon energy or energy attribute

United Kingdom of Great Britain and Northern Ireland

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2013

Comment

REGOs from Biomass were estimated based on the percent of REGOs from Biomass for April 1, 2021 to March 31, 2022 for operated and non-operated ventures in the UK. Numbers have been rounded.

Country/area of low-carbon energy consumption

Norway

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Hydropower (capacity unknown)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

183,000

Tracking instrument used

GO

Country/area of origin (generation) of the low-carbon energy or energy attribute

Norway

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1908

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

United States of America

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

68,000

Tracking instrument used

US-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

United States of America

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2003

Comment

Renewable electricity generated from the Shell Brazos Wind Farm in Texas, USA, and purchased by other Shell assets in Texas. Numbers have been rounded.

Country/area of low-carbon energy consumption

United States of America

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

11,000

Tracking instrument used

US-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

United States of America

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2016

Comment

Renewable electricity generated in the state of Texas (ERCOT Interconnection) and purchased for Shell assets in Texas. Numbers have been rounded.

Country/area of low-carbon energy consumption

United States of America

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

5,000

Tracking instrument used

US-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

United States of America

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Renewable electricity generated in the Eastern Interconnection electrical grid and purchased by Shell assets in the Eastern Interconnection electrical grid. Numbers have been rounded.

Country/area of low-carbon energy consumption

United States of America

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

12,000

Tracking instrument used

US-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

United States of America

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2006

Comment

Renewable electricity generated in the Eastern Interconnection electrical grid at facilities with known commissioning dates and purchased by Shell assets in the Eastern Interconnection electrical grid. Numbers have been rounded.

Country/area of low-carbon energy consumption

United States of America

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Large hydropower (>25 MW)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

2,000

Tracking instrument used

US-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

United States of America

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1952

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

United States of America

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Large hydropower (>25 MW)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

2,000

Tracking instrument used

US-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

United States of America

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1956

Comment

Renewable electricity generated in the Western Interconnection electrical grid and purchased by Shell assets in the Western Interconnection electrical grid. Numbers have been rounded.

Country/area of low-carbon energy consumption

Germany

Sourcing method

Financial (virtual) power purchase agreement (VPPA)

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify

Primarily Onshore Wind with some Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

99,000

Tracking instrument used

GO

Country/area of origin (generation) of the low-carbon energy or energy attribute

Germany

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1993

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

Netherlands

Sourcing method

Financial (virtual) power purchase agreement (VPPA)

Energy carrier

Electricity

Low-carbon technology type

Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

33,000

Tracking instrument used

GO

Country/area of origin (generation) of the low-carbon energy or energy attribute

Netherlands

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

Netherlands

Sourcing method

Purchase from an on-site installation owned by a third party (on-site PPA)

Energy carrier

Electricity

Low-carbon technology type

Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

31,000

Tracking instrument used

GO

Country/area of origin (generation) of the low-carbon energy or energy attribute

Netherlands

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2018

Comment

Renewable electricity generated from the Shell Moerdijk Solar Project in the Netherlands, and purchased by other Shell assets in the Netherlands. Numbers have been rounded.

Country/area of low-carbon energy consumption

Malaysia

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Large hydropower (>25 MW)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

52,000

Tracking instrument used

TIGR

Country/area of origin (generation) of the low-carbon energy or energy attribute

Malaysia

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1985

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

India

Sourcing method

Financial (virtual) power purchase agreement (VPPA)

Energy carrier

Electricity

Low-carbon technology type

Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

24,000

Tracking instrument used

Contract

Country/area of origin (generation) of the low-carbon energy or energy attribute

India

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2018

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

India

Sourcing method

Retail supply contract with an electricity supplier (retail green electricity)

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify

Any customer can request for green power by paying in addition to the existing rate tariff through a requesting letter.

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

3,000

Tracking instrument used

Other, please specify: Any customer can request for green power by paying in addition to the existing rate tariff through a requesting letter.

Country/area of origin (generation) of the low-carbon energy or energy attribute

India

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

India

Sourcing method

Purchase from an on-site installation owned by a third party (on-site PPA)

Energy carrier

Electricity

Low-carbon technology type

Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

600

Tracking instrument used

Contract

Country/area of origin (generation) of the low-carbon energy or energy attribute

India

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2019

Comment

Rooftop solar located onsite; electricity is consumed as it is generated. Numbers have been rounded.

Country/area of low-carbon energy consumption

Canada

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

9,000

Tracking instrument used

US-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

Canada

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Renewable electricity generated in the Eastern Interconnection electrical grid and purchased by Shell assets in the Eastern Interconnection electrical grid. Numbers have been rounded.

Country/area of low-carbon energy consumption

Canada

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify: Includes Solar, Hydro, Wind and/or Geothermal RECs generated in the Western Interconnect electrical grid.

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

11,000

Tracking instrument used

US-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

United States of America

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Renewable electricity generated in the Western Interconnection electrical gridand purchased by Shell assets in the Western Interconnection electrical grid. Numbers have been rounded.

Country/area of low-carbon energy consumption

Philippines

Sourcing method

Financial (virtual) power purchase agreement (VPPA)

Energy carrier

Electricity

Low-carbon technology type

Geothermal

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

4,000

Tracking instrument used

I-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

Philippines

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

Philippines

Sourcing method

Financial (virtual) power purchase agreement (VPPA)

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify: Solar, Hydro, and Geothermal

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

12,000

Tracking instrument used

Contract

Country/area of origin (generation) of the low-carbon energy or energy attribute

Philippines

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

China

Sourcing method

Purchase from an on-site installation owned by a third party (on-site PPA)

Energy carrier

Electricity

Low-carbon technology type

Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

6,000

Tracking instrument used

Contract

Country/area of origin (generation) of the low-carbon energy or energy attribute

China

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2019

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

China

Sourcing method

Financial (virtual) power purchase agreement (VPPA)

Energy carrier

Electricity

Low-carbon technology type

Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

5,000

Tracking instrument used

Contract

Country/area of origin (generation) of the low-carbon energy or energy attribute

China

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2014

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

China

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Large hydropower (>25 MW)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

3,000

Tracking instrument used

I-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

China

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2013

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

Belgium

Sourcing method

Financial (virtual) power purchase agreement (VPPA)

Energy carrier

Electricity

Low-carbon technology type

Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

10,000

Tracking instrument used

GO

Country/area of origin (generation) of the low-carbon energy or energy attribute

Belgium

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

France

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

5,000

Tracking instrument used

GO

Country/area of origin (generation) of the low-carbon energy or energy attribute

Italy

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

Argentina

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Large hydropower (>25 MW)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

5,000

Tracking instrument used

I-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

Argentina

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1972

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

Poland

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier

Electricity

Low-carbon technology type

Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

3,000

Tracking instrument used

GO

Country/area of origin (generation) of the low-carbon energy or energy attribute

Poland

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2013

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

Singapore

Sourcing method

Purchase from an on-site installation owned by a third party (on-site PPA)

Energy carrier

Electricity

Low-carbon technology type
Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
2,000

Tracking instrument used
TIGR

Country/area of origin (generation) of the low-carbon energy or energy attribute
Singapore

Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2019

Comment
Numbers have been rounded.

Country/area of low-carbon energy consumption
Turkey

Sourcing method
Unbundled procurement of energy attribute certificates (EACs)

Energy carrier
Electricity

Low-carbon technology type
Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

1,000

Tracking instrument used

I-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

Turkey

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2017

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

Italy

Sourcing method

Financial (virtual) power purchase agreement (VPPA)

Energy carrier

Electricity

Low-carbon technology type

Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

800

Tracking instrument used

GO

Country/area of origin (generation) of the low-carbon energy or energy attribute

Germany

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2022

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

Switzerland

Sourcing method

Default delivered electricity from the grid (e.g. standard product offering by an energy supplier) from a grid that is 95% or more low-carbon and where there is no mechanism for specifically allocating low-carbon electricity

Energy carrier

Electricity

Low-carbon technology type

Hydropower (capacity unknown)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

60

Tracking instrument used

Other, please specify: Since the electricity consumption is below a certain threshold, hydroelectricity is automatically supplied.

Country/area of origin (generation) of the low-carbon energy or energy attribute

Switzerland

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Numbers have been rounded.

Country/area of low-carbon energy consumption

Australia

Sourcing method

Retail supply contract with an electricity supplier (retail green electricity)

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify

Renewable electricity from government-accredited sources including wind power, biomass, hydro and solar, which is independently assessed by the Australian government's National GreenPower Accreditation Program.

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

1,000

Tracking instrument used

Contract

Country/area of origin (generation) of the low-carbon energy or energy attribute

Australia

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Numbers have been rounded.

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

Country/area

Australia

Consumption of purchased electricity (MWh)

1,371,000

Consumption of self-generated electricity (MWh)

0

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

1,371,000

Country/area

United Kingdom of Great Britain and Northern Ireland

Consumption of purchased electricity (MWh)

189,000

Consumption of self-generated electricity (MWh)

0

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

189,000

Country/area

Norway

Consumption of purchased electricity (MWh)

183,000

Consumption of self-generated electricity (MWh)

0

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

183,000

Country/area

United States of America

Consumption of purchased electricity (MWh)

100,000

Consumption of self-generated electricity (MWh)

1,100

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

101,100

Country/area

Germany

Consumption of purchased electricity (MWh)

99,000

Consumption of self-generated electricity (MWh)

5

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

99,005

Country/area

Netherlands

Consumption of purchased electricity (MWh)

64,000

Consumption of self-generated electricity (MWh)

500

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

64,500

Country/area

Malaysia

Consumption of purchased electricity (MWh)

52,000

Consumption of self-generated electricity (MWh)

400

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

52,400

Country/area

India

Consumption of purchased electricity (MWh)

27,600

Consumption of self-generated electricity (MWh)

100

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]
27,700

Country/area
Canada

Consumption of purchased electricity (MWh)
20,000

Consumption of self-generated electricity (MWh)
6,100

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
26,100

Country/area
Philippines

Consumption of purchased electricity (MWh)
16,000

Consumption of self-generated electricity (MWh)
1,900

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

17,900

Country/area

China

Consumption of purchased electricity (MWh)

14,000

Consumption of self-generated electricity (MWh)

0

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

14,000

Country/area

Belgium

Consumption of purchased electricity (MWh)

10,000

Consumption of self-generated electricity (MWh)
10

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
10,010

Country/area
France

Consumption of purchased electricity (MWh)
5,000

Consumption of self-generated electricity (MWh)
0

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
5,000

Country/area
Argentina

Consumption of purchased electricity (MWh)
5,000

Consumption of self-generated electricity (MWh)
0

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
5,000

Country/area
Poland

Consumption of purchased electricity (MWh)
3,000

Consumption of self-generated electricity (MWh)
20

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
3,020

Country/area
Singapore

Consumption of purchased electricity (MWh)
2,000

Consumption of self-generated electricity (MWh)
0

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
2,000

Country/area
Turkey

Consumption of purchased electricity (MWh)
1,000

Consumption of self-generated electricity (MWh)
0

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
1,000

Country/area
Italy

Consumption of purchased electricity (MWh)
800

Consumption of self-generated electricity (MWh)
400

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
1,200

Country/area
Switzerland

Consumption of purchased electricity (MWh)

60

Consumption of self-generated electricity (MWh)

100

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

160

Country/area

Thailand

Consumption of purchased electricity (MWh)

0

Consumption of self-generated electricity (MWh)

1,100

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

1,100

Country/area

Spain

Consumption of purchased electricity (MWh)

0

Consumption of self-generated electricity (MWh)

40

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

40

C9. Additional metrics

(C9.1) Provide any additional climate-related metrics relevant to your business.

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(C-OG9.2a) Disclose your net liquid and gas hydrocarbon production (total of subsidiaries and equity-accounted entities).

	In-year net production	Comment
Crude oil and condensate, million barrels	532	Shell Annual Report and Accounts 2022, p56 (Shell subsidiaries 504 + joint ventures and associates 28)
Natural gas liquids, million barrels	532	Shell Annual Report and Accounts 2022, p56 (Shell subsidiaries 504 + joint ventures and associates 28)

Oil sands, million barrels (includes bitumen and synthetic crude)	17	Shell Annual Report and Accounts 2022, p56
Natural gas, billion cubic feet	2,872	Shell Annual Report and Accounts 2022, p57 (Shell subsidiaries 2,420 + joint ventures and associates 452)

(C-OG9.2b) Explain which listing requirements or other methodologies you use to report reserves data. If your organization cannot provide data due to legal restrictions on reporting reserves figures in certain countries/areas, please explain this.

(AR, p52 – 59, and p308 – 326)

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" in AR, p18, and our "Proved reserves assurance process" in AR, p308). 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.

(C-OG9.2c) Disclose your estimated total net reserves and resource base (million boe), including the total associated with subsidiaries and equity-accounted entities.

Estimated total net proved + probable reserves (2P) (million BOE)	Estimated total net proved + probable + possible reserves (3P) (million BOE)	Estimated net total resource base (million BOE)	Comment
9,578			Only proved reserves are reported consistent with prior year. See Shell Annual Report and Accounts 2022 pages 52-59 and pages 308-326.

(C-OG9.2d) Provide an indicative percentage split for 2P, 3P reserves, and total resource base by hydrocarbon categories.

	Net proved + probable reserves (2P) (%)	Net proved + probable + possible reserves (3P) (%)	Net total resource base (%)	Comment
Crude oil/ condensate/ natural gas liquids				Only proved reserves are reported consistent with prior year. See Shell Annual Report and Accounts 2022 pages 52-59 and pages 308-326.
Natural gas				Only proved reserves are reported consistent with prior year. See Shell Annual Report and Accounts 2022 pages 52-59 and pages 308-326.
Oil sands (includes bitumen and synthetic crude)				Only proved reserves are reported consistent with prior year. See Shell Annual Report and Accounts 2022 pages 52-59 and pages 308-326.

(C-OG9.2e) Provide an indicative percentage split for production, 1P, 2P, 3P reserves, and total resource base by development types.

--

(C-OG9.3a) Disclose your total refinery throughput capacity in the reporting year in thousand barrels per day.

	Total refinery throughput capacity (Thousand barrels per day)
Capacity	1,698

(C-OG9.3b) Disclose feedstocks processed in the reporting year in million barrels per year.

	Throughput (Million barrels)	Comment
Oil	462	Refinery processing intake on page 69 of Shell Annual Report and Accounts 2022. Total = 1,267 thousand barrels/day x 365 days = 462,455
Other feedstocks	49	Refinery processing intake on page 69 of Shell Annual Report and Accounts 2022. Total = 135 thousand barrels/day x 365 days = 49,275
Total	511	Refinery processing intake on page 69 of Shell Annual Report and Accounts 2022. Total = 1,402 thousand barrels/day x 365 days = 511,730

(C-OG9.3c) Are you able to break down your refinery products and net production?

Yes

(C-OG9.3d) Disclose your refinery products and net production in the reporting year in million barrels per year.

Product produced	Refinery net production (Million barrels) *not including products used/consumed on site
Gasolines	174.11
Kerosenes	60.59
Other, please specify: Gas / diesel oils	186.88
Fuel oils	32.85
Other, please specify: Other	70.45

(C-OG9.3e) Please disclose your chemicals production in the reporting year in thousand metric tons.

Product	Production, Thousand metric tons	Capacity, Thousand metric tons

Other, please specify: Ethylene (Annual Report and Accounts 2022, page 71)		8,073
Other, please specify: Polyethylene (Annual Report and Accounts 2022, page 71)		2,205
Other, please specify: Styrene monomer (Annual Report and Accounts 2022, page 71)		3,004
Other, please specify: Ethylene glycol (Annual Report and Accounts 2022, page 71)		2,511
Other, please specify: Higher olefins (Annual Report and Accounts 2022, page 71)		1,390

(C-OG9.5a) Break down, by fossil fuel expansion activity, your organization's CAPEX in the reporting year and CAPEX planned over the next 5 years.

	CAPEX in the reporting year for this expansion activity (unit currency as selected in C0.4)	CAPEX in the reporting year for this expansion activity as % of total CAPEX in the reporting year	CAPEX planned over the next 5 years for this expansion activity as % of total CAPEX planned over the next 5 years	Explain your CAPEX calculations, including any assumptions
Exploration of new oil fields				
Exploration of new natural gas fields				
Expansion of existing oil fields				
Expansion of existing natural gas fields				

(C-OG9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

Investment in low-carbon R&D	Comment
Yes	(SR, p36) In 2022, we spent $1,067 million on research and development (R&D), compared with $815 million in 2021. We also started work on more than 250 R&D projects with universities, compared with more than 180 in 2021.

	Our R&D activities are key to achieving our net-zero emissions target. 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. In 2022, we opened our Energy Transition Campus Amsterdam, formerly one of our six Shell Technology Centres. The campus provides offices, laboratories and testing facilities for start-ups, research institutions, academia and companies to work together on solutions for lower-carbon energy. Around 1,000 people from 50 countries are currently working on projects at the campus. One such project is a collaboration between Shell and Dow to electrify steam cracking furnaces with renewable energy. Steam cracking is one of the most carbon-intensive processes in petrochemical production. The project could reduce Scope 1 emissions associated with cracking furnaces by 90% compared with conventional crackers. Read more about technology and innovation at www.shell.com/energy-and-innovation/the-role-technology-plays/technology-for-a-sustainable-energy-industry.

(C-OG9.6a) Provide details of your organization's investments in low-carbon R&D for your sector activities over the last three years.

Technology area	Stage of development in the	Average % of total R&D invest	R&D investment figure in the reporting year (unit	Average % of total R&D investm	Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

	reporting year	ment over the last 3 years	currency as selected in C0.4) (optional)	ent planned over the next 5 years	
Unable to disaggregate by technology area 1			440,000,000		(SR, p36) Our R&D activities are key to achieving our net-zero emissions target. 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. In 2022, we opened our Energy Transition Campus Amsterdam, formerly one of our six Shell Technology Centres. The campus provides offices, laboratories and testing facilities for start-ups, research institutions, academia and companies to work together on solutions for lower-carbon energy. Around 1,000 people from 50 countries are currently working on projects at the campus. One such project is a collaboration between Shell and Dow to electrify steam cracking furnaces with renewable energy. Steam cracking is one of the most carbon-intensive processes in petrochemical production. The project could reduce Scope 1 emissions associated with cracking furnaces by 90% compared with conventional crackers.

					Read more about technology and innovation at www.shell.com/energy-and-innovation/the-role-technology-plays/technology-for-a-sustainable-energy-industry. The $440 million R&D spend that contributed to decarbonisation covers a wide range of technology areas and projects. The examples above are illustrative of a larger set of activities.
Advanced monitoring techniques					(Shell webpage) Methane is a strong greenhouse gas, with a higher radiative forcing per unit mass and shorter atmospheric lifetime than carbon dioxide. The remote sensing of methane in regions of industrial activity is a key step toward the accurate monitoring of emissions that drive climate change. (https://www.shell.com/energy-and-innovation/digitalisation/digital-technologies/research-publications.html: “Enhanced monitoring of atmospheric methane from space over the Permian basin with hierarchical Bayesian inference”)
Alternative liquid fuels					(SR, p36) Driving innovation Our R&D activities are key to achieving our net-zero emissions target. 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.
Carbon capture, utilization, and					(SR, p36) Driving innovation Our R&D activities are key to achieving our net-zero emissions target. 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

storage (CCUS)					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.
Hydrogen					(SR, p36) Driving innovation Our R&D activities are key to achieving our net-zero emissions target. 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.
Methane reforming with CCUS					(SR, p36) Driving innovation Our R&D activities are key to achieving our net-zero emissions target. 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.
Pipeline					(Shell TechXplorer Digest, 2022, Volume 2, p63) The low-carbon hydrogen value chain is rapidly becoming a reality and contributing to lowering emissions, in-line with Shell's Powering Progress strategy and general net-zero-emissions targets in the industry. Hydrogen pipelines are part of this, but there are several technical challenges to overcome. The hydrogen research team in Shell Projects & Technology has a programme focused on overcoming the challenges and de-risking hydrogen pipeline transport while also developing the organisation's internal expertise on this topic, thereby enabling Shell to assure pipeline projects in the future. Shell's existing expertise and external collaborations can contribute to ensuring gaseous hydrogen transport through pipelines can be managed safely and economically. (https://www.shell.com/energy-and-innovation/shell-techxplorer-digest-pathways-to-decarbonisation/_jcr_content/root/main/section/simple/call_to_action/links/item0.stream/1675673568192/0bb646eb5038f98c5dc25d7fcb8f2914635d75c2/complete.pdf)
Other, please specify Geothermal energy					(Shell webpage) The problem of growing carbon footprint calls for the exploitation of cleaner and sustainable energy resources. Geothermal energy is clean, renewable, and in abundant supply underneath the surface of the earth, which makes it one of the most optimum solutions to this problem. With the depletion of hydrocarbon resources, geothermal energy also helps to close the gap between demand and supply of cleaner energy resources reliably, although several problems need to be solved before producing geothermal energy globally. (https://www.shell.com/energy-and-innovation/digitalisation/digital-technologies/research-publications.html: "A Comparative Study of the Impact of the CO2 Properties on the Thermal Output of a Geothermal Well")
Other, please specify Computational Science					(Shell webpage) Computational sciences have been utilized by scientist and engineers from various disciplines to provide solutions to real world problems, in fulfilling the energy demands as well as in designing chemicals, materials, and pharmaceutical drugs for daily use. Currently, greenhouse gas emission is one of the critical problems contributing to the health and environmental effects on our society, where computational sciences through material discovery and efficient system design have been helping

					in early adoption of sustainable technologies. Shell R&D included work on hydrogen and carbon technologies, where atomistic and multi-scale continuum approaches, along with physics-informed machine-learning methods, have enabled new materials discovery and novel systems design that could lead to commercially viable sustainable technologies with reduced or zero emissions. Examples include but not limited to the use of reduced-order multiscale modelling in developing novel reactor configuration for chemicals manufacturing with renewable power, design and scale up of carbon-capture systems, use of computational fluid dynamics in designing cheaper and more efficient battery coolants for energy storage in electric vehicles; use of atomistic modelling in developing electrocatalysts for water splitting and enabling better design of electrolysers and CO2 sequestration systems. (https://www.shell.com/energy-and-innovation/digitalisation/digital-technologies/research-publications.html: “Role of Computational Science in Materials and Systems Design for Sustainable Energy Applications: An Industry Perspective”)
Other, please specify Electrification of Demand					(Shell webpage) This includes, for example, Shell’s new end-to-end mining electrification pilot offering aims to help the mining industry decarbonise, by reducing emissions without compromising on operational efficiency or safety. (https://www.shell.com/business-customers/sectoral-decarbonisation/shell-builds-a-winning-consortium-to-accelerate-the-electrification-of-off-road-mining-vehicles.html)
Other, please specify Nature Based Solutions					(Shell webpage) Shell is working with customers and research partners to develop sustainability solutions for the agriculture sector, spanning from researching bioenergy, carbon sinks and sustainable cropping practices. (https://www.shell.com/energy-and-innovation/the-role-technology-plays/technology-for-a-sustainable-energy-industry/the-role-of-science-in-decarbonising-agricultural-value-chains.html)
Other, please specify E-Mobility					(Shell TechXplorer Digest, 2022, Volume 2, p13) One of the many ways Shell is seeking to transition to a low-carbon energy future is by investing in the future of e-mobility. Road transport is currently dominated by vehicles using internal combustion engines, but electric mobility is on the path to mass adoption. With its partners, Shell is working hard to develop the technology and the infrastructure that will make e-mobility less expensive, more convenient and safer. This includes growing the global Shell Recharge network in the locations with the highest current and future demand. (https://www.shell.com/energy-and-

					innovation/shell-techxplorer-digest-pathways-to-decarbonisation/_jcr_content/root/main/section/simple/call_to_action/links/item0.stream/1675673568192/0bb646eb5038f98c5dc25d7fcb8f2914635d75c2/complete.pdf)
Other, please specify Power					(SR, p36) Driving innovation Our R&D activities are key to achieving our net-zero emissions target. 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.

[1]Stage of development in the reporting year: the investment figure provided relates to applied research and development.

(C-OG9.7) Disclose the breakeven price (US$/BOE) required for cash neutrality during the reporting year, i.e. where cash flow from operations covers CAPEX and dividends paid/ share buybacks.

40

- ($~40/barrel, see slide 15)
- Definition as per Capital Markets Day presentation (slide 45) (www.shell.com/investors/investor-presentations/capital-markets-day-2023)
  Dividend break-even - definition:
  The forward-looking, post dividend, break-even price for Shell plc assuming ~$22 billion annual cash capex, ~$4 billion annual divestments, and historical average refining margins and trading margins. Working capital and derivatives movements are assumed to be neutral.

(C-OG9.8) Is your organization involved in the sequestration of CO2?

Yes

(C-OG9.8a) Provide, in metric tons CO2, gross masses of CO2 transferred in and out of the reporting organization (as defined by the consolidation basis).

	CO2 transferred in the reporting year (metric tons CO2)	Types of CO2 transfer
CO2 transferred in	0	
CO2 transferred out	350,000	Other, please specify: application is not tracked centrally.

(C-OG9.8b) Provide gross masses of CO2 injected and stored for the purposes of CCS during the reporting year according to the injection and storage pathway.

Injection and storage pathway	Injected CO2 in the reporting year (metric tons CO2)	Percentage of injected CO2 intended for long-term (>10,000 year) storage	CO2 leakage in the reporting year during injection (metric tons CO2)	Year in which injection began	Cumulative CO2 injected and stored (metric tons CO2)	Ongoing leakage (average estimated % of stored CO2 per year)	Describe your process for monitoring leakage and any long-term storage of the CO2
CO2 injected into saline formations for long-term storage	970,607	100	0	2015	7,777,762	0	(open.alberta.ca/publications/quest-carbon-capture-and-storage-project-annual-report-2020) 2022 Verification Report for Quest Carbon Capture and Storage Project (p45/46): “Quest Monitoring, Measurement and Verification Plan The MMV details four specific environmental domains for monitoring of both containment and conformance of CO2 in the storage complex. These domains are the following: • Atmosphere – air above ground where the CO2 reservoir is located. • Biosphere – soil and ecosystems where organisms are located. Focuses on soil monitoring. • Hydrosphere – includes all subsurface between ground

							surface and the base of groundwater protection (located at the top of the Geosphere). Primarily focuses on groundwater monitoring. • Geosphere – rock formations below base groundwater protection. Includes the Basal Cambrian Sands (BCS) formation, which is the specific storage reservoir used by Quest for storage. The most current MMV plan was approved 25 November 2020, and was applicable for the 2022 reporting period. “A suite of technologies has been employed, each of which uses different indicators to determine whether a trigger event has occurred. Indicators include, but are not limited to, direct emission rates at specific locations, seismic amplitude information or downhole pressures.” “Trigger events can occur at three levels or “Tiers” as discussed below: • Tier 1 technologies: Address critical risks to loss of containment through direct, continuous monitoring. These technologies monitor data closest to the Storage Complex or along the wellbore with immediate action to address any trigger events.” • “Tier 2 technologies: Address potential critical risks to loss of containment, though less directly tied to the Storage Complex. These technologies have a longer sample time or surveillance frequency, with analysis and longer response time to the trigger event.” • “Tier 3 technologies: Contingency based monitoring that can be triggered as a potential response to Tier 1 or Tier 2 based monitor activities. Discontinuous monitoring or frequency of analysis may occur, with some

							technologies requiring re-deployment if triggered. Comprehensive baseline data (i.e. InSAR,GW discrete sample profiles) can be utilized for any trigger events that re-establish utilization of Tier 3 technologies." The Tier 2 level technologies utilized for MMV in 2022 included DTS temperature sensing, casing inspection logs, packer isolation tests, and MSM microseismic monitoring.

(C-OG9.8c) Provide clarification on any other relevant information pertaining to your activities related to transfer and sequestration of CO2.

(ETPR, p21) Carbon capture and storage (CCS)

Shell continues to work with governments, customers and partners to unlock the potential for CCS to reduce emissions where there are currently few viable low-carbon alternatives.

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 invested 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.

In Norway, our Northern Lights CCS joint venture (Shell interest 33%) signed a letter of intent on cross-border CO2 transport and storage in August. Under this agreement, some 800,000 tonnes of CO2 will be captured, compressed and liquefied at a Yara ammonia and fertiliser plant in the Netherlands from early 2025. The CO2 will then be transported to Norway for permanent storage 2,600 metres below the seabed in the North Sea. In November 2022, construction started on the first two ships that will be used to transport CO2 to the Northern Lights facilities.

We are making progress in other CCS projects in our portfolio. In Canada, for example, the Alberta government selected the Atlas Sequestration Hub (with Shell as 50% partner) to move to the next stage for further evaluation in April 2022.

CCS is part of our Renewables and Energy Solutions business segment.

Read more about CCS on our website: https://www.shell.com/energy-and-innovation/carbon-capture-and-storage.

C10. Verification

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status

Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2022 LRQA Assurance Shell plc - Direct and indirect data under operational control

Page/ section reference

The attachment is a 2-page standalone assurance statement for GHG emissions by LRQA Group Ltd. The tonnes assured match C6.1 and cover 100% of the inventory. The assertion confirms that the verification covers direct (Scope 1) emissions for 2022. The section “LRQA's approach” on page 1 references the standard and level of assurance. The opinion is on page 2.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2022 LRQA Assurance Shell plc - Direct and indirect data under operational control

Page/ section reference

The attachment is a 2-page standalone assurance statement for GHG emissions by LRQA Group Ltd. The tonnes assured match C6.3 and cover 100% of the inventory. The assertion confirms that the verification covers energy indirect (Scope 2) emissions (location-based and market-based figures) for 2022. The section “LRQA's approach” on page 1 references the standard and level of assurance. The opinion is on page 2.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 2 approach

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2022 LRQA Assurance Shell plc - Direct and indirect data under operational control

Page/ section reference

The attachment is a 2-page standalone assurance statement for GHG emissions by LRQA Group Ltd. The tonnes assured match C6.3 and cover 100% of the inventory. The assertion confirms that the verification covers energy indirect (Scope 2) emissions (location-based and market-based figures) for 2022. The section “LRQA's approach” on page 1 references the standard and level of assurance. The opinion is on page 2.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category

Scope 3: Use of sold products

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2022 LRQA Assurance Shell plc - Scope 3 emissions included in net carbon intensity

Page/section reference

The attachment is a 3-page standalone assurance statement for part of the Scope 3 GHG emissions reported by Shell. It covers emissions from use of sold energy products included in our Net Carbon Intensity. The section “LRQA's approach” on page 2 references the level of assurance. Relevant verification criteria are listed on page 1. The opinion is on page 2.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Purchased goods and services

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2022 LRQA Assurance Shell plc - Scope 3 emissions included in net carbon intensity

Page/section reference

The attachment is a 3-page standalone assurance statement for part of the Scope 3 GHG emissions reported by Shell. It covers emissions from purchased 3rd party energy products included in our Net Carbon Intensity. The section “LRQA's approach” on page 2 references the level of assurance. Relevant verification criteria are listed on page 1. The opinion is on page 2.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2022 LRQA Assurance Shell plc - Scope 3 emissions included in net carbon intensity

Page/section reference

The attachment is a 3-page standalone assurance statement for part of the Scope 3 GHG emissions reported by Shell. It covers emissions from sold 3rd party power included in our Net Carbon Intensity. The section “LRQA's approach” on page 2 references the level of assurance. Relevant verification criteria are listed on page 1. The opinion is on page 2.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Downstream transportation and distribution

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2022 LRQA Assurance Shell plc - Scope 3 emissions included in net carbon intensity

Page/section reference

The attachment is a 3-page standalone assurance statement for part of the Scope 3 GHG emissions reported by Shell. It covers emissions from sold 3rd party power included in our Net Carbon Intensity. The section “LRQA's approach” on page 2 references the level of assurance. Relevant verification criteria are listed on page 1. The opinion is on page 2.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C4. Targets and performance	Other, please specify Shell's 2022 Net Carbon Intensity (Net Carbon Footprint)	ISO 14064-3	The attached assurance statement provides limited assurance for our 2022 Net Carbon Intensity (NCI) (referred to in the Assurance Statement as Net Carbon Footprint). NOTE: LRQA's assurance statements can also be found on our webpage: www.shell.com/ghg - section "Net Carbon Footprint Assurance". [1]
C5. Emissions performance	Change in Scope 1 emissions against a base year (not target related)	ISO 14064-3	Our assurance statement also covers the base year. NOTE: LRQA's assurance statements can also be found on our webpage: www.shell.com/ghg - section "Assurance". [2]
C5. Emissions performance	Change in Scope 2 emissions against a base year (not target related)	ISO 14064-3	Our assurance statement also covers the base year. NOTE: LRQA's assurance statements can also be found on our webpage: www.shell.com/ghg - section "Assurance". [2]

[1] 2022 LRQA Assurance Shell plc - Net Carbon Footprint

[2] 2022 LRQA Assurance Shell plc - Direct and indirect data under operational control

C11. Carbon pricing

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e., ETS, Cap & Trade or Carbon Tax)?

Yes

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

Alberta TIER - ETS

EU ETS

UK ETS

NOTE: These are only three of the regulations that impact our operations by way of example.

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

Alberta TIER - ETS

% of Scope 1 emissions covered by the ETS

9

% of Scope 2 emissions covered by the ETS

0

Period start date

01/01/2022

Period end date

31/12/2022

Allowances allocated

4,802,885

Allowances purchased

185,343

Verified Scope 1 emissions in metric tons CO2e

4,717,736

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Other, please specify: facilities operated by Shell

Comment

The above numbers reflect emissions and allowances under the Alberta Technology Innovation and Emissions Reduction (TIER) Regulation.
Allowances allocated = Allowable Emissions (AE).
Verified emissions = Total Regulated Emissions (TRE).
“Allowances purchased” reflect the total amount of Fund Credits purchased.

EU ETS

% of Scope 1 emissions covered by the ETS

20

% of Scope 2 emissions covered by the ETS

0

Period start date

01/01/2022

Period end date

31/12/2022

Allowances allocated

7,163,041

Allowances purchased

3,203,602

Verified Scope 1 emissions in metric tons CO2e

10,366,643

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Other, please specify: facilities operated by Shell

Comment

The number of allowances purchased was calculated as a difference between the allowances allocated and verified emissions. Allowances and verified emissions do not include UK facilities, which are reported separately under UK ETS.

UK ETS

% of Scope 1 emissions covered by the ETS

3

% of Scope 2 emissions covered by the ETS

0

Period start date

01/01/2022

Period end date

31/12/2022

Allowances allocated

427,296

Allowances purchased

923,378

Verified Scope 1 emissions in metric tons CO2e

1,350,674

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Other, please specify: facilities operated by Shell

Comment

The number of allowances purchased was calculated as a difference between the allowances allocated and verified emissions. Allowances and verified emissions do not include EU facilities, which are reported separately under EU ETS.

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

(AR, p83) 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.

(AR, p82) 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 in AR 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.

(AR, p84) 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.

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.

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.

(C11.2) Has your organization cancelled any project-based carbon credits within the reporting year?

Yes

(C11.2a) Provide details of the project-based carbon credits cancelled by your organization in the reporting year.

Project type

Other, please specify

Carbon Capture and Storage (CCS)

Type of mitigation activity

Carbon removal

Project description

The purpose of this offset project is to quantify emission reductions generated under the Alberta Offset System from Shell Canada Limited's (Shell) Quest CCS Project (Quest). The Quest CCS project captures approximately one third of the greenhouse gas emissions at the Scotford Upgrader located at the Scotford Complex, northeast of Edmonton, Alberta. The opportunity for generating carbon offsets with this project arises from the direct greenhouse gas emission reductions resulting from the geological sequestration of CO_2 in saline aquifers located approximately 2 km under the surface in the Basal Cambrian Sands Formation. This activity is considered a permanent sequestration of CO_2.

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

65,483

Purpose of cancellation

Compliance with a carbon pricing system

A total of 715,416 credits with a vintage of 2022 were issued for the Quest CCS Project. Of these issued credits, 65,483 credits were cancelled or retired by Shell.

Are you able to report the vintage of the credits at cancellation?

Yes

Vintage of credits at cancellation

2022

Were these credits issued to or purchased by your organization?

Issued

Credits issued by which carbon-crediting program

Other regulatory carbon crediting program, please specify

Alberta Emission Offset System

Method(s) the program uses to assess additionality for this project

Investment analysis

Barrier analysis

Market penetration assessment

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions

Provide details of other issues the selected program requires projects to address

Comment

Project type

Forest ecosystem restoration

Type of mitigation activity

Carbon removal

Project description

The Kasigau Corridor REDD Project - Phase II - The Community Ranches

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

1,050,703

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Peatland protection and restoration

Type of mitigation activity

Carbon removal

Project description

Katingan Peatland Restoration and Conservation Project

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

2,012,455

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions

Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Forest ecosystem restoration

Type of mitigation activity

Carbon removal

Project description

REDD+ Project for Caribbean Guatemala: The Conservation Coast

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

188,148

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Wind

Type of mitigation activity

Emissions reduction

Project description

Urla Wind Power Project, Turkey

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

40,875

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting

Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Wind

Type of mitigation activity

Emissions reduction

Project description

Inner Mongolia Jingneng Saihan Wind Farm Phase I Project

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

164,728

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Wind

Type of mitigation activity

Emissions reduction

Project description

Inner Mongolia Jingneng Saihan Wind Farm Phase II Project

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

10,627

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

CDM (Clean Development Mechanism)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Wind

Type of mitigation activity

Emissions reduction

Project description

Inner Mongolia Ximeng Zheligentu Wind Farm Phase I Project

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

123,145

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

CDM (Clean Development Mechanism)Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Wind

Type of mitigation activity

Emissions reduction

Project description

Germiyan Wind Power Project

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

35,855

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Wind

Type of mitigation activity

Emissions reduction

Project description

Alaçati Wind Power Project

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

40,635

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Soil carbon sequestration

Type of mitigation activity

Carbon removal

Project description

Adjusted Water Management in Rice Cultivation in Chizhou City

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

48,000

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Soil carbon sequestration

Type of mitigation activity

Carbon removal

Project description

Adjusted Water Management in Rice Cultivation in Nanling County

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

115,000

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Soil carbon sequestration

Type of mitigation activity

Carbon removal

Project description

Adjusted Water Management in Rice Cultivation in Northern Lujiang County

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

56,871

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Soil Carbon sequestration

Type of mitigation activity

Carbon removal

Project description

Adjusted Water Management in Rice Cultivation in Tongcheng City

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

20,862

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Soil carbon sequestration

Type of mitigation activity

Carbon removal

Project description

Adjusted Water Management in Rice Cultivation in Xuanzhou District

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

101,775

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Soil carbon sequestration

Type of mitigation activity

Carbon removal

Project description

Adjusted Water Management in Rice Cultivation in Huaining County

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

56,466

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Afforestation

Type of mitigation activity

Carbon removal

Project description

Qinghai Afforestation Project

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

7,500

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Afforestation

Type of mitigation activity

Carbon removal

Project description

Qianxinan Afforestation Project in Guizhou Province

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

37,864

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Afforestation

Type of mitigation activity

Carbon removal

Project description

Puzhen Afforestation Project in Guizhou Province

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

100,000

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Afforestation

Type of mitigation activity

Carbon removal

Project description

Guinan Afforestation Project

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

27,364

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Afforestation

Type of mitigation activity

Carbon removal

Project description

Haidong Afforestation Project

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

40,903

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Afforestation

Type of mitigation activity

Carbon removal

Project description

Hechu Afforestation Project in Anhui Province

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

144,597

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Afforestation

Type of mitigation activity

Carbon removal

Project description

Afforestation Project in Xining City

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

40,000

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Reforestation

Type of mitigation activity

Carbon removal

Project description

Reforestation of Degraded Forest Reserves in Ghana

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

400

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Forest ecosystem restoration

Type of mitigation activity

Carbon removal

Project description

Reduction of Deforestation and Degradation in Tambopata National Reserve and Bahuaja-Sonene National Park within the Area of Madre de Dios region, Peru.

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

29,725

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Forest ecosystem restoration

Type of mitigation activity

Carbon removal

Project description

Cordillera Azul National Park REDD Project

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

937,871

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Reforestation

Type of mitigation activity

Carbon removal

Project description

Curraweena Regeneration Project

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

34,708

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

Emissions Reduction Fund of the Australian Government

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Forest ecosystem restoration

Type of mitigation activity

Carbon removal

Project description

Darkwoods Forest Carbon Project

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

181,402

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Clean cookstove distribution

Type of mitigation activity

Emissions reduction

Project description

Distribution of Improved Cook Stove - Phase 11

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

54,137

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

CDM (Clean Development Mechanism)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Clean cookstove distribution

Type of mitigation activity

Emissions reduction

Project description

Distribution of Improved Cook Stove - Phase VI

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

44,674

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

CDM (Clean Development Mechanism)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Solar

Type of mitigation activity

Emissions reduction

Project description

30 MW Solar PV Project by Nirosha Solar Power Private Limited

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

29,558

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

Gold Standard

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

Project type

Soil carbon sequestration

Type of mitigation activity

Carbon removal

Project description

Zhangye Improved Grassland Management

Credits cancelled by your organization from this project in the reporting year (metric tons CO2e)

19,435

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Barrier analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions
Activity-shifting
Market leakage

Provide details of other issues the selected program requires projects to address

Comment

These project-based carbon credits are examples of carbon credits retired for 2022. The majority of these carbon credits reduced Shell's GHG emissions as reported for the Net Carbon Footprint (NCF) by directly offsetting Shell's GHG emissions under the NCF boundary. In addition, some of these carbon credits were used to offset GHG emissions outside of the NCF boundary such as for GHG emissions from lubricants facilities.

(C11.3) Does your organization use an internal price on carbon?

Yes

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Type of internal carbon price

Shadow price

How the price is determined

Other, please specify:

(AR, p82) 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.

Objective(s) for implementing this internal carbon price

Navigate GHG regulations
Stress test investments
Other, please specify: (AR, p82) Consideration of the potential costs associated with operational GHG emissions when we assess the resilience of new projects.

Scope(s) covered

Scope 1, Scope 2

Pricing approach used – spatial variance

Differentiated

Pricing approach used – temporal variance

Evolutionary

Indicate how you expect the price to change over time

(AR, p257) 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 our Annual Report, we show carbon prices per tonne (RT22) for our key regions and countries that we have been assumed in the Operating Plan for periods 2023-2029, 2030-2032, and 2033-2050. For example, within the period 2023-2029, the assumption is between $0 and $121 across the identified regions and countries; within the period 2033-2050, the costs are estimated to be between $19 and $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.
Please refer to our Annual Report and Accounts 2022, p257, for more information.
The price data inserted below as actual minimum and maximum reflect the time period 2023-2029.

Actual price(s) used – minimum (currency as specified in C0.4 per metric ton CO2e)

0

Actual price(s) used – maximum (currency as specified in C0.4 per metric ton CO2e)

121

Business decision-making processes this internal carbon price is applied to

Other, please specify

(AR, p82) We consider the potential costs associated with operational GHG emissions when we assess the resilience of new projects. See Annual Report and Accounts, p257, Note 4, for further details on our regional cost of carbon estimates.

Mandatory enforcement of this internal carbon price within these business decision-making processes

Explain how this internal carbon price has contributed to the implementation of your organization's climate commitments and/or climate transition plan

(AR, p82) 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" (AR, p82) for further details on our regional cost of carbon estimates.

(AR, p257) 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.

(AR, p87) 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 carbon management framework (see AR, p81).
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.

C12. Engagement

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, our customers/clients

Yes, other partners in the value chain

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Collect GHG emissions data at least annually from suppliers

Collect targets information at least annually from suppliers

Collect other climate related information at least annually from suppliers

% of suppliers by number

3

% total procurement spend (direct and indirect)

26

% of supplier-related Scope 3 emissions as reported in C6.5

28

Rationale for the coverage of your engagement

(SR, p47) In 2021, Shell rolled out a new digital platform, the Supplier Energy Transition Hub, free of charge to our supply chain and any other interested companies. The platform enables companies to set emission ambitions and track performance, share best practice and exchange emissions data within their own supply chains.

Impact of engagement, including measures of success

(SR, p47) By the end of 2022, 1,039 of Shell's suppliers had joined the platform (2021: 258), 460 of which have already set emission reduction targets (2021: 103).

Comment

With regards to line items "% of suppliers by number", "% total procurement spend", and "% of supplier-related Scope 3 emissions as reported in C6.5", note that the calculations are based on figures which represent a snapshot of dynamic developments during 2022.

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Offer financial incentives for suppliers who reduce your operational emissions (Scopes 1 & 2)

% of suppliers by number

15

% total procurement spend (direct and indirect)

17

% of supplier-related Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement

(SR, p47) We continually work with our suppliers to find ways to reduce greenhouse gas emissions across our supply chains.

Impact of engagement, including measures of success

(AR, p27) Performance indicators

2022: Reduction of operational emissions by 2,010 thousand tonnes CO2 through GHG abatement projects 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 also section “Our journey to net zero” in our 2022 Annual Report and Accounts.

Comment

With regards to line items "% of suppliers by number", "% total procurement spend", note that the calculations are based on figures which represent a snapshot of dynamic developments during 2022.

Type of engagement

Innovation & collaboration (changing markets)

Details of engagement

Other, please specify: Supplier relationship management

% of suppliers by number

2

% total procurement spend (direct and indirect)

24

% of supplier-related Scope 3 emissions as reported in C6.5

25

Rationale for the coverage of your engagement

(webpage - www.shell.com/energy-and-innovation/the-energy-future/building-low-carbon-demand-sector-by-sector) We believe that if the world is to shift to a net-zero future, it is not enough to just supply low-carbon energy. It is vital to evolve demand for low-carbon energy at the same time. That is why Shell is collaborating with others to help address greenhouse gas (GHG) emissions across key sectors of the economy including aviation, marine, road freight and industry.

For more information visit our webpage "Transforming low-carbon energy supply and demand across sectors" (www.shell.com/energy-and-innovation/the-energy-future/building-low-carbon-demand-sector-by-sector)

Impact of engagement, including measures of success

(webpage) Examples from 2022:

- Union Pacific Railroad and Shell are joining forces to accelerate the decarbonisation of rail transportation. The companies signed a Memorandum of Understanding that allows exploration and testing of several initiatives designed to help Union Pacific achieve its goal to reduce greenhouse gas

(GHG) emissions 26% by 2030 and, ultimately, reach net zero by 2050. The initiatives would also contribute to Shell achieving its target to become a net zero energy business by 2050.
- Siemens and Shell sign MoU to advance low-carbon, highly efficient energy solutions. Companies to work together to speed up energy transition, Partnership to focus on green hydrogen projects at Shell and its customers, Holland Hydrogen 1 project in Rotterdam key milestone in partnership to advance green hydrogen.
- DHL and Shell extend collaboration to reduce emissions across transport and operations. DHL and Shell have signed a memorandum of understanding (MoU) to advance the reduction of carbon emissions in transportation, logistics, and supply chain operations.
Read more about how we work with contractors and suppliers at www.shell.com/business-customers/shell-for-suppliers.

Comment

With regards to line items "% of suppliers by number", "% total procurement spend", and "% of supplier-related Scope 3 emissions as reported in C6.5", note that the calculations are based on figures which represent a snapshot of dynamic developments during 2022.

Type of engagement

Other, please specify: Supplier onboarding on Shell Supplier Principles

Details of engagement

Other, please specify: Environment-related KPI

% of suppliers by number

% total procurement spend (direct and indirect)

% of supplier-related Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement

(webpage) In accordance with our Shell General Business Principles and Group Code of Conduct, we seek to work with contractors and suppliers who contribute to sustainable development and are economically, environmentally and socially responsible.

Contractors and suppliers:
 are committed to protect the environment in compliance with all applicable environmental laws and regulations;
 use energy and natural resources efficiently;
 continually look for ways to minimise waste, emissions and discharge of their operations, products and services;
 respect their neighbours and contribute to the societies in which they operate
 manage the social impacts of their activities carefully and enhance the benefits to local communities
 recognize that regular dialogue and engagement with stakeholders is essential. In interactions with employees, business partners and local communities, seek to listen and respond to them honestly and responsibly.
We will develop and strengthen relationships with contractors and suppliers who are committed to the principles set out below or to similar standards through their own activities and the management of their own suppliers and sub-contractors.
For more information visit our webpage Supplier Principles: www.shell.com/business-customers/shell-for-suppliers/supplier-principles and www.shell.com/business-customers/shell-for-suppliers/suppliers-corner.

Impact of engagement, including measures of success

(webpage) Shell Contracting & Procurement is responsible for nearly everything that Shell buys across the full scope of activities in the Upstream, Downstream, and Projects & Technology sectors of our business. With Shell operations in more than 70 countries, this means our Contracting & Procurement specialists are purchasing from thousands of suppliers worldwide.
In our drive towards a fully integrated and highly automated commercial supply chain, we have simplified the manner in which we work together. To ensure that the interaction between Shell and the selected supplier is efficient, we provide our suppliers the necessary tools on the SAP Ariba platform, which are necessary in achieving a fruitful collaboration and drive both ours and the supplier's performance in the market.
For example, our "purchase order general terms and conditions" refer to the Shell Supplier Principles in the paragraph Business Principles, in clause Compliance with applicable laws business principles, and HSSE standards.
For more info visit our webpage Suppliers' Corner: www.shell.com/business-customers/shell-for-suppliers/suppliers-corner

(SR, p47) In 2022, Shell spent around $41.5 billion on goods and services from around 24,000 suppliers globally.

(webpage - www.shell.com/business-customers/shell-for-suppliers/suppliers-corner.html) We purchase products and services that support our approach to sustainability. For example, we work with suppliers that can build pipelines using non-metallic materials, where appropriate, instead of carbon steel. Non-metallic pipes have a smaller carbon footprint than carbon steel pipes. Transportation and installation are also easier as non-metallic pipes weigh around a quarter less than the equivalent size steel pipe. Shell Shipping also uses a supplier that provides low-friction paint for ship hulls, which makes the ship more fuel efficient.

For more info visit our webpage About Shell for Suppliers: www.shell.com/business-customers/shell-for-suppliers/about-shell-for-suppliers and www.shell.com/business-customers/shell-for-suppliers/suppliers-corner.

Comment

With regards to line items "% of suppliers by number", "% total procurement spend", and "% of supplier-related Scope 3 emissions as reported in C6.5", note that contract details are not aggregated on a global level.

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement & Details of engagement

Collaboration & innovation

Other, please specify: Shell continues to work with governments, customers and partners to unlock the potential for CCS to reduce emissions where there are currently few viable low-carbon alternatives.

% of customers by number

% of customer - related Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement

(ETPR, p7) Providing our customers with more electricity: during 2022, we increased electric vehicle charge points by 62% to around 139,000

Impact of engagement, including measures of success

(ETPR, p8) Our carbon targets for absolute Scope 1 and 2 emissions and net carbon intensity

In 2022, we continued to make progress towards our 2030 targets. By the end of 2022, we had reduced our Scope 1 and 2 emissions from our operations by 30%, compared with our 2016 reference year on a net basis. The net carbon intensity of the energy products we sell decreased by 3.8%, compared with our 2016 reference year. This reduction in net carbon intensity reflects an increase in sales of low- and zero-carbon energy, helping our customers to decarbonise their energy use.

Type of engagement & Details of engagement

Collaboration & innovation

Other, please specify

Shell continues to work with governments, customers and partners to unlock the potential for CCS to reduce emissions where there are currently few viable low-carbon alternatives.

% of customers by number

% of customer - related Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement

Carbon capture and storage

There is no single solution to the urgent challenge of cutting carbon emissions to limit global temperature rise. Carbon capture and storage offers a way to reduce emissions from sectors that are hard-to-decarbonise.

At Shell, we believe that CCS will be essential for helping society to achieve net-zero emissions. Our ambition is to work with governments, customers, and partners to unlock the potential for CCS around the world.

Capturing and safely storing carbon is an option that's available now. It can help us reduce the amount of carbon entering the atmosphere and even be used to remove existing carbon, something that is critical for reducing human impact on the climate. Shell has the end-to-end capabilities to capture, transport and store our emissions and to do the same for our customers. (webpage: www.shell.com/energy-and-innovation/carbon-capture-and-storage)

Impact of engagement, including measures of success

(ETPR, p21) 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 invested 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.

Examples:

- In Norway, our Northern Lights CCS joint venture (Shell interest 33%) signed a letter of intent on cross-border CO2 transport and storage in August. Under this agreement, some 800,000 tonnes of CO2 will be captured, compressed and liquefied at a Yara ammonia and fertiliser plant in the Netherlands from early 2025. The CO2 will then be transported to Norway for permanent storage 2,600 metres below the seabed in the North Sea. In

November 2022, construction started on the first two ships that will be used to transport CO2 to the Northern Lights facilities.
- In Canada, for example, the Alberta government selected the Atlas Sequestration Hub (with Shell as 50% partner) to move to the next stage for further evaluation in April 2022.

CCS is part of our Renewables and Energy Solutions business segment.
Read more about CCS on our website: www.shell.com/energy-and-innovation/carbon-capture-and-storage

Type of engagement & Details of engagement

Collaboration & innovation
Run a campaign to encourage innovation to reduce climate change impacts

% of customers by number

% of customer - related Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement

(ETPR, p21) Carbon credits (including nature-based solutions (NBS))
Carbon credits may be used by Shell and our customers to compensate emissions in line with the mitigation hierarchy of avoid, reduce and compensate. We are clear that carbon credits need to have a robust carbon benefit but also deliver a positive impact on ecosystems and communities. We work closely with local partners to ensure that the carbon credits projects we invest in are of a high quality.

Impact of engagement, including measures of success

(ETPR, p21) In 2022, we invested $69 million in nature-based projects and $23 million in technology-based projects, such as fuel-efficient cookstoves. The nature-based projects include reforestation and the prevention of landscape degradation and destruction. The spend on nature-based projects includes a $40 million investment in Brazilian carbon credit developer Carbonext. This company’s portfolio protects more than 2 million hectares of the Amazon rainforest.
We offer carbon credits to drivers and business customers who wish to compensate for the life-cycle CO2-equivalent emissions of the Shell product they buy. In 2022, this offer was extended to motorists at more than 4,000 service stations in Austria, Canada, Denmark, Germany, Hungary, the

Netherlands, Switzerland and the UK.
We delivered 11 carbon-compensated liquefied natural gas (LNG) cargoes to our customers across the globe, and for the first time, a GHG-neutral LNG cargo in line with the GIIGNL Framework [A]. We also launched our Avgas carbon-compensated offer for aviation customers in selected markets in Europe and in Singapore, through our airport network.
In 2022, we retired 5.8 million carbon credits, including 4.1 million credits included in our net carbon intensity, and 1.7 million carbon credits associated mainly with the sale of non-energy products and with Shell's business travel. One carbon credit represents the avoidance or removal of 1 tonne of CO2. We carefully source and screen the credits we purchase and retire from the market, and work with multiple certification standards and ratings agencies to check that our requirements are met.
Carbon credits, including nature-based solutions, are part of our Renewables and Energy Solutions business segment.
Read more about how we ensure high-quality carbon credits on our website: www.shell.com/energy-and-innovation/new-energies/naturebased-solutions.
[A] This framework, published by the International Group of Liquefied Natural Gas Importers, provides a common source of best practice principles in the monitoring, reporting, reduction, offsetting and verification, of GHG emissions associated with a delivered cargo of LNG.

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

Examples:
(SR, p48) Local content
We want to make a positive difference to countries and local communities where we operate. We do this by creating jobs, training people, supporting local businesses and buying goods and services from local suppliers – collectively referred to as local content.
In 2022, 83.3% of the $41.5 billion we spent on goods and services was purchased from suppliers based in the same country of operation, also called local procurement. About 61% of our procurement was in Canada, Germany, the Netherlands, the UK and the USA, of which 81.9% was spent with local suppliers in these countries. We estimate that around $5 billion was spent 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. In these countries, Shell companies spent around 89.8%, or about $4.6 billion, with local suppliers. In 2022, we initiated and completed a local content measurement and reporting project with Ipieca, the global oil and gas industry association, that provides guidance for operators, contractors and governments on how to best measure the impacts and outcomes of local content practices. The guidelines will be rolled out throughout the industry in 2023. We have also developed a new self-assessment guide that enables us to employ best local content practice throughout the duration of new projects. We began applying the guide in 2022 on the Holland Hydrogen I project in the Netherlands, which will be Europe's largest renewable hydrogen plant when production starts in 2025.
Discover more about how we work to support the countries in which we operate in the Community skills and entrepreneurship section and at www.shell.com/sustainability/communities/local-employment-and-enterprise.

(SR, p52) Education in science, technology, engineering and maths
We actively support science, technology, engineering and maths (STEM) through a range of programmes in more than 20 countries. NXplorers, our flagship STEM programme, aims to help young people develop creative thinking to bridge the skills gap. NXplorers is now active in 19 countries, and engaged more than 78,000 students in 2022. In 2022, we extended our STEM programme in India to cover all age groups from grade 7 to university level to help students gain the skills and confidence to engage in world issues. In the UK, our year-long Girls in Energy course taught some 300 young women about energy and career opportunities in the energy industry. And in Malaysia we worked with the Ministry of Education to make our STEM programme available to students across the country. Read more about our contribution to STEM at www.shell.com/sustainability/communities/education.

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

Yes, climate-related requirements are included in our supplier contracts

(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization's purchasing process and the compliance mechanisms in place.

Climate-related requirement

Climate-related disclosure through a non-public platform

Description of this climate related requirement

(SR, p47) In 2021, we rolled out a new digital platform, 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.
Contract details are not aggregated on a global level.

% suppliers by procurement spend that have to comply with this climate-related requirement

% suppliers by procurement spend in compliance with this climate-related requirement

Mechanisms for monitoring compliance with this climate-related requirement

Supplier scorecard or rating

Response to supplier non-compliance with this climate-related requirement

Retain and engage

Climate-related requirement

Other, please specify: Sustainability clauses in contracts

Description of this climate related requirement

We are working to systematically reflect our environmental framework and overall sustainability implications (energy efficiency, material efficiency and environmental impact) in our purchasing decisions.

Building strong relationships with our contractors and suppliers is essential to delivering new projects and running our operations. In line with our Shell General Business Principles and Supplier Principles, we seek to work with contractors and suppliers who contribute to sustainable development and are economically, environmentally and socially responsible. In addition, we work to establish relations with suppliers which allow us to share our respective expertise and build on innovative thinking.

We purchase products and services that support our approach to sustainability.

For example, we work with suppliers that can build pipelines using non-metallic materials, where appropriate, instead of carbon steel. Non-metallic pipes have a smaller carbon footprint than carbon steel pipes. Transportation and installation are also easier as non-metallic pipes weigh around a quarter less than the equivalent size steel pipe. Shell Shipping also uses a supplier that provides low-friction paint for ship hulls, which makes the ship more fuel efficient.

See also: www.shell.com/business-customers/shell-for-suppliers/about-shell-for-suppliers

Contract details are not aggregated on a global level.

% suppliers by procurement spend that have to comply with this climate-related requirement

% suppliers by procurement spend in compliance with this climate-related requirement

Mechanisms for monitoring compliance with this climate-related requirement

Supplier scorecard or rating

Response to supplier non-compliance with this climate-related requirement

Retain and engage

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers
Yes, our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate
Yes, we fund organizations or individuals whose activities could influence policy, law, or regulation that may impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Yes

Attach commitment or position statement(s)

Shell Climate and Energy Transition (C&ET) Lobbying Report 2022
Shell Global Climate and Energy Transition Policy Positions 2022
2022 Shell Global Climate and Energy Transition Policy Positions.pdf
2022 Shell Climate and Energy Transition Lobbying Report.pdf

Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan

We advocate on public policy issues in line with the Shell General Business Principles and based on our advocacy priorities, which are aligned with our business strategy across lines of business and geographies. Shell senior executives approve our advocacy priorities each year.

(C&ET Lobbying Report 2022) Our global climate and energy transition policy positions serve as a global framework for Shell's advocacy with governments, international organisations, industry associations, coalitions and other stakeholders globally, regionally and within countries. These positions are in line with Powering Progress, our strategy to accelerate the transition of our business to net-zero emissions.
By advocating these positions as we transform our business, we believe we are supporting the energy transition and the Paris Agreement.
We prioritise and adapt these positions at an international and country level, ensuring we support our Powering Progress strategy while taking account of the local political and policy landscape.

Our global climate and energy transition policy positions also served as the basis of our review of industry associations.
Our Climate and Energy Transition Lobbying Report 2022 provides further details of our policy and advocacy internal governance.

NOTE: Information provided in this section is not an exhaustive list of Shell's engagements with policy makers or our reviews of trade associations. We have provided examples of our engagement with policymakers at international, EU and US level.
We are engaging with policy makers on other policies, laws or regulations not listed in this section; further examples of our advocacy are provided on our website www.shell.com/advocacy. We may be members of other associations on CDP's drop-down list. Our latest industry association review (see Shell Climate and Energy Transition Lobbying Report 2022) reviewed 39 associations; it found alignment with 29 and some misalignment with 10. In this CDP Climate Change submission, we have only included associations from our report that we paid >$1m in 2022 and/or where we found some misalignment in positions.

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Specify the policy, law, or regulation on which your organization is engaging with policy makers

Sectoral decarbonisation policy to help achieve net-zero emissions

Category of policy, law, or regulation that may impact the climate

Climate change mitigation

Focus area of policy, law, or regulation that may impact the climate

Climate transition plans

Policy, law, or regulation geographic coverage

Global

Your organization's position on the policy, law, or regulation

Description of engagement with policy makers

(webpage advocacy update: www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/climate-and-energy-transition-advocacy-updates)
We support the goal of the Paris Agreement.

We support the setting of binding targets to reach economy-wide net-zero emissions by 2050, including interim targets for 2030 and 2040. We believe these targets must be supported by strategies and plans to accelerate decarbonisation of key sectors of the economy.
We advocate directly to governments and international organisations and through industry associations and coalitions. For example, we are involved in several sector-based initiatives through the Mission Possible Partnership, and we participated in the Energy, Sustainability and Climate Task Force of the 2022 B20 under the Indonesian G20 Presidency, which called on G20 governments to accelerate the mitigation of carbon emissions from the hard-to-abate sectors of their economies.
This is an example of our advocacy, please see www.shell.com/advocacy for further information.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Specify the policy, law, or regulation on which your organization is engaging with policy makers

International carbon markets policy framework, including Article 6 of the Paris Agreement

Category of policy, law, or regulation that may impact the climate

Carbon pricing, taxes, and subsidies

Focus area of policy, law, or regulation that may impact the climate

Emissions trading schemes

Policy, law, or regulation geographic coverage

Global

Your organization's position on the policy, law, or regulation

Description of engagement with policy makers

(webpage advocacy update: www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/climate-and-energy-transition-advocacy-updates)
We support putting a direct price on carbon emissions as part of a broader policy framework to achieve net-zero emissions.

We support greater international cooperation on carbon pricing through systems that transfer carbon credits between countries. These should ensure environmental integrity by avoiding double-counting across national inventories.
We supported adoption of the rules for Article 6 of the Paris Agreement, which relate to international carbon trading mechanisms.
We advocate directly to governments and international organisations and through industry associations and coalitions, including the World Bank's Carbon Pricing Leadership Coalition (CPLC), the International Emissions Trading Association (IETA), the World Business Council for Sustainable Development (WBCSD) and the International Chamber of Commerce (ICC).
This is an example of our advocacy, please see www.shell.com/advocacy for further information.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Specify the policy, law, or regulation on which your organization is engaging with policy makers

Initiatives to reduce methane emissions and end routine flaring

Category of policy, law, or regulation that may impact the climate

Climate change mitigation

Focus area of policy, law, or regulation that may impact the climate

Emissions – methane

Policy, law, or regulation geographic coverage

Global

Your organization's position on the policy, law, or regulation

Description of engagement with policy makers

(webpage advocacy update: www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/climate-and-energy-transition-advocacy-updates)
We support reducing methane emissions across the economy. We support reducing methane emissions along the natural gas supply chain through

both direct methane regulations and voluntary action including international policy initiatives such as the Global Methane Pledge and the Global Methane Alliance. We believe that policies to reduce methane emissions should be performance-based and technology-neutral. We support robust and transparent methane emissions monitoring, reporting and verification.
We support the ending of routine flaring by 2025. We also support the World Bank's Zero Routine Flaring Initiative that commits governments and oil companies to end routine flaring no later than 2030.
We have engaged with governments and international organisations directly on this issue. We have also engaged with industry associations and coalitions, including the Methane Guiding Principles (which we initiated and are a signatory to), the World Bank's Global Gas Flaring Reduction Partnership (GGFR), the Oil and Gas Methane Partnership (OGMP) and the Oil & Gas Climate Initiative (OGCI). For example, in 2022, we contributed to the Methane Guiding Principles policy toolkit for the Global Methane Pledge.
This is an example of our advocacy, please see www.shell.com/advocacy for further information.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Specify the policy, law, or regulation on which your organization is engaging with policy makers

EU Fit for 55 (FF55) package

Category of policy, law, or regulation that may impact the climate

Climate change mitigation

Focus area of policy, law, or regulation that may impact the climate

Other, please specify

Multiple categories apply

Policy, law, or regulation geographic coverage

Regional

Country/area/region the policy, law, or regulation applies to

EU27

Your organization's position on the policy, law, or regulation

Description of engagement with policy makers

(webpage advocacy update: www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/climate-and-energy-transition-advocacy-updates)

We support the EU's transition to climate neutrality (net-zero emissions) by 2050, and the 2030 greenhouse gas emissions reduction target of 55% below 1990 levels, as set in the European Climate Law.

We support the blend of carbon pricing and regulation in the Fit for 55 package. This includes targets and mandates that are key to creating sectoral markets for clean technologies and low-carbon energy. We also support measures to simplify and speed up renewables permitting, including renewable power generation, transmission and distribution networks.

We engage with EU institutions, member state governments, industry associations and coalitions on the EU's Fit for 55 package.

See our website www.shell.com/advocacy for our positions on specific items within the legislative package and for other examples of our advocacy.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Specify the policy, law, or regulation on which your organization is engaging with policy makers

EU Emissions Trading System (EU ETS) update

Category of policy, law, or regulation that may impact the climate

Carbon pricing, taxes, and subsidies

Focus area of policy, law, or regulation that may impact the climate

Emissions trading schemes

Policy, law, or regulation geographic coverage

Regional

Country/area/region the policy, law, or regulation applies to

EU27, Norway, Iceland, Liechtenstein

Your organization's position on the policy, law, or regulation

Description of engagement with policy makers

(webpage advocacy update: www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/climate-and-energy-transition-advocacy-updates)
We support the update of the EU ETS and have provided policy recommendations in relation to this.
We support an effective EU ETS as a key policy measure to deliver cost-effective sectoral decarbonisation by reducing emissions across regulated sectors. We support aligning the EU ETS with the EU's 2030 greenhouse gas emissions target.
We support the gradual phase-out of Free Allocation under the EU ETS if it comes with a simultaneous phase-in of an effective carbon border adjustment mechanism (CBAM). The CBAM aims to mitigate the risk of carbon leakage.
We support the inclusion of maritime in the EU ETS and we support the gradual extension of carbon pricing to road transport and buildings through a standalone ETS as a complementary tool to CO2-related standards and targets.
We engage with EU institutions directly and through industry associations including Business Europe, FuelsEurope, the European Chemical Industry Council (Cefic), International Emissions Trading Association (IETA), European Round Table for Industry (ERT), European Federation of Energy Traders (EFET) and Eurogas.
This is an example of our advocacy, please see www.shell.com/advocacy for further information.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Specify the policy, law, or regulation on which your organization is engaging with policy makers

EU Renewable Energy Directive (RED) update

Category of policy, law, or regulation that may impact the climate

Climate change mitigation

Focus area of policy, law, or regulation that may impact the climate

Renewable energy generation

Policy, law, or regulation geographic coverage

Regional

Country/area/region the policy, law, or regulation applies to

EU27

Your organization's position on the policy, law, or regulation

Description of engagement with policy makers

(webpage advocacy update: www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/climate-and-energy-transition-advocacy-updates)
We support the overall EU renewables target of 42.5% by 2030, which is aligned with the REPowerEU ambition. We support the EU's aim to advance electrification in all sectors of the economy as much as possible.
We welcome the proposals for simplifying and speeding up renewable permitting as presented in the RePowerEU Plan.
We support the inclusion of sectoral renewable energy targets and binding renewable fuels of non-biological origin (RFNBO) mandates both for industry and transport, supporting the uptake of renewable hydrogen and e-fuels.
We also believe that the regulatory framework should consider the need for demand-side policies to accelerate renewables investment and deployment, and supply-side policies that support competitive markets for generation and supply.
Further details of our positions and policy recommendations are provided in our consultation responses.
We engage with EU institutions directly and through industry associations including Wind Europe, ChargeUp Europe, Hydrogen Europe and FuelsEurope.
This is an example of our advocacy, please see www.shell.com/advocacy for further information.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Specify the policy, law, or regulation on which your organization is engaging with policy makers

ReFuelEU Aviation Regulation

Category of policy, law, or regulation that may impact the climate

Low-carbon products and services

Focus area of policy, law, or regulation that may impact the climate

Alternative fuels

Policy, law, or regulation geographic coverage

Regional

Country/area/region the policy, law, or regulation applies to

EU27

Your organization's position on the policy, law, or regulation

Description of engagement with policy makers

(webpage advocacy update: www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/climate-and-energy-transition-advocacy-updates)

We support the ReFuelEU Regulation. We advocate a more ambitious sustainable aviation fuel (SAF) blending mandate of 10% by 2030 compared with the original Commission proposal. We also support greater feedstock flexibility to deliver material volumes of SAF by 2030, accelerate near-term decarbonisation, and de-risk advanced technology pathways.

We engage with EU institutions directly and through our membership of the Renewable and Low-Carbon Fuels Value Chain Industrial Alliance. We also engage through industry associations, including FuelsEurope and Hydrogen Europe.

This is an example of our advocacy, please see www.shell.com/advocacy for further information.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Specify the policy, law, or regulation on which your organization is engaging with policy makers

EU CO2 emission performance standards for cars and vans

Category of policy, law, or regulation that may impact the climate

Climate change mitigation

Focus area of policy, law, or regulation that may impact the climate

Emissions – CO2

Policy, law, or regulation geographic coverage

Regional

Country/area/region the policy, law, or regulation applies to

EU27

Your organization's position on the policy, law, or regulation

Description of engagement with policy makers

(webpage advocacy update: www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/climate-and-energy-transition-advocacy-updates)

We support the EU's CO2 emissions performance standards regulation for passenger cars and vans, including more stringent emissions reductions in 2030, and a ban on sales of new internal combustion engines (ICE) for cars and vans from 2035.

We engage with EU institutions directly and through industry associations.

This is an example of our advocacy, please see www.shell.com/advocacy for further information.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Specify the policy, law, or regulation on which your organization is engaging with policy makers

US Inflation Reduction Act

Category of policy, law, or regulation that may impact the climate

Climate change mitigation

Focus area of policy, law, or regulation that may impact the climate

Other, please specify

Multiple categories apply

Policy, law, or regulation geographic coverage

National

Country/area/region the policy, law, or regulation applies to

United States of America

Your organization's position on the policy, law, or regulation

Description of engagement with policy makers

(webpage advocacy update: www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/climate-and-energy-transition-advocacy-updates)

We supported the Inflation Reduction Act (IRA). We supported various clean energy provisions, including a workable methane fee and expanded tax credits for CCS, electric vehicles, and wind and solar production. We also supported the creation of new tax credits to encourage the production of hydrogen and sustainable aviation fuel.

We supported funding for the infrastructure needed to support a lower-carbon energy system.

We supported the leasing provisions of the bill, which secure wind, oil and gas leases in law. We also supported, and continue to support permitting reform for all projects.

We advocated directly to government and through coalitions such as the Clean Hydrogen Future Coalition (CHFC), the CEO Climate Dialogue and the Carbon Capture Coalition.

This is an example of our advocacy, please see www.shell.com/advocacy for further information.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Specify the policy, law, or regulation on which your organization is engaging with policy makers

US federal carbon pricing policy approach

Category of policy, law, or regulation that may impact the climate

Carbon pricing, taxes, and subsidies

Focus area of policy, law, or regulation that may impact the climate

Other, please specify

Carbon pricing approach

Policy, law, or regulation geographic coverage

National

Country/area/region the policy, law, or regulation applies to

United States of America

Your organization's position on the policy, law, or regulation

Description of engagement with policy makers

(webpage advocacy update: www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/climate-and-energy-transition-advocacy-updates)

We advocate an economy-wide carbon price in the USA. Although there are currently no federal carbon pricing proposals, we promote carbon pricing in other climate policy discussions.

We advocate directly to government and through coalitions such as the CEO Climate Dialogue and the Climate Leadership Council (CLC). In the absence of momentum on a federal carbon price, the CLC has focused on trade opportunities to reduce emissions.

This is an example of our advocacy, please see www.shell.com/advocacy for further information.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Specify the policy, law, or regulation on which your organization is engaging with policy makers

US Securities and Exchange Commission's (SEC) proposed climate risk disclosure rules

Category of policy, law, or regulation that may impact the climate

Climate change mitigation

Focus area of policy, law, or regulation that may impact the climate

Transparency requirements

Policy, law, or regulation geographic coverage

National

Country/area/region the policy, law, or regulation applies to

United States of America

Your organization's position on the policy, law, or regulation

Description of engagement with policy makers

(webpage advocacy update: www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/climate-and-energy-transition-advocacy-updates)

We support the proposal to require registrants to disclose information about their climate-related risks that are reasonably likely to have a material impact on their business, results of operations, or financial condition. This includes disclosure of their greenhouse gas emissions and certain climate-related financial metrics. However, we have some concerns about the proposal, and have provided recommendations in our submission to the SEC. This is an example of our advocacy, please see www.shell.com/advocacy for further information.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

(C12.3b) Provide details of the trade associations your organization is a member of, or engages with, which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

American Chemistry Council

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Our Climate and Energy Transition Lobbying Report 2022 (www.shell.com/advocacy) included our industry associations review. The review assessed alignment between the positions that key industry associations support and those that Shell supports.

We have found the American Chemistry Council (ACC) to be aligned with our climate and energy transition-related policy positions.

We will remain a member of ACC. We will continue to engage the association on climate and energy transition topics. We will continue to track alignment between ACC's climate and energy transition-related positions and our own.

Further information about our review of this association and 2022 payments is provided in our report. Please also refer to the organisation's own disclosures.

We believe our organisation's engagement with this association aims to help to align their position with the goals of the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Trade association

American Petroleum Institute

Is your organization's position on climate change policy consistent with theirs?

Mixed

Has your organization attempted to influence their position in the reporting year?

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Our Climate and Energy Transition Lobbying Report 2022 (www.shell.com/advocacy) included our industry associations review. The review assessed alignment between the positions that key industry associations support and those that Shell supports.

We found API to have some misalignment with our climate and energy transition-related policy positions. We will urge API to:

- State support for net-zero emissions by 2050 and engage in sustained and constructive advocacy in support of the US target to achieve net-zero emissions by 2050.
- State support for ending routine flaring by 2030 or sooner.

We will remain a member of API at the current time. We will continue to track alignment between API's climate and energy transition-related positions and our own and will be transparent about where we find differences. We will continue to engage the association in areas where we have different views, including through our positions on API's climate committee, board and executive committee.

Further information about our review of this association and 2022 payments is provided in our report. Please also refer to the organisation's own disclosures.

We believe our organisation's engagement with this association aims to help to align their position with the goals of the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Trade association

US Chamber of Commerce

Is your organization's position on climate change policy consistent with theirs?

Mixed

Has your organization attempted to influence their position in the reporting year?

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Our Climate and Energy Transition Lobbying Report 2022 (www.shell.com/advocacy) included our industry associations review. The review assessed alignment between the positions that key industry associations support and those that Shell supports.

We have found USCC to have some misalignment with our climate and energy transition-related policy positions. We will urge USCC to:

- State support for net-zero emissions by 2050 and engage in sustained and constructive advocacy in support of the US target to achieve net-zero emissions by 2050.
- State support for putting a direct price on carbon emissions as part of a broader policy framework to achieve net-zero emissions.

We will remain a member of USCC at the current time. We will continue to track alignment between USCC's climate and energy transition-related positions and our own and will be transparent about where we find differences. We will continue to engage the association in areas where we have different views, including through our positions on USCC's board and task force on climate actions.

Further information about our review of this association and 2022 payments is provided in our report. Please also refer to the organisation's own disclosures.

We believe our organisation's engagement with this association aims to help to align their position with the goals of the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Trade association

National Association of Manufacturers

Is your organization's position on climate change policy consistent with theirs?

Mixed

Has your organization attempted to influence their position in the reporting year?

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Our Climate and Energy Transition Lobbying Report 2022 (www.shell.com/advocacy) included our industry associations review. The review assessed alignment between the positions that key industry associations support and those that Shell supports.

We have found NAM to have some misalignment with our climate and energy transition-related policy positions. We will urge NAM to:

- Explicitly state support for net-zero emissions by 2050 and engage in sustained and constructive advocacy in support of the US target to achieve net-zero emissions by 2050.
- Explicitly state support for putting a direct price on carbon emissions as part of a broader policy framework to achieve net-zero emissions.
- Support the phase-out of unabated coal power generation by 2040.

We will remain a member of NAM at the current time. We will continue to track alignment between NAM's climate and energy transition-related positions and our own and will be transparent about where we find differences. We will continue to engage the association in areas where we have different views, including through our position on NAM's board.

Further information about our review of this association and 2022 payments is provided in our report. Please also refer to the organisation's own disclosures.

We believe our organisation's engagement with this association aims to help to align their position with the goals of the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Trade association

Other, please specify: **Western States Petroleum Association (WSPA)**

Is your organization's position on climate change policy consistent with theirs?

Mixed

Has your organization attempted to influence their position in the reporting year?

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Our Climate and Energy Transition Lobbying Report 2022 (www.shell.com/advocacy) included our industry associations review. The review assessed alignment between the positions that key industry associations support and those that Shell supports.

We have found WSPA to have some misalignment with our climate and energy transition-related policy positions. We will urge WSPA to:

- Explicitly state support for net-zero emissions by 2050.
- Continue to work constructively with policymakers towards a robust and feasible plan that is sensitive to low-income and under-represented communities while helping achieve California's target of net-zero emissions by 2045.
- Continue to work constructively with policymakers towards a robust and feasible plan to help achieve California's target that all passenger vehicles sold in the state be zero-emissions by 2035, delivering a plan that is also sensitive to low-income and under-represented communities.
- Publish more information about the work it is doing to help reduce methane emissions throughout the natural gas supply chain, including in relation to direct methane regulations and flaring. While we recognise we no longer operate upstream assets in states covered by WSPA, we encourage the association to support ending routine flaring by 2030 or sooner to help achieve such standards.

We will remain a member of WSPA at the current time. We will continue to track alignment between WSPA's climate and energy transition-related positions and our own and will be transparent about where we find differences. We will continue to engage the association in areas where we have

different views, including through our positions on WSPA's climate committee, government affairs committee and board of directors.
Further information about our review of this association and 2022 payments is provided in our report. Please also refer to the organisation's own disclosures.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Trade association

Other, please specify: **Texas Oil & Gas Association (TXOGA)**

Is your organization's position on climate change policy consistent with theirs?

Mixed

Has your organization attempted to influence their position in the reporting year?

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Our Climate and Energy Transition Lobbying Report 2022 (www.shell.com/advocacy) included our industry associations review. The review assessed alignment between the positions that key industry associations support and those that Shell supports.
We have found TXOGA to have some misalignment with our climate and energy transition-related policy positions. We will urge TXOGA to update its climate statement to state support for net-zero emissions by 2050 and to publicly advocate for reducing carbon emissions.
We will continue to track alignment between TXOGA's climate and energy transition-related positions and our own and will be transparent about where we find differences. We will continue to engage the association in areas where we have different views. We will provide an update in our next report.
Further information about our review of this association and 2022 payments is provided in our report. Please also refer to the organisation's own

disclosures.
We believe our organisation's engagement with this association aims to help to align their position with the goals of the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Trade association

Canadian Association of Petroleum Producers

Is your organization's position on climate change policy consistent with theirs?

Mixed

Has your organization attempted to influence their position in the reporting year?

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Our Climate and Energy Transition Lobbying Report 2022 (www.shell.com/advocacy) included our industry associations review. The review assessed alignment between the positions that key industry associations support and those that Shell supports.
We have found CAPP to have some misalignment with our climate and energy transition-related policy positions. We will urge CAPP to state a position in support of ending routine flaring by 2030 or sooner.
We will remain a member of CAPP at the current time. We will continue to track alignment between CAPP's climate and energy transition-related positions and our own and will be transparent about where we find differences. We will continue to engage the association in areas where we have different views, including through our involvement in CAPP's climate policy committees and board.
Further information about our review of this association and 2022 payments is provided in our report. Please also refer to the organisation's own

disclosures.
We believe our organisation's engagement with this association aims to help to align their position with the goals of the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Trade association

Other, please specify: **Australian Petroleum Production & Exploration Association (APPEA)**

Is your organization's position on climate change policy consistent with theirs?

Mixed

Has your organization attempted to influence their position in the reporting year?

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Our Climate and Energy Transition Lobbying Report 2022 (www.shell.com/advocacy) included our industry associations review. The review assessed alignment between the positions that key industry associations support and those that Shell supports.
We have found APPEA to have some misalignment with our climate and energy transition-related policy positions. We will urge APPEA to:
- Continue to support reducing methane emissions throughout the natural gas supply chain. Support direct regulations for reducing methane emissions such as performance standards based on robust monitoring, reporting and verification frameworks. Support ending routine flaring by 2030 or sooner to help achieve such standards.
We will remain a member of APPEA at the current time. We will continue to track alignment between APPEA's climate and energy transition-related positions and our own, and will be transparent about where we find differences. We will continue to engage the association, including through our positions on APPEA's board and committees, in areas where we have different views.

Further information about our review of this association and 2022 payments is provided in our report. Please also refer to the organisation's own disclosures.
We believe our organisation's engagement with this association aims to help to align their position with the goals of the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Trade association

Other, please specify: **Queensland Resources Council (QRC)**

Is your organization's position on climate change policy consistent with theirs?

Mixed

Has your organization attempted to influence their position in the reporting year?

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Our Climate and Energy Transition Lobbying Report 2022 (www.shell.com/advocacy) included our industry associations review. The review assessed alignment between the positions that key industry associations support and those that Shell supports.
We have found QRC to have some misalignment with our climate and energy transition-related policy positions. We will urge QRC to:
- Support reducing methane emissions throughout the natural gas supply chain through direct regulations such as performance standards based on robust monitoring, reporting and verification frameworks. We also urge QRC to support ending routine flaring by 2030 or sooner to help achieve such standards.
We will remain a member of QRC at the current time. We will continue to track alignment between QRC's climate and energy transition-related positions and our own, and will be transparent about where we find differences. We will continue to engage the association in areas where we have

different views.
Further information about our review of this association and 2022 payments is provided in our report. Please also refer to the organisation's own disclosures.
We believe our organisation's engagement with this association aims to help to align their position with the goals of the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Trade association

Other, please specify: **Chamber of Minerals and Energy of Western Australia (CME)**

Is your organization's position on climate change policy consistent with theirs?

Mixed

Has your organization attempted to influence their position in the reporting year?

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Our Climate and Energy Transition Lobbying Report 2022 (www.shell.com/advocacy) included our industry associations review. The review assessed alignment between the positions that key industry associations support and those that Shell supports.
We have found CME to have some misalignment with our climate and energy transition-related policy positions. We will urge CME to:
- Support reducing methane emissions throughout the natural gas supply chain through direct regulations such as performance standards based on robust monitoring, reporting and verification frameworks. Support ending routine flaring by 2030 or sooner to help achieve such standards.
We will remain a member of CME at the current time. We will continue to track alignment between CME's climate and energy transition-related positions and our own and will be transparent about where we find differences. We will continue to engage the association in areas where we have

different views.
Further information about our review of this association and 2022 payments is provided in our report. Please also refer to the organisation's own disclosures.
We believe our organisation's engagement with this association aims to help to align their position with the goals of the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Trade association

European Chemical Industry Council (CEFIC)

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Our Climate and Energy Transition Lobbying Report 2022 (www.shell.com/advocacy) included our industry associations review. The review assessed alignment between the positions that key industry associations support and those that Shell supports.
We have found Cefic to be aligned with our climate and energy transition-related policy positions.
We will remain a member of Cefic. We will continue to engage the association on climate and energy transition topics. We will continue to track alignment between Cefic's climate and energy transition-related positions and our own.
Further information about our review of this association and 2022 payments is provided in our report. Please also refer to the organisation's own

disclosures.
We believe our organisation's engagement with this association aims to help to align their position with the goals of the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Trade association

FuelsEurope

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Our Climate and Energy Transition Lobbying Report 2022 (www.shell.com/advocacy) included our industry associations review. The review assessed alignment between the positions that key industry associations support and those that Shell supports.
We found FuelsEurope to be aligned with our climate and energy transition-related policy positions.
We will remain a member of FuelsEurope. We will continue to engage the association on climate and energy transition topics. We will continue to track alignment between FuelsEurope's climate and energy transition-related positions and our own.
Further information about our review of this association and 2022 payments is provided in our report. Please also refer to the organisation's own disclosures.
We believe our organisation's engagement with this association aims to help to align their position with the goals of the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Trade association

Other, please specify: **Offshore Energies UK (OEUK)**

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Our Climate and Energy Transition Lobbying Report 2022 (www.shell.com/advocacy) included our industry associations review. The review assessed alignment between the positions that key industry associations support and those that Shell supports.
We have found OEUK to be aligned with our climate and energy transition-related policy positions.
We will remain a member of OEUK. We will continue to engage the association on climate and energy transition topics. We will continue to track alignment between OEUK's climate and energy transition-related positions and our own.
Further information about our review of this association and 2022 payments is provided in our report. Please also refer to the organisation's own disclosures.
We believe our organisation's engagement with this association aims to help to align their position with the goals of the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Trade association

Other, please specify: **International Gas Union (IGU)**

Is your organization's position on climate change policy consistent with theirs?

Mixed

Has your organization attempted to influence their position in the reporting year?

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Our Climate and Energy Transition Lobbying Report 2022 (www.shell.com/advocacy) included our industry associations review. The review assessed alignment between the positions that key industry associations support and those that Shell supports.

We have found IGU to have some misalignment with our climate and energy transition-related policy positions. We will urge IGU to:

- Support reducing methane emissions throughout the natural gas supply chain through direct regulations such as performance standards based on robust monitoring, reporting and verification frameworks. Explicitly state support for ending routine flaring by 2030 or sooner to help achieve such standards.

We will remain a member of IGU at the current time. We will continue to track alignment between IGU's climate and energy transition-related positions and our own and will be transparent about where we find differences. We will continue to engage the association in areas where we have different views.

Further information about our review of this association and 2022 payments is provided in our report. Please also refer to the organisation's own disclosures.

We believe our organisation's engagement with this association aims to help to align their position with the goals of the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Trade association

Other, please specify: **International Association of Oil & Gas Producers (IOGP)**

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Our Climate and Energy Transition Lobbying Report 2022 (www.shell.com/advocacy) included our industry associations review. The review assessed alignment between the positions that key industry associations support and those that Shell supports.
We have found IOGP to be aligned with our climate and energy transition-related policy positions.
We will remain a member of IOGP. We will continue to engage the association on climate and energy transition topics. We will continue to track alignment between IOGP's climate and energy transition-related positions and our own.
Further information about our review of this association and 2022 payments is provided in our report. Please also refer to the organisation's own disclosures.
We believe our organisation's engagement with this association aims to help to align their position with the goals of the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

(C12.3c) Provide details of the funding you provided to other organizations or individuals in the reporting year whose activities could influence policy, law, or regulation that may impact the climate.

-

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports, incorporating the TCFD recommendations

Status

Complete

Attach the document

shell-annual-report-2022.pdf

Page/Section reference

2022 Annual Report and Accounts

Across the document, e.g., in sections: Powering Progress strategy, p6ff; Risk factors, p15; Progress on strategy, p27; Performance indicators, p27; Our journey to net zero, p78ff; Governance framework, p148ff; Directors' remuneration report, p178ff.

Content elements

Governance, Strategy, Risks & opportunities, Emissions figures, Emission targets, Other metrics

Comment

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Publication

In voluntary sustainability report

Status

Complete

Attach the document

shell-sustainability-report-2022.pdf

Page/Section reference

2022 Sustainability Report

Across the document, e.g., in sections: Powering Progress, p4; Achieving net-zero emissions, p21-36; Providing access to energy, p46; Our Powering Progress targets, p66; Greenhouse gas and energy data, p71ff.

Content elements

Governance, Strategy, Risks & opportunities, Emissions figures, Emission targets, Other metrics

Comment

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Publication

In voluntary communications

Status

Complete

Attach the document

2022 Shell Energy Transition Progress Report.pdf

Page/Section reference

Shell Energy Transition Progress Report 2022

Whole document on energy transition strategy.

Content elements

Governance, Strategy,

Risks & opportunities, Emissions figures, Emission targets

Comment

--

Publication

In voluntary communications

Status

Complete

Attach the document

2022 Shell Climate and Energy Transition Lobbying Report.pdf

Page/Section reference

2022 Climate and Energy Transition Lobbying Report 2022

Across the document, e.g., in sections: Working towards net zero emissions, p10; Climate and energy transition lobbying review, p10; case studies: Supporting energy security in Europe, p19; Oil and gas on the path to net zero, p20; Tackling methane emissions, p22.

Content elements

Governance, Strategy, Other, please specify: membership of industry associations

Comment

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C12.5

(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.

Environmental collaborative framework, initiative and/or commitment	Describe your organization's role within each framework, initiative and/or commitment
World Business Council for Sustainable Development (WBCSD) Other, please specify: Ipieca, IOGP, OGCI, Business for Nature Call to Action, TNFD Forum, Science Based Targets Network Corporate Engagement Program, BSR Energy for a Just Transition	Note: Collaborative frameworks, initiatives and commitments related to environmental issues mentioned here are not a comprehensive overview but represent a selection of Shell's engagements. For more information visit, e.g., www.shell.com/sustainability/our-approach/external-voluntary-codes.html, www.shell.com/sustainability/environment/respecting-nature.html, and www.shell.com/sustainability/our-approach/working-in-partnership.html. WBCSD: We are a founding member of the World Business Council for Sustainable Development (WBCSD), have a seat on the executive committee, Co-Chair the Energy programme and participate in several groups related to nature including biodiversity, plastic waste, circular economy and Nature Based Solutions. Ipieca, the global oil and gas industry association for advancing environmental and social performance across the energy transition: Shell is a Vice Chair of Ipieca, chairs Ipieca's overall Environmental Working Group and is active in other working groups. International Association of Oil & Gas Producers (IOGP): Shell is a member and is active in working groups. Oil and Gas Climate Initiative (OGCI): Shell has an Executive Committee member and is active in working groups. Business for Nature Call to Action: Shell is a signatory. TNFD Forum: Shell is a member of the Taskforce on Nature-related Financial Disclosures Forum, which aims to develop a risk management and disclosure framework for organisations to report and act on evolving nature-related risks. Science Based Targets Network Corporate Engagement Program: Shell joined in 2022, helping to make its guidance for setting science-based targets easy to use and implement. BSR Energy for a Just Transition: Shell is a member in the industry collaboration working on planning for and implementing a just, fair, and inclusive transition from a carbon-intensive economy to a net-zero GHG economy by 2050.

C15. Biodiversity

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity
Yes, both board-level oversight and executive management-level responsibility	(webpage: www.shell.com/sustainability/our-approach/governance) The overall accountability for sustainability within Shell lies with the Chief Executive Officer and the Executive Committee. They are assisted by the Health, Safety, Security, Environment and Social Performance (HSSE&SP) executive team. Our standards are set out in our HSSE&SP Control Framework and apply to every Shell company. Shell plc – Safety, Environment and Sustainability Committee, Terms of Reference: The Safety, Environment and Sustainability Committee (the "Committee") assists the Board of Directors of Shell plc (the "Board") in reviewing the practices and performance of the Shell Group of Companies (the "Group"), primarily with respect to Safety, Environment including Climate Change, and Sustainability. The Committee oversees the non-financial elements of Shell's Powering Progress strategy. (www.shell.com/investors/environmental-social-and-governance/board-of-directors) (AR, p163) Safety, Environment and Sustainability Committee (SESCo): 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.

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed

Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	- Commitment to not explore or develop in legally designated protected areas - Commitment to secure Free, Prior and Informed Consent (FPIC) of Indigenous Peoples - Other, please specify (AR, p108) We have set commitments for biodiversity as part of our Respecting Nature goal. Our new projects in areas rich in biodiversity – critical habitats – will have a net positive impact on biodiversity, starting implementation in 2021.	SDG

(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment

Yes

Value chain stage(s) covered

Direct operations

Tools and methods to assess impacts and/or dependencies on biodiversity

Biodiversity indicators for site-based impacts
IBAT – Integrated Biodiversity Assessment Tool

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

IBAT is used to screen for critical habitat.
We access IBAT through our partnership with UNEP (Proteus). (www.shell.com/sustainability/our-approach/working-in-partnership)
We undertake Impact Assessment for new projects, which relies on biodiversity indicators for site-based impacts. (www.shell.com/sustainability/our-approach/impact-assessment)

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment

No and we don't plan to within the next two years

(C15.4) Does your organization have activities located in or near to biodiversity- sensitive areas in the reporting year?

Yes

(C15.4a) Provide details of your organization’s activities in the reporting year located in or near to biodiversity-sensitive areas.

Classification of biodiversity-sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

Netherlands

Name of the biodiversity-sensitive area

IUCN category IV: Noordzeekustzone
- Ameland Westgat P+C platform
- Ameland-2 platform
- N07-FA-1 Monopile
- Pipeline NP007 Offshore-Den Helder
- Pipeline NP008 AME-1 AWG
- Pipeline NP009 AWG - NGT pipeline
- Pipeline NP022 AME-2 - AWG

Proximity

--

Briefly describe your organization’s activities in the reporting year located in or near to the selected area

--

Indicate whether any of your organization’s activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Explain how your organization’s activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

---

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

Netherlands

Name of the biodiversity-sensitive area

IUCN category IV: Duinen Ameland - East
- Ameland-1 - Gas production well
- Pipeline NP008 AME-1 - AWG

Proximity

--

Briefly describe your organization’s activities in the reporting year located in or near to the selected area

--

Indicate whether any of your organization’s activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Explain how your organization’s activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

Netherlands

Name of the biodiversity-sensitive area

IUCN category IV: Waddenzee
- De Hond-1 (Observation well for soil subsidence)

Proximity

--

Briefly describe your organization's activities in the reporting year located in or near to the selected area

--

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

Netherlands

Name of the biodiversity-sensitive area

IUCN category IV: Duinen Den Helder-Callantsoog
- Pipeline NP007 Offshore-Den Helder

Proximity

--

Briefly describe your organization's activities in the reporting year located in or near to the selected area

--

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

---

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

Netherlands

Name of the biodiversity-sensitive area

IUCN category IV: Elperstroomgebied
- Pipeline RSW-4 - ELP (000413)

Proximity

--

Briefly describe your organization’s activities in the reporting year located in or near to the selected area

--

Indicate whether any of your organization’s activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Explain how your organization’s activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

---

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify

IUCN Category I-IV protected areas

Country/area

Netherlands

Name of the biodiversity-sensitive area

IUCN category IV: Drentsche Aa-gebied
- Pipelines (130/131/132/142/502311)

Proximity

--

Briefly describe your organization’s activities in the reporting year located in or near to the selected area

--

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

---

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

Netherlands

Name of the biodiversity-sensitive area

IUCN category IV: Fochteloerveen
- Pipeline (145)

Proximity

--

Briefly describe your organization's activities in the reporting year located in or near to the selected area

--

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Explain how your organization’s activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

Netherlands

Name of the biodiversity-sensitive area

IUCN category II: Lauwersmeer
- Pipelines (108/194/790)

Proximity

--

Briefly describe your organization’s activities in the reporting year located in or near to the selected area

--

Indicate whether any of your organization’s activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Explain how your organization’s activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

Netherlands

Name of the biodiversity-sensitive area

IUCN category IV: Solleveld & Kapittelduinen
- Pipeline (411043)

Proximity

--

Briefly describe your organization’s activities in the reporting year located in or near to the selected area

--

Indicate whether any of your organization’s activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Explain how your organization’s activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

---

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

Netherlands

Name of the biodiversity-sensitive area

IUCN category IV: Springendal & Dal van de Mosbeek
- Pipeline TUB7-TUB5
- Tubbergen-7 location (decommissioned)

Proximity

--

Briefly describe your organization's activities in the reporting year located in or near to the selected area

--

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

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Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

United States of America

Name of the biodiversity-sensitive area

IUCN category IV: Bayou Teche National Wildlife Refuge
- Houma – Erath Crude System

Proximity

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Briefly describe your organization’s activities in the reporting year located in or near to the selected area

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Indicate whether any of your organization’s activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Explain how your organization’s activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

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Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

United States of America

Name of the biodiversity-sensitive area

IUCN category IV: Long Run Seep Nature Preserve
- Lockport Terminal Line – Lakehead to Lockport

Proximity

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Briefly describe your organization’s activities in the reporting year located in or near to the selected area

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Indicate whether any of your organization’s activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Explain how your organization’s activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

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Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

United States of America

Name of the biodiversity-sensitive area

IUCN category IV: Delta National Wildlife Refuge
- Delta Crude System – Loutre Junction – Empire 16"
- Delta Crude System – Duck 6"
- Delta Crude System – Main Pass 69 – Loutre Junction 8"

Proximity

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Briefly describe your organization’s activities in the reporting year located in or near to the selected area

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Mitigation measures implemented within the selected area

Explain how your organization’s activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

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Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify

IUCN Category I-IV protected areas

Country/area

United States of America

Name of the biodiversity-sensitive area

IUCN category IV: Point Edith Wildlife Area

- San Pablo Pipeline – San Pablo

Proximity

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Briefly describe your organization’s activities in the reporting year located in or near to the selected area

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Indicate whether any of your organization’s activities located in or near to the selected area could negatively affect biodiversity

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Mitigation measures implemented within the selected area

Explain how your organization’s activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

Germany

Name of the biodiversity-sensitive area

IUCN category IV: NSG Langeler Auwald rechtsrheinisch
- Wesseling-Godorf pipeline

Proximity

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Briefly describe your organization's activities in the reporting year located in or near to the selected area

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Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

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Mitigation measures implemented within the selected area

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

United Kingdom of Great Britain and Northern Ireland

Name of the biodiversity-sensitive area

IUCN category III: Carstairs Kames, and River Clyde Meanders
- 10" Ethylene Grangemouth - Stanlow (NWEP)

Proximity

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Briefly describe your organization’s activities in the reporting year located in or near to the selected area

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Explain how your organization’s activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

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Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

United Kingdom of Great Britain and Northern Ireland

Name of the biodiversity-sensitive area

IUCN category III: Meikle Loch and Kippet Hills
- St.Fergus - Mossmorran pipeline

Proximity

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Briefly describe your organization’s activities in the reporting year located in or near to the selected area

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Indicate whether any of your organization’s activities located in or near to the selected area could negatively affect biodiversity

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Explain how your organization’s activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

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Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

United Kingdom of Great Britain and Northern Ireland

Name of the biodiversity-sensitive area

IUCN category IV: Forvie; Loch Leven; Red Moss of Netherley; Sands of Forvie and Ythan Estuary
- St.Fergus - Mossmorran pipeline

Proximity

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Briefly describe your organization’s activities in the reporting year located in or near to the selected area

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Mitigation measures implemented within the selected area

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

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Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

United Kingdom of Great Britain and Northern Ireland

Name of the biodiversity-sensitive area

IUCN category IV: Crosby Ravensworth Fell; Lazonby Fell; Mersey Estuary; River Eden and Tributaries
- 10" Ethylene Grangemouth - Stanlow (NWEP)

Proximity

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Briefly describe your organization's activities in the reporting year located in or near to the selected area

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Mitigation measures implemented within the selected area

Explain how your organization’s activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

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Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

United Kingdom of Great Britain and Northern Ireland

Name of the biodiversity-sensitive area

IUCN category IV: Mundesley Cliffs
- 24" Gas Glycol Clipper PT - Bacton
- 34" Gas Shearwater - Bacton SEAL Line
- 3.5" Glycol Clipper PT - Bacton

Proximity

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Briefly describe your organization’s activities in the reporting year located in or near to the selected area

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Mitigation measures implemented within the selected area

Explain how your organization’s activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

United Kingdom of Great Britain and Northern Ireland

Name of the biodiversity-sensitive area

IUCN category IV: Firth of Forth

- Braefoot Bay offloading terminal

Proximity

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Briefly describe your organization's activities in the reporting year located in or near to the selected area

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Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify: IUCN Category I-IV protected areas

Country/area

Trinidad and Tobago

Name of the biodiversity-sensitive area

IUCN category IV: Victoria Mayaro Reserve
- Beachfield - Wells and pipelines
- Central Block - Wells and pipelines

Proximity

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Briefly describe your organization's activities in the reporting year located in or near to the selected area

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Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

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Mitigation measures implemented within the selected area

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Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

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(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments? (optional)

Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments

(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?

Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
No	

(C15.7) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In mainstream financial reports	- Content of biodiversity-related policies or commitments - Governance	Shell Annual Report and Accounts 2022 https://reports.shell.com/annual-report/2022/ Section Respecting Nature: • Environmental standards, p108 • Biodiversity, p108 • Respecting Nature / commitments, p108 • Board oversight for sustainability, p106 1
In voluntary sustainability report or other voluntary communications	- Content of biodiversity-related policies or commitments - Biodiversity strategy	Shell Sustainability Report 2022 https://reports.shell.com/sustainability-report/2022/ Section Respecting Nature, p37 • Protecting biodiversity, p39 • Powering Progress Targets, p66 2
Other, please specify E.g., www.Shell.com	- Content of biodiversity-related policies or commitments - Impacts on biodiversity - Risks and opportunities - Biodiversity strategy - Other, please specify Case studies showing biodiversity in action, information on activities in sensitive areas, our nature-based solution activities, which include biodiversity, information on our partners that support our biodiversity work (IUCN/Earthwatch)	www.shell.com/sustainability/environment: ● Respecting nature ● Biodiversity ● Biodiversity in action ● Environmentally sensitive areas ● Environmental and social partners ● Nature based solutions ● Impact assessment

1 shell-annual-report-2022.pdf

[2]shell-sustainability-report-2022.pdf

C16. Signoff

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

DISCLAIMER

The companies in which Shell plc directly and indirectly owns investments are separate legal entities. In this submission “Shell”, “Shell Group” and “Group” are sometimes used for convenience where references are made to Shell plc and its subsidiaries in general. Likewise, the words “we”, “us” and “our” are also used to refer to Shell plc 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” as used in this submission refer to entities over which Shell plc either directly or indirectly has control. 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. This submission contains forward-looking statements (within the meaning of the U.S. 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 submission, 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. No assurance is provided that future dividend payments will match or exceed previous dividend payments. All forward-looking statements contained in this submission 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. Additional risk factors that may affect future results are contained in Shell plc’s Form 20-F for the year ended December 31, 2022 (available at www.shell.com/investor and www.sec.gov). These risk factors also expressly qualify all forward-looking statements contained in this submission and should be considered

by the reader. Each forward-looking statement speaks only as of the date of this submission, July 19, 2023. Neither Shell plc 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 submission. Also, in this submission we may refer to Shell's "Net Carbon Intensity", which includes 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 Shell's "Net Carbon Intensity" is for convenience only and not intended to suggest these emissions are those of Shell plc or its subsidiaries. Shell's operating plan, outlook and budgets are forecasted for a ten-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 Net Carbon Intensity (NCI) targets over the next ten 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 be significant risk that Shell may not meet this target.
This submission may contain certain forward-looking non-GAAP measures such as cash capital expenditure and divestments. 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 contents of websites referred to in this submission do not form part of this submission. We may have used certain terms, such as resources, in this submission that the United States Securities and Exchange Commission (SEC) strictly prohibits us from including in our filings with the SEC. Investors are urged to consider closely the disclosure in our Form 20-F, File No 1-32575, available on the SEC website www.sec.gov.

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

Job title	Corresponding job category
Chief of Staff & Corporate Relations	Public affairs manager