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. Shell has endeavoured to use CDP’s language to the extent possible and has not attempted to redefine or clarify meaning. 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:

- C0.5: In Shell’s Annual Report and Accounts 2021, 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”.
- 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 (formerly Royal Dutch 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 with 82,000 employees (as of December 31, 2021) in more than 70 countries.

BUSINESS MODEL
We have expertise in the exploration, production, refining, marketing and trading of oil and natural gas, and the manufacturing and marketing of chemicals. We use advanced technologies and take an innovative approach to help build a sustainable energy future. This includes, e.g., that we invest in power, including from renewable sources such as wind and solar, and new fuels for transport, such as advanced biofuels and hydrogen.

(AR, p10) ORGANISATION
INTEGRATED GAS, RENEWABLES & ENERGY SOLUTIONS
Integrated Gas manages Liquefied Natural Gas (LNG) activities and the conversion of natural gas into gas-to-liquids (GTL) fuels and other products. It includes natural gas exploration and extraction, and the operation of upstream and midstream infrastructure necessary to deliver gas to market. In Renewables & Energy Solutions (R&ES), we are exploring emerging opportunities and investing in those where we believe sufficient commercial value is available. R&ES includes Shell’s production and marketing of hydrogen, nature and environmental solutions as well as our integrated power activities.

UPSTREAM
Upstream manages the exploration for and extraction of crude oil, natural gas and natural gas liquids. It also markets and transports oil and gas, and operates infrastructure necessary to deliver them to market.

DOWNSTREAM
Downstream manages different Oil Products and Chemicals activities as part of an integrated value chain that trades and refines crude oil and other feedstocks into a range of products which are moved and marketed around the world for domestic, industrial and transport use.

PROJECTS & TECHNOLOGY (P&T)
Our P&T organisation manages the delivery of our major projects and drives research and innovation to develop new technology solutions. It provides technical services and technology capability for our activities. It is also responsible for providing functional leadership across Shell in the areas of safety and environment, contracting and procurement, wells activities and greenhouse gas management.

SEGMENTAL REPORTING
Our reporting segments are Integrated Gas, Upstream, Oil Products, Chemicals and Corporate. Integrated Gas, Upstream, Oil Products and Chemicals include their respective elements of our P&T organisation. The Corporate segment comprises our holdings and treasury organisation, self-insurance activities, and headquarters and central functions (AR, p245-248).
(C0.2) State the start and end date of the year for which you are reporting data.

<table>
<thead>
<tr>
<th>Reporting year</th>
<th>Start date</th>
<th>End date</th>
<th>Indicate if you are providing emissions data for past reporting years</th>
<th>Select the number of past reporting years you will be providing emissions data for</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1, 2021</td>
<td>December 31, 2021</td>
<td>Yes</td>
<td>1 year</td>
<td></td>
</tr>
</tbody>
</table>

(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.)?

<table>
<thead>
<tr>
<th>Indicate whether you are able to provide a unique identifier for your organization</th>
<th>Provide your unique identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, an ISIN code</td>
<td>A3C99G</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Position of individual(s)</th>
<th>Please explain</th>
</tr>
</thead>
</table>
| Board-level committee     | (AR, p151-152) 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, environmental performance, and progress towards meeting Shell’s energy transition targets. The Committee also endorses the annual Shell assurance plan for Health, Security, Safety, Environment and Social Performance (HSSE & SP) and Asset Management, and reviews the execution of the plan and 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 for climate-related decisions:  
The Committee supported and contributed to the announcement of Shell’s Powering Progress strategy in 2021. This included a series of targets and commitments under the goals of achieving net-zero emissions, respecting nature, and powering lives. The Committee believes the Powering Progress strategy further 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 to energy and chemicals parks, carbon abatement programmes, portfolio actions, the use of nature-based solutions, and the development of carbon capture, utilisation, and storage (CCUS). |

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

<table>
<thead>
<tr>
<th>Frequency with which climate-related issues are a scheduled agenda item</th>
<th>Governance mechanisms into which climate-related issues are integrated</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Scheduled – some meetings

- Reviewing and guiding strategy
- Reviewing and guiding major plans of action
- Reviewing and guiding risk management policies
- Reviewing and guiding annual budgets
- Reviewing and guiding business plans
- Setting performance objectives
- Monitoring implementation and performance of objectives
- Overseeing major capital expenditures, acquisitions and divestitures
- Monitoring and overseeing progress against goals and targets

(AR, p76)

Our governance begins with the Board’s approval of our energy transition strategy and oversight of its implementation and delivery. In 2021, the Board considered climate-related matters throughout the year when reviewing and guiding our energy transition strategy, assessing the risk management policies in place, and challenging and endorsing the business plans and budgets, including overseeing major capital expenditures, acquisitions and divestments. In 2021, the Board convened 12 times and continued to regularly oversee the Powering Progress Strategy and net-zero initiatives, including at the Board Strategy Day in June 2021.

Three Board committees provide primary oversight of the delivery of our energy transition strategy: the Safety, Environmental and Sustainability Committee (SESCo), the Audit Committee and the Remuneration Committee (see “Climate change governance organogram” in AR, p76).

SESCo provides oversight of our technical delivery in driving reduction of our carbon emissions, and the potential impacts and adaptation measures related to the physical risks of climate change. This includes reviewing our Carbon Management Framework and monitoring progress in reducing emissions to meet targets. SESCo met 13 times in 2021 and discussed climate-related matters at nine meetings. After each meeting the SESCo Chair provided updates to the Board directly. For more information on SESCo’s activities in 2021, see AR, p152.

Our Audit Committee provides oversight of the effectiveness of our internal controls and risk management framework to ensure that our financial statements reflect the risks and opportunities associated with our energy transition strategy and climate change. During 2021, the Audit Committee convened 11 times in total and discussed climate-related matters on at least six occasions.

More information on our Audit Committee’s activities in 2021 can be found in the AR, p156.

The Remuneration Committee sets our remuneration policy and targets designed to challenge and support management to reduce our carbon...
The Remuneration Committee met five times during 2021, with climate-related matters discussed at each meeting. The importance of our energy transition strategy means that all of these committees are informed about climate-related matters on a frequent basis throughout the year.

Find additional information on the Board’s oversight in AR, “Governance framework”, on p135.

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

<table>
<thead>
<tr>
<th>Board member(s) have competence on climate-related issues</th>
<th>Criteria used to assess competence of board member(s) on climate-related issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>(AR, p149) Director induction and training</td>
</tr>
<tr>
<td></td>
<td>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. Onboarding is phased and prioritised based on forthcoming Board agenda items to help ensure the new Non-executive Directors hit the ground running. In 2020 and 2021, digital onboarding books were provided for each new Non-executive Director. These onboarding books complemented the existing digital Directors’ Handbook and featured:</td>
</tr>
<tr>
<td></td>
<td>■ overviews of scheduled briefing meetings customised to the Non-executive Directors’ needs and linked to upcoming Board agenda items;</td>
</tr>
<tr>
<td></td>
<td>■ hyperlinks to key Shell publications (external and internal);</td>
</tr>
<tr>
<td></td>
<td>■ lists of common Shell acronyms;</td>
</tr>
<tr>
<td></td>
<td>■ key current materials on:</td>
</tr>
<tr>
<td></td>
<td>– Shell’s safety and core values;</td>
</tr>
<tr>
<td></td>
<td>– Board governance;</td>
</tr>
<tr>
<td></td>
<td>– Group strategy and portfolio;</td>
</tr>
<tr>
<td></td>
<td>– key businesses and functions; and</td>
</tr>
<tr>
<td></td>
<td>– climate change and energy transition;</td>
</tr>
</tbody>
</table>
■ biographies of key executives.

■ Other elements of the onboarding programme for Non-executive Directors included:
– arranging briefing meetings with key executives (both business and functional) customised to Non-executive Directors’ needs and phased based on forthcoming Board agenda items;
– where feasible, 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
– where possible, arranging virtual site visits (either specifically for onboarding or by inviting the new Directors to committees’ virtual site visits).

Supported by the benefits of the global vaccination programme, we are now seeing COVID-19-related restrictions starting to ease in many countries. As a result, we envisage Directors being able to increase their face-to-face engagement with our teams at our sites in 2022 and to enhance ongoing Director training.

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

<table>
<thead>
<tr>
<th>Name of the position(s) and/or committee(s)</th>
<th>Responsibility</th>
<th>Frequency of reporting to the board on climate-related issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Executive Officer (CEO)</td>
<td>Other, please specify</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(AR, p77) The CEO has the delegated authority from the Board to manage Shell’s actions in relation to the Company’s strategy, which includes climate change. The CEO is assisted by a number of senior management positions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>More frequently than quarterly</td>
<td></td>
</tr>
</tbody>
</table>

(AR, p77) The CEO is assisted by a number of senior management positions on climate-related matters to implement Shell’s energy transition strategy and ensure that such matters are appropriately monitored.

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

(AR, p77) The Chief Executive Officer (CEO) has the delegated authority from the Board to manage Shell’s actions in relation to the Company’s strategy, which includes climate change. The CEO is assisted by a number of senior management positions on climate-related matters to implement Shell’s energy transition strategy and ensure that such matters are appropriately monitored:
The Director of Strategy, Sustainability and Corporate Relations supports the CEO in developing Shell’s energy transition strategy, including climate scenarios development, and augmenting the Company’s Carbon Management Framework. This framework includes the setting of carbon budgets for our businesses, and the implementation of carbon-related activities.

The Downstream Director identifies climate-related opportunities while 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 finding and developing low-carbon solutions and opportunities, including those across our solar, hydrogen and wind businesses, as well as managing and mitigating carbon emissions from our business.

The Upstream Director is responsible for identifying low-carbon and emission reduction opportunities in our Upstream oil and gas business through managing and mitigating our carbon emissions, for example, by eliminating 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 net-zero emissions targets through both energy efficiency measures and research and development activities 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.

**Delivering through three strategic pillars**

There are two key supporting management committees, with representatives from across the organisation:

- The Capital Investment Committee (CIC) facilitates the portfolio management discussions to ensure that the climate risks and opportunities are embedded in investment decision-making. This committee is made up of senior executives, including the CEO, CFO, and individual business directors.

- The Carbon Reporting Committee (CRC), which was formed in 2021, is sponsored by the CFO, and includes senior management representatives from business units, Projects & Technology climate-related disciplines and various functions such as Strategy, Finance and Legal. This committee is tasked with ensuring that greenhouse gas (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 effectively embedding Group-wide training plans, measurement and reporting of GHG emissions metrics, and review and approval of external disclosures.

Our network of country chairs supports the overall governance and development of climate-related opportunities. They set each country’s energy transition strategy within our Powering Progress strategy.
Processes by which management is informed about climate-related issues

Several processes are employed across the organisation to ensure that management teams can effectively monitor and manage climate-related matters. The management teams are helped by a combination of carbon-management-related standards and frameworks, forums at various levels of the organisation, and capability development programmes. These include our Carbon Management Framework, carbon pricing, and the Greenhouse Gas (GHG) and Energy Management Manual.

(AR, p87) Shell's processes for managing climate-related risk:

Management and Board reviews
Management and the Board perform regular reviews of the risk of climate change and GHG emissions to ensure awareness of emerging issues that 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 strategic planning cycle, the Executive Committee and the Board assess how climate and GHG emissions may affect the pace of the energy transition and the long-term implications for Shell’s current portfolio.

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

<table>
<thead>
<tr>
<th>Provide incentives for the management of climate-related issues</th>
<th>Comment</th>
</tr>
</thead>
</table>
| Yes                                                          | (AR, p76) Climate performance and remuneration  
Climate-related key performance indicators were considered as part of the 2021 annual bonus scorecard (15% weighting) for almost all of Shell’s employees, as well as the 2021 Performance Share Plan (PSP) awards (10% weighting) and the 2021 Long-term Incentive Plan (20% weighting, vesting in 2023) for senior executives.  
(AR, p94) We have linked our target to reduce the carbon intensity of our energy products to our 2021 LTIP awards for Executive Directors and senior executives and our Performance Share Plan awards made to around 16,500 employees globally. The reduction of Shell’s NCI from 79 gCO₂e/MJ in 2016 to 77gCO₂e/MJ in 2021 means that we have achieved our first short-term target of a 2-3% reduction in NCI by the end of 2021.  
(AR, p172) Scorecard architecture  
Progress in the energy transition weighted with 15%:  
- 5%: Selling no-/low-carbon products;  
- 5%: Operational emissions reduction; and  
- 5%: Partnering to decarbonise. |
(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

<table>
<thead>
<tr>
<th>Entitled to incentive</th>
<th>Type of incentive</th>
<th>Activity incentivized</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Executive Officer (CEO)</td>
<td>Monetary reward</td>
<td>Other (please specify) E.g., see company scorecard: selling no-/low-carbon products, operational emissions reduction, partnering to decarbonise.</td>
<td>(AR, p76) Climate performance and remuneration Climate-related key performance indicators were considered as part of the 2021 annual bonus scorecard (15% weighting) for almost all of Shell’s employees, as well as the 2021 Performance Share Plan (PSP) awards (10% weighting) and the 2021 Long-term Incentive Plan (20% weighting, vesting in 2023) for senior executives. (AR, p172) Scorecard architecture Progress in the energy transition weighted with 15%: - 5%: Selling no-/low-carbon products; - 5%: Operational emissions reduction; and - 5%: Partnering to decarbonise.</td>
</tr>
<tr>
<td>Chief Financial Officer (CFO)</td>
<td>Monetary reward</td>
<td>Other (please specify) E.g., see company scorecard: selling no-/low-carbon products, operational emissions reduction, partnering to decarbonise.</td>
<td>(AR, p76) Climate performance and remuneration Climate-related key performance indicators were considered as part of the 2021 annual bonus scorecard (15% weighting) for almost all of Shell’s employees, as well as the 2021 Performance Share Plan (PSP) awards (10% weighting) and the 2021 Long-term Incentive Plan (20% weighting, vesting in 2023) for senior executives. (AR, p172) Scorecard architecture Progress in the energy transition weighted with 15%: - 5%: Selling no-/low-carbon products; - 5%: Operational emissions reduction; and - 5%: Partnering to decarbonise.</td>
</tr>
</tbody>
</table>

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?

<table>
<thead>
<tr>
<th></th>
<th>From (years)</th>
<th>To (years)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term</td>
<td>0</td>
<td>3</td>
<td>(AR, p79) 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.</td>
</tr>
<tr>
<td>Medium-term</td>
<td>3</td>
<td>10</td>
<td>(AR, p79) 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.</td>
</tr>
<tr>
<td>Long-term</td>
<td>10</td>
<td></td>
<td>(AR, p79) 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.</td>
</tr>
</tbody>
</table>

(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, p 79) In relation to Climate Change and Greenhouse Gas impacts, we assess the impacts across four key themes – regulatory, commercial, physical and societal impacts.

(AR p 86) When assessing the potential impact of a risk, we consider the financial consequences and how it might affect more qualitative aspects, such as 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.

(AR, p 202) When assessing the potential impact of a risk, we consider the possible financial consequences. We also look at more qualitative issues such as the impacts on our reputation, our ability to comply with external regulations and impacts on health, safety and the environment.

(AR, p 22) The risks discussed below could have a material adverse effect separately, or in combination, on our earnings, cash flows and financial condition.

(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
IDENTIFYING
(AR, 86) Shell considers climate change and GHG emissions as a material risk factor. We monitor the risk related to climate change and GHG emissions across four components: commercial, regulatory, societal (incl. litigation risk) and physical risks. These components are monitored and assessed on an integrated basis, necessitated by the interdependence of the risks and the related actions. The different components pose different kinds of exposures spanning different time horizons. Similarly, the risk responses for the different components of the risk are also planned by taking a holistic view.

ASSESSING
(AR, p86) When assessing the potential impact of a risk, we consider the financial consequences and how it might affect more qualitative aspects, such as 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. As Shell has operations both onshore and offshore, the potential physical impacts of climate change are also important for us to manage. In this respect, we consider the physical risks to our assets and facilities to ensure they can operate and be accessed safely under extreme weather conditions. The physical risks are assessed at an asset level.
Metoocean (meteorology and oceanography) engineering experts assess and monitor the physical risks and logistical activities for certain of our assets. These studies aim to ensure our operations are safe and that our facilities can be accessed safely under extreme conditions.
As we operate in multiple countries globally, societal risks are material as they are directly linked to our licence to operate in these countries. The impact and likelihood assessment helps us to prioritise risks and determine their relative materiality, based on a comprehensive picture of all significant risks in the context of the objectives of the relevant business. To support our risk assessments, we also seek to establish our risk appetite, which is 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. We also consider the impact to Shell’s overall risk profile, such as the change in our overall risks and returns as we develop our Renewables & Energy
Solutions businesses and pivot away from our Upstream business. The impact and likelihood assessment, combined with risk appetite, determines the type of risk responses, such as controls and assurance activities, that may be required to manage each risk. Possible responses include: accepting the risk without any further action; mitigating or reducing the risk with appropriate controls, supported by assurance activities; transferring the risk, e.g., to insurance providers where appropriate; and altogether stopping or forgoing the activity that gives rise to the risk. In determining our risk responses, we always seek to comply with our Code of Conduct and other boundaries, such as our financial framework, which set the aggregate level of risk appetite that could be sustained. The financial framework considers boundaries such as net debt levels and our credit rating. We note that the majority of our emissions are our Scope 3 customer emissions which are outside of our direct control. In recognition of this, we have put customers at the centre of our Powering Progress strategy, partnering with others to reduce carbon emissions, sector-by-sector.

Case study 1 - transitional risk

**SITUATION**

(AR 2020, p95) We can only meet our net-zero target as part of a world that is also heading to net zero. That will require a reduction in the global supply of carbon-based energy, which can only happen if demand for carbon-based energy also reduces. So Shell, as a supplier, must work with customers on a sector-by-sector basis, to reach results as stated above and develop the right pathways to transition each sector from carbon-based energy to low-carbon solutions.

**TASK**

(ETPR, p20) Sustainable aviation fuel (SAF) is the aviation sector’s most viable option for reducing its emissions in the short to medium term. SAF currently accounts for less than 0.1% of the world’s consumption of aviation fuel.

**ACTION & RESULT**

(ETPR, p20) Currently, Shell supplies SAF made by others. From 2024, we will start supplying customers with SAF produced at our Shell Energy and Chemicals Park Rotterdam, NL. In 2021, we announced our ambition to have at least 10% of our global aviation fuel sales as SAF by 2030. We are working with Rolls-Royce to test 100% SAF in airplane engines for the first time. In 2022, Shell was the first company to supply SAF to customers in Singapore where we have established the supply chain (blending to distribution) for the Asian market. We support tax incentives to help to drive down SAF cost around the world. We are advocating that the EU’s 2030 target for the use of SAF doubles from 5% to 10%, and for governments and policymakers to encourage the International Civil Aviation Organization to adopt a net-zero emissions target for 2050.
Case study 2 - physical risk

SITUATION
(AR, p88) Port Fourchon Junction, USA, (comprising two Shell-operated ventures, Shell interest 75% in the Amberjack Pipeline Company, 71% in Mars Oil Pipeline Company). These facilities are located in the Mississippi Delta, one of the world’s most vulnerable low-elevation coastal zones. They are highly exposed to storm surge and wave-induced inundation under hurricanes which regularly visit the Gulf of Mexico. Another important factor is that the area experiences one of the largest rates of subsidence in the world, which, combined with sea level rise, could increase the site vulnerability in the coming decades.

TASK
In 2021, Shell assessed the present and future scenarios of subsidence and sea level rise under extreme metocean conditions induced by hurricanes and their impact on Port Fourchon Junction.

ACTION
This led to a new project involving infrastructure changes. In 2021, it was developed past the conceptual design phase and is expected to take FID in 2022.

RESULT
The scope should allow for continued safe operations and accessibility to the location under different extreme circumstances which involves relocation of assets and raising all equipment as per metocean experts’ recommendations.

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

<table>
<thead>
<tr>
<th>Relevance &amp; inclusion</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current regulation</strong></td>
<td>Relevant, always included</td>
</tr>
<tr>
<td><strong>(AR, p80)</strong> 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.</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>With around 90% of the global economy now signed up to net-zero commitments as of January 2022, according to the Energy and Climate Intelligence Unit of the UK, there is an ever-increasing threat that governments set future regulatory frameworks that restrict</td>
<td></td>
</tr>
</tbody>
</table>
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, p23) We expect that a growing share of our 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. We expect that these challenges are likely to continue and could delay or prohibit operations in certain cases. Achieving our target of becoming net zero on all emissions from our operations could result in 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: Existing carbon pricing schemes that reflect the Paris ambition are expected to lead to higher carbon costs, such as the European Union and the UK.

Emerging regulation | Relevant, always included | (AR, p25) 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, p22) This could happen, for example, if governments promote the sale of lower-carbon electric vehicles or even prohibit future sales of new diesel or gasoline vehicles, such as the phasing out in the UK that will come into force in 2030.

(AR, p 23) 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, p 80) Shell’s annual carbon cost exposure is expected to increase over the next decade because of evolving carbon regulations. We expect that a growing share of our GHG emissions will be subject to regulation, resulting in increased compliance costs and operational restrictions. 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
We expect to see additional regulatory requirements to provide disclosures related to climate risks and their impact on business performance. Hence, this risk type is relevant to us and included in our assessment.

Example of emerging regulation risk type: Potential increase in operating costs in several locations like Brazil, Brunei, UAE, USA (federal) etc. due to introduction of carbon pricing mechanisms in the future.

<table>
<thead>
<tr>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevant, always included</td>
</tr>
<tr>
<td>(AR, p30) 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 and products and services, 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 and new products, 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 and products 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.</td>
</tr>
<tr>
<td>Example of technology risk type: Failure to deploy CCUS and advanced biofuels at scale due to lack of economic feasibility.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Legal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevant, always included</td>
</tr>
<tr>
<td>(AR, p81) There is an increasing risk for oil and gas companies from public, private and governmental lawsuits taken to inhibit the exploration, excavation and processing of hydrocarbons as a matter of environmental and societal welfare. Such action may force entities to hand over strategic autonomy in part to regulators, divest from hydrocarbon technologies and pay large compensation packages to the plaintiff.</td>
</tr>
<tr>
<td>(AR, p25) 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. We and our joint arrangements and associates also face the risk of litigation and disputes worldwide. We continually monitor geopolitical developments and societal issues relevant to our interests.</td>
</tr>
<tr>
<td>Such changes in laws and regulations can and do affect our operations. Examples of potential impacts of these changes, whether or not they arise from climate change, include:</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
not related to climate change, include changes to environmental regulations, changes to regulatory interpretations and enforcement, and changes to disclosure requirements. Any of these, individually or in aggregate, could have a large adverse effect on our earnings, cash flows and financial condition.

(AR, p81) In some countries, governments, regulators, organisations and individuals have filed lawsuits seeking to hold fossil fuel companies liable for costs associated with climate change. While we believe these lawsuits to be without merit, losing could have a material adverse effect on our earnings, cash flows and financial condition. For example, in May 2021, the District Court in The Hague, Netherlands, ruled that, by 2030, Shell must reduce, from its consolidated subsidiaries, its Scope 1 net emissions by 45% from its 2019 levels and use its best efforts to reduce its Scope 2 and Scope 3 net emissions by 45% from its 2019 levels. In 2019, our Scope 1 emissions from our consolidated subsidiaries were 86 million tonnes carbon dioxide equivalent (CO₂e), rounded. Hence, this risk type is relevant to us and included in our assessment.

Example of legal risk type: Regulations or measures that would prevent Shell from exploring or producing its existing leases.

<table>
<thead>
<tr>
<th>Market</th>
<th>Relevant, always included</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(AR, p80) 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 under-utilised or stranded oil and gas assets and a failure to secure new opportunities.</td>
</tr>
<tr>
<td></td>
<td>(AR, p22) 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.</td>
</tr>
<tr>
<td></td>
<td>(AR, p80) Changing preferences of investors and financial institutions could reduce access to and increase the cost of capital. (AR, p23) 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. We expect that the impact of such commercial risks could be seen in the medium to long term.</td>
</tr>
<tr>
<td></td>
<td>(AR, p80) The energy transition provides us with significant opportunities, If we fail to stay in step with the pace and extent of change</td>
</tr>
</tbody>
</table>
or customer and other stakeholders’ demand for low-carbon products, this could adversely affect our reputation and future earnings. If we move much faster than society, we risk investing in technologies, markets or low-carbon products that are unsuccessful, therefore we cannot transition too quickly or we will be trying to sell products that customers do not want. This could also have a material adverse effect on financial results. Hence, this risk type is relevant to us and included in our assessment.

Example of market risk type: (AR, p22) Factors that influence supply and demand include operational issues, natural disasters, weather, pandemics such as COVID-19, political instability, conflicts, such as the recent Russian invasion of Ukraine, economic conditions, including inflation, and actions by major oil and gas producing countries.

| Reputaion | Relevant, always included | (AR, p24) The pace and extent of the energy transition could pose a risk to Shell if our own actions to decarbonise our operations and the energy we sell move at a different speed relative to society. If we are slower than society, customers may prefer a different supplier, which would reduce demand for our products and adversely affect our reputation besides materially affecting our earnings and financial results. If we move much faster than society, we risk investing in technologies, markets or low-carbon products that are unsuccessful because there is limited demand for them. This could also have a material adverse effect on our earnings, cash flows and financial condition.

(AR, p81) There is an increasing focus on the role of the oil and gas sector in the context of climate change and the energy transition. This could negatively affect our brand, reputation and licence to operate, which could limit our ability to deliver our strategy, reduce consumer demand for our branded and non-branded products, harm our ability to secure new resources and contracts, and restrict our ability to access capital markets or attract staff. Hence, this risk type is relevant to us and included in our assessment.

Example of reputation risk type: In 2021, many people protested about climate change, sometimes directly targeting Shell.

| Acute physical | Relevant, always included | (AR, p81) 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, are considered and embedded in the design and construction of assets. The potential impact of physical changes come from both acute and chronic physical risks. Acute risks, such as flooding and droughts, wildfires and more severe tropical storms, could potentially impact our 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 earnings. Additionally, the impact of physical climate change on our operations is unlikely to be limited to the boundaries of our assets. The overall impact including how supply chains, resource
availability and markets may be affected also needs to be considered, for a holistic assessment of this risk. Hence, this risk is relevant to us and included in our assessment.

Example of acute physical risk type: (AR, p245) Extreme weather events, whether or not related to climate change, could have a negative impact on earnings. Recent examples in 2021 include the Texas winter storm and Hurricane Ida. These had an impact on our operations and an adverse impact on 2021 earnings of around $200 million and around $400 million respectively.

Chronic physical
Relevant, always included

(AR, p81) 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, are considered and embedded in the design and construction of assets. The potential impact of physical changes come from both acute and chronic physical risks.

(AR, p81) Chronic risks, such as rising temperatures and rising sea levels, could potentially impact the efficiency of our plants, increase equipment corrosion, decrease gas pipeline capacity, and impact our coastal facilities. The assets at highest risk from these impacts are those in coastal locations across refining. We have performed analyses addressing a range of typical climate change features for a select group of assets. We concluded that currently any adaptation costs for those selected assets are not expected to be significant. We recognise that we need to deepen and widen these analyses for a more comprehensive climate resilience assessment. We continue to monitor this and plan to conduct further analysis on other assets as well as assess long-term physical impacts. Additionally, the impact of physical climate change on our operations is unlikely to be limited to the boundaries of our assets. The overall impact including how supply chains, resource availability and markets may be affected also needs to be considered, for a holistic assessment of this risk. Hence, this risk is relevant to us and included in our assessment.

Example of chronic physical risk type: This includes rising temperatures, rising sea level etc., whether or not related to climate change.

(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, p203) 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, p22) This could happen, for example, if governments promote the sale of lower-carbon electric vehicles or even prohibit future sales of new diesel or gasoline vehicles, such as the phasing out in the UK that will come into force in 2030.
(AR, p80) Shell’s annual carbon cost exposure is expected to increase over the next decade because of evolving carbon regulations.
(AR, p23) We expect that a growing share of our GHG emissions will be subject to regulation, resulting in increased compliance costs and operational restrictions. 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. We expect to see additional regulatory requirements to provide disclosures related to climate risks and their impact on business performance. 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)**
3,395,000,000

**Explanation of financial impact figure**
(AR, Note 29, p282) Shell’s cost of emission schemes and related environmental programmes recognised in the Consolidated Statement of Income was $3,395 million in 2021.

Out of the total amount: $2,609 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: $331 million, and for renewable power this was $455 million.

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**
15,120,000,000

**Description of response and explanation of cost calculation**
(ETPR, p24) We are stepping up our investments in low- and zero-carbon energy where we see good opportunities for growth and strong returns.

From the first quarter of 2022, we will report separately on the performance of our Renewables and Energy Solutions business, which includes our integrated power, hydrogen, carbon capture and storage, and nature-based solutions businesses. We will also report separately on the performance of our Marketing business, which includes charging for electric vehicles and biofuels. We expect to provide more details on the performance of these activities as they grow.

**Case study:**
**SITUATION**
We can only meet our net-zero target as part of a world that is also heading to net zero. So Shell, as a supplier, must work with customers on a sector-by-sector basis, to reach results as stated above and develop the right pathways to transition each sector from carbon-based energy to low-carbon solutions.

**TASK**

Shell has one of the world’s most extensive aircraft refuelling networks. We work with customers, suppliers and regulators to develop a commercially viable and profitable market for sustainable aviation fuel (SAF). Through its air cargo fleet, Amazon, is a customer with a shared growing interest in decarbonising aviation.

**ACTION & RESULT**

Amazon Air has secured up to six million gallons of SAF supplied by Shell Aviation and produced by World Energy. This biofuel, produced by the company World Energy using agricultural waste fats and oils, has lower life-cycle carbon emissions than conventional jet fuel. Similarly, we have formed an alliance with Microsoft which includes supply of renewable energy to help them meet their commitment of 100% renewable energy consumption by 2025.

Explanation of cost calculation:

For 2021: 27% of total expenditure (Cash Capital expenditure and operating expenses) which is 27% out of 56 billion, is: 15,12 billion.

By 2025, we expect around half of our total expenditure (cash capital expenditure and operating expenses) to be on low- and zero-carbon products and services including biofuels, hydrogen, power, charging for electric vehicles, carbon capture and storage, nature-based solutions, chemicals and lubricants. In 2022, we expect that around one third of our total expenditure will be on these low- and zero carbon products and services.

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**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
(AR, p14) Our Growth pillar includes Marketing and Renewables and Energy Solutions businesses, such as Power and Hydrogen. Our Growth businesses increase our returns while helping customers to decarbonise.
(AR, p85) Our Growth pillar includes our service stations, sales of gasoline and diesel, fuels for business customers, power, hydrogen, biofuels, charging for electric vehicles, nature-based solutions, and carbon capture and storage. It focuses on working with our customers to accelerate the transition to net zero and is the foundation for the future businesses in Shell.

Time horizon
Short-term

Likelihood
Likely

Magnitude of impact
Medium-high

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
5,412,000,000

Explanation of financial impact figure
Growth pillar Cash Flow From Operations (CFFO): delivered 12% CFFO (ETPR, p24) out of total 45.1 billion (AR, p177). The Growth pillar CFFO is then equivalent to 5.412 billion.

**Cost to realize opportunity**

15,120,000,000

**Strategy to realize opportunity and explanation of cost calculation**

(AR, p82) As the global energy mix changes, our current infrastructure, know-how and global footprint put us in an ideal position to service the changing energy demands of the market. Our research and development (R&D) activities are key to achieving our net-zero emissions target.

As we shift from an asset-based to a customer focused business model our current key focus areas for seizing this opportunity are:

1. **Renewables and Energy Solutions**
   This encompasses our wind, solar, hydrogen, electric vehicle charging, nature-based solutions, and carbon capture and storage businesses. Electricity generated by wind and solar power plays a direct role in reducing emissions in passenger transport and parts of industry. It can also be used to create hydrogen. We expect hydrogen to present a business opportunity for heavy-duty road freight over a shorter time horizon and within shipping, industry and, possibly, aviation, over a longer time horizon. Hydrogen also has the potential to become a material part of Shell’s business-to-business (B2B) operations, as heavy industry begins to transition away from energy sourced from hydrocarbons.

2. **Biofuels**
   Shell and our joint venture Raízen (Shell interest 44%, not operated by Shell) are together one of the world’s largest blenders and distributors of biofuels. Shell plans to continue to invest in and increase the production of these low-carbon fuels. Our low-carbon fuels projects and operations around the world form part of a wider commitment to provide a range of energy choices for customers. For example, we believe that sustainable aviation fuels (SAF) provide the most effective way of removing emissions within the aviation sector, with wider adoption of SAF enabling us to provide more low-carbon fuels to our customers. Biofuels may also present opportunities in the shipping, road freight and other sectors.

**Explanation of cost calculation:**

(ETPR, p24) For 2021: 27% of total expenditure (cash capital expenditure and operating expenses) is $15,12 billion (27% of $56 billion).

(ETPR, p5) By 2025, we expect around half of our total expenditure (cash capital expenditure and operating expenses) to be on low- and zero-carbon products and services including biofuels, hydrogen, power, charging for electric vehicles, carbon capture and storage, nature-based solutions, chemicals and lubricants. In 2022, we expect that around one third of our total expenditure will be on these low- and zero carbon products and services.
C3. Business Strategy

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

Transition plan
Yes, we have a transition plan which aligns with a 1.5°C world

Publicly available transition plan
Yes

Mechanism by which feedback is collected from shareholders on your transition plan
Our transition plan is voted on at Annual General Meetings (AGMs)

Attach any relevant documents which detail your transition plan (optional)
(ETPR, p36) 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 Footprint (NCF) targets over the next ten years. However, Shell’s operating plans cannot reflect our 2050 net-zero emissions target and 2035 NCF 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. Please find attached our 2022 AGM Notice of meeting, and the respective voting results.

- 2022 Shell AGM Notice of Meeting.pdf
- 2022 Shell AGM voting result.pdf

(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.

<table>
<thead>
<tr>
<th>Climate-related scenario</th>
<th>Scenario analysis coverage</th>
<th>Temperature alignment of scenario</th>
<th>Parameters, assumptions, analytical choices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transition scenarios</td>
<td>Company-wide</td>
<td>1.6°C – 2°C</td>
<td>(AR, p14) Achieving our strategy depends on how we respond to competitive forces. We continually assess the external environment – the markets and the underlying economic, political, social and environmental drivers that shape them – to evaluate changes in competitive forces and business models. We use future scenarios to help inform our strategy. We regularly review the markets where we operate, assessing our competitive position by analysing trends, uncertainties, and the strengths and weaknesses of our traditional and non-traditional competitors.</td>
</tr>
<tr>
<td>Customized publicly available transition scenario</td>
<td>Company-wide</td>
<td>1.5°C</td>
<td>(AR, p93) Our net-zero target is aligned with the findings of the Intergovernmental Panel on Climate Change (IPCC), which concluded that the world must reach net-zero carbon emissions by around 2050 to limit global warming to 1.5°C and avoid the worst effects of climate change. As there is no established standard for aligning an energy supplier’s consumption targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.</td>
</tr>
<tr>
<td>Physical climate scenarios</td>
<td>Other, please specify: Only select assets/facilities; not company exhaustive for Shell's assets</td>
<td>1.5°C</td>
<td>(AR, p86) As Shell has operations both onshore and offshore, the potential physical impacts of climate change are also important for us to manage. In this respect, we consider the physical risks to our assets and facilities to ensure they can operate and be accessed safely under extreme weather conditions. The physical risks are assessed at an asset level. Metocean (meteorology and oceanography) engineering experts assess and monitor the physical risks and logistical activities for certain of our assets. These studies aim to ensure our operations are safe and that our facilities can be accessed safely under extreme conditions. A high-level screening study was performed to assess the physical impact of climate change for 17...</td>
</tr>
</tbody>
</table>
selected assets. The data was collected by interviews with asset managers and other specialist staff in the region. It covered a wide range of potential climate change hazards on their impact on the assets. The impact assessment covered multiple factors ranging from the equipment on the plant, the operating procedures, the processing of oil and gas, as well as the impact on the surrounding infrastructure, the supporting value chain, and the people involved with the assets.

<table>
<thead>
<tr>
<th>Physical climate scenarios</th>
<th>Facility</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customized publicly available physical scenario</td>
<td>Facility: (AR, p88) Port Fourchon Junction, USA, (comprising two Shell-operated ventures, with Shell interest of 75% in the Amberjack Pipeline Company and 71% in Mars Oil Pipeline Company). The Port Fourchon Junction facilities are located in the Mississippi Delta, one of the world’s most vulnerable low-elevation coastal zones. These facilities are highly exposed to storm surge and wave-induced inundation under hurricanes which regularly visit the Gulf of Mexico. Another important factor is that the area experiences one of the largest rates of subsidence in the world, which, combined with sea level rise, could increase the site vulnerability in the coming decades. In 2021, Shell assessed the present and future scenarios of subsidence and sea level rise under extreme metocean conditions induced by hurricanes and their impact on Port Fourchon Junction. This led to a new project involving infrastructure changes.</td>
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</table>

(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, 2021.

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

(AR, p82/83) Shell scenarios are aligned to different energy transition pathways and help guide risk and opportunity identification and decision-making. Our energy transformation scenarios – Waves, Islands and Sky 1.5 – are all possible pathways towards the future that have both attractive and challenging features. Out of the 3 scenarios, Sky 1.5 has a pace and timing for energy decarbonisation that is fast enough to limit global warming to 1.5 degrees Celsius above pre-industrial levels by the end of this century. The full report can be found at www.shell.com/transformationscenarios. Different socio-economic and technological parameters are used to construct these scenarios. 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.

Impact on strategic planning
The application of scenario analysis informs our assessment of the impact of climate-related risks and opportunities on our strategy and business planning.
At the Group level, the potential impacts of the energy transition on our business model are discussed and assessed at Board and Executive Committee level as part of the annual strategic and business planning cycle. This assessment allows us to challenge accepted ways of thinking, identify material risks and opportunities, and formulate key tensions and trade-offs.

Impact on business and financial planning
There is no one single scenario that underpins Shell's business and financial planning. Generally, our scenarios are designed to stretch management’s thinking including considering events that may be only remotely possible. 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 take account of various factors relating to the energy transition such as potential changes in supply and demand. 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.

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

<table>
<thead>
<tr>
<th>Have climate-related risks and opportunities influenced your strategy in this area?</th>
<th>Description of influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>(AR, p83) Meeting the goals of the Paris Agreement requires the global economy to transform in a number of complex and connected ways. We continue to update our analysis and the corresponding price outlooks and business plans, in line with our strategy. Climate-related risks and opportunities identified by Shell could impact in the short, medium and/or long term, the low pricing outlooks could result in increased commercial, regulatory and societal risks, as well as transition opportunities. Given our ambition to become a net-zero emissions energy business by 2050, the use of low-</td>
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</table>
pricing outlooks is a part of our resilience testing and resulting actions.

Example of a strategic decision influenced by climate-related risks and opportunities related to products and services:

**Situation:** (AR, p85) Because emissions resulting from customer use of our energy products make up the greatest percentage of Shell’s carbon emissions, this is where we can make the greatest contribution to the energy transition, by increasing sales of low-carbon energy products and services.

**TASK**

(ETPR, p16) We are increasing our capacity, investing in infrastructure and helping to increase the scale and the adoption of hydrogen across different sectors.

**ACTION & RESULT**

We have increased our total electrolyser capacity from 2 MW to 30 MW, 10% of the global capacity of installed electrolysers in 2020, according to the International Energy Agency (IEA).

We have added a 20 MW electrolyser in China, which at the time was the largest in the world, and a 10 MW proton exchange membrane (PEM) electrolyser in Germany, the biggest of its kind in Europe. The electrolysers can produce 3,000 tonnes and 1,300 tonnes of decarbonised hydrogen a year respectively.

(ETPR, p17) In 2022, with our partners, we plan to take final investment decisions on electrolysers with a total capacity of 300 MW. In the Netherlands, we plan to build a 200 MW electrolyser, which is expected to start operations by 2024 and to produce around 20,000 tonnes of hydrogen per year. In Germany, we plan to take a final investment decision on a 100 MW electrolyser in 2022.

<table>
<thead>
<tr>
<th>Supply chain and/or value chain</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>(AR, p86) We note that the majority of the emissions reported by Shell are Scope 3 customer emissions which are outside of our direct control. In recognition of this, we have put customers at the centre of our Powering Progress strategy, partnering with others to reduce carbon emissions, sector-by-sector.</td>
<td></td>
</tr>
<tr>
<td>(AR, p85) Decarbonising our energy value chains and operations: We plan to keep customers at the centre of our strategy as we decarbonise our energy value chains and operations. We will seek to base our actions on a deep understanding of the decarbonisation strategies and plans of the users of our energy products. In accordance with our</td>
<td></td>
</tr>
</tbody>
</table>
energy transition strategy, the 10 ways below support our net-zero emissions ambition, including changing our product mix to lower-carbon intensity energy products: developing our low-carbon power business through wind and solar; transforming refineries into energy and chemicals parks; providing low-carbon fuels; producing and selling hydrogen; providing electric vehicle charging; shifting to natural gas; using nature-based solutions; developing carbon capture and storage (CCS); research and development contributing to decarbonisation; and pursuing operational efficiency in our assets.

Example (AR, p85)
Situation: Because emissions resulting from customer use of our energy products make up the greatest percentage of carbon emissions reported by Shell, this is where we can make the greatest contribution to the energy transition, by increasing sales of low-carbon energy products and services.

**TASK**
We have restructured our company so that we can better identify opportunities and the role that we can play in each sector to help transform demand. We are moving from an approach focused on types of products to one where our customer and account management is focused on sectors.

**ACTION & RESULT**
For example, we are working with Swiss food and drinks group Nestlé to reduce emissions across the full cycle of their products, from increasing agricultural yields with high performance fertilisers, to providing renewable energy for the manufacturing process and providing low-carbon fuels for transport.

<table>
<thead>
<tr>
<th>Investment in R&amp;D</th>
<th>Yes</th>
</tr>
</thead>
</table>

(SR, p39) In 2021, we spent $815 million on research and development (R&D), compared with $907 million in 2020. In 2021, we started work on 182 R&D projects with universities, compared with 124 in 2020. Our R&D activities are key to achieving our net-zero emissions target. In 2021, our R&D expenditure on projects that contributed to decarbonisation was around $328 million, representing around 40% of our total R&D spend.

This includes expenditure on reducing greenhouse gas emissions: 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, and synthetic fuels and products made from low-carbon electricity, hydrogen produced using renewable sources or using natural gas combined with carbon capture utilisation and storage (CCUS); by CCUS; and by creating nature-
CDP – Climate Change 2022 Information Request – Shell plc

Based solutions (NBS) to offset emissions. Read more about technology and innovation at www.shell.com/energy-and-innovation/the-role-technology-plays/technology-for-a-sustainable-energy-industry.

Example
Situation: (AR, p82) 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.

TASK
(AR, p30) If we fail to effectively develop or deploy new technology and products and services, 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 license to operate.

ACTION & RESULT
For example the deployment of CCUS: (SR, p30) Shell’s ambition is to work with governments, customers and partners to unlock the potential for CCS to reduce emissions where there are no currently scalable low-carbon alternatives. In 2021, Shell’s operating costs for and investment in CCS opportunities amounted to around $146 million. By the end of 2021, our Quest CCS project in Canada (Shell interest 10%) had captured and safely stored more than 6.5 million tonnes of CO₂ since it began operating in 2015. In Australia, the Gorgon CCS project (Shell interest 25%, operated by Chevron), which started operating in August 2019, had stored more than 5 million tonnes of CO₂ by the end of 2021.

Operations

Yes

(ETPR, p9) In October 2021, we set a new target to halve the emissions from our operations (Scope 1), plus the energy we buy to run them (Scope 2), by 2030 compared with 2016 levels on a net basis.

We have identified six main ways to decarbonise our operations:
• making portfolio changes such as acquisitions and investments in new, low-carbon projects. We are also 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 five refineries into low-carbon energy and chemicals parks;
• using more renewable electricity to power our operations;
• developing carbon capture and storage (CCS) for our facilities; and, if required,
• using nature-based solutions to offset any remaining emissions from our operations.

Example
Situation: (AR, p79) Becoming a net-zero emissions energy business means that we are reducing emissions from our operations, and from the fuels and other energy products such as electricity that we sell to our customers.

TASK
(ETPR, p10) In 2021, we improved energy efficiency across our assets. For example, we implemented a project to reduce power requirements for gas compression at our QGC natural gas project in Australia. Most of our Scope 1 and 2 emissions came from our Downstream business, in particular from our refining activities. Portfolio changes, such as the sale of the Martinez and Puget Sound refineries in the USA, and the transformation of our Bukom refinery in Singapore into a low-carbon energy and chemicals park, also helped to reduce emissions from our operations.

ACTION & RESULT
(ETPR, p10) By the end of 2021, we reduced Scope 1 and 2 emissions under our operational control to 68 million tonnes of CO₂ equivalent, an 18% reduction compared with 2016, our base year. This shows significant progress towards achieving our target of a 50% reduction by 2030.

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

<table>
<thead>
<tr>
<th>Financial planning elements that have been influenced</th>
<th>Description of influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Direct costs</td>
<td>Our financial planning processes: Shell’s targets to reduce absolute Scope 1 and 2 emissions by 50% by 2030, compared with 2016 levels on a net basis, and 20% reduction of net carbon intensity of Scope 3 emissions by 2030 have been included in Shell’s operating plan. Meeting the goals of the Paris Agreement requires the global economy to transform in a number of complex and connected ways. Shell will continue to revise its operating plan, price outlooks and assumptions as it moves towards net-zero emissions by 2050.</td>
</tr>
<tr>
<td>• Capital expenditures</td>
<td>Direct cost: (AR, p80) 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 the regulatory risk. To assess the resilience of new projects we consider the potential costs associated with operational</td>
</tr>
</tbody>
</table>
Access to capital and assets

GHG emissions. We have developed country-specific short-medium and long-term estimates of future costs of carbon which are reviewed and updated annually. In 2021, we increased the expected cost of carbon, so by 2050, in real terms our cost of carbon estimates for all countries increased to between $125 and $200 per tonne of GHG emissions. The process for developing our cost of carbon estimates uses short-term policy outlooks and long-term scenario forecasts. We believe our estimates appropriately reflect society’s current implementation of the Paris Agreement. Unfortunately, however, society is not yet on track to meet the goals of the Paris Agreement. Shell will continue to update the cost of carbon estimates to take account of changes in the economic environment and pace of energy transition.

Capital expenditure: (AR, p83) Shell’s financial strength and access to capital give us the ability to reshape our portfolio as the energy system transforms and demand changes. They also allow us to withstand volatility in oil and gas markets. We are shifting capital from our Upstream business to our Transition and Growth businesses as the energy transition accelerates and we sell more low-carbon energy products. We aim to find the right balance between managing our Upstream assets – which will produce the returns needed to help us fund the transition – and investing in our Transition and Growth businesses. These businesses are essential to identify, build and scale up profitable projects that offer low-carbon energy solutions for our customers.

(ETPR, p24) In 2021, our cash capital expenditure was $20 billion and our operating expenses were $36 billion, total $56 billion, of which 27% was allocated to the Growth pillar.

Capital allocation: (ETPR, p24) Shell’s financial strength and access to capital give us the ability to provide significant shareholder returns and to profitably transform our portfolio to meet our target of achieving net-zero emissions. They also allow us to withstand volatility in oil and gas markets and to continue to provide the energy the world needs. We are stepping up our investments in low- and zero-carbon energy where we see good opportunities for growth and strong returns.

(ETPR, p25) We are significantly increasing our expenditure on low- and zero-carbon energy, helping both Shell and its customers to meet their climate targets.

By 2025, we expect around 50% of our total expenditure (cash capital expenditure and operating expenditure) to be on low and zero-carbon products and services across all our businesses. Most of that 50% is on low- and zero-carbon energy products and services such as biofuels and hydrogen, power, nature-based solutions, carbon capture and storage and convenience retail, including charging for electric vehicles. The remainder is on our chemicals and lubricants businesses, which do not produce energy products and do not create carbon emissions when used by our customers.
Acquisitions and divestments:

(AR 2020 p98): We assess our portfolio decisions, including investments and divestments, against the potential impacts of the energy transition to the use of lower-carbon energy.

(AR, p168) Acquisitions: Shell management demonstrating that it can create a pipeline of new business opportunities and mature projects through to investment. This includes reaching new customers through our growing power business, with acquisitions like ERM in Australia, developing renewables projects such as CrossWind, and investment in ventures such as Enerkem Varennes, which will produce low-carbon fuels and renewable chemicals products from non-recyclable waste, and LanzaJet, which converts ethanol from waste materials into low-carbon jet fuel. While many of these projects are small in comparison to some of Shell’s existing businesses, they lay the foundations for future growth.

(AR, p21) Divestments of Deer Park Refinery and PCK Schwedt Refinery– This was part of Shell’s strategy to reduce its global refinery footprint to core sites integrated with the company’s trading hubs, chemicals plants and marketing businesses.

Access to capital: (AR, p80) 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 these types of future projects. This could also adversely affect our potential partners’ ability to finance their portion of costs, either through equity or debt.

Assets: (AR, p22) 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, 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. We maintain a diversified portfolio to manage the impact of price volatility. We test the resilience of our projects and other opportunities against a range of prices and costs for crude oil, natural gas, oil products and chemicals.

(C3.5) In your organization’s financial accounting, do you identify spending/revenue that is aligned with your organization’s transition to a 1.5°C world?

No, and we do not plan to in the next two years.
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.

Target reference number: Abs 1 - CCS Quest

Year target was set
2014

Target coverage
Site/facility

Scope(s)
Scope 1

Base year
2015

Base year Scope 1 emissions covered by target (metric tons CO$_2$e)

Total base year emissions covered by target in all selected Scopes (metric tons CO$_2$e)
3,400,000

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

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
4.7
Target year
2025

Targeted reduction from base year (%)
25

Total emissions in target year covered by target in all selected Scopes (metric tons CO₂e) [auto-calculated]
2,550,000

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

Total emissions in reporting year covered by target in all selected scopes (metric tons CO₂e)
2,700,000

% of target achieved relative to base year [auto-calculated]
82.3529411765

Target status in reporting year
Achieved

Is this a science-based target?
No, but we are reporting another target that is science-based

Please explain target coverage and identify any exclusions

Abs1 - CCS Quest
The Quest Carbon Capture and Storage (CCS) facility captures and stores about one third of the CO₂ emissions from the Shell-operated Scotford Upgrader near Fort Saskatchewan, Alberta, Canada which turns oil sands bitumen into synthetic crude that can be refined into fuel and other products. The CO₂ is transported through a 65-kilometre pipeline and injected more than two kilometres underground below multiple layers of impermeable rock formations. It is designed to capture, transport and store over one million tonnes of CO₂ annually. Shell operates the Quest CCS project (Shell interest 10%) which captured and safely stored more than 1,05 million tonnes of carbon dioxide from the Scotford Upgrader in 2021. The target year 2025 is based on a 10-year contract starting at the time of the project launch in 2015. We have put 100% of target achieved as the facility is storing close to one million tonnes of CO₂ annually. Quest has a robust measurement, monitoring and verification programme verified by a third party (Det Norske
Veritas (DNV)) to ensure the CO₂ is permanently stored.
(SR, p30) By the end of 2021, our Quest CCS project in Canada (Shell interest 10%) had captured and safely stored more than 6.5 million tonnes of CO₂ since it began operating in 2015.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.
(AR, p93) As there is no established standard for aligning an energy supplier’s decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

**List the emissions reduction initiatives which contributed most to achieving this target**
(SR p77) Shell operates the Quest CCS project (Shell interest 10%) which captured and safely stored more than 1.05 million tonnes of carbon dioxide from the Scotford Upgrader in 2021.

---

**Target reference number:** Abs 2 - World Bank Zero Routine Flaring by 2030 initiative

**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

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
10.28

Target year
2025

Targeted reduction from base year (%)
100

Total emissions in target year covered by target in all selected Scopes (metric tons CO₂e) [auto-calculated]
0

Scope 1 emissions in reporting year covered by target (metric tons CO₂e)
700,000

Total emissions in reporting year covered by target in all selected scopes (metric tons CO₂e)
700,000

% of target achieved relative to base year [auto-calculated]
90.5405405405

Target status in reporting year
Underway

Is this a science-based target?
No, but we are reporting another target that is science-based

**Please explain target coverage and identify any exclusions**

**Abs2 - World Bank Zero Routine Flaring by 2030 initiative**

In 2015, we signed up to the World Bank’s Zero Routine Flaring by 2030 initiative. This seeks to ensure that all stakeholders, including governments and companies, work together to address routine flaring. In 2021, we brought forward our target to eliminate routine gas flaring at our Upstream operated assets from 2030 to 2025.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.

(AR, p93) As there is no established standard for aligning an energy supplier’s decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

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

In 2021, routine flaring from our Upstream operations fell to 0.2 million tonnes of hydrocarbons from 0.3 million tonnes of hydrocarbons in the previous year. The only routine flaring in 2021 occurred in assets operated by the Shell Petroleum Development Company of Nigeria Limited (SPDC). Shell Companies in Nigeria are working towards their goal of ending the routine flaring of associated gas from their oil production operations. They have made a series of investments and partnerships over the last 20 years to capture and supply associated gas for domestic and export markets. In 2019, the Southern Swamp Associated Gas Solutions project was commissioned, and the SPDC JV is planning to reduce associated gas flaring further through its Forcados Yokri gas-gathering project, of which large parts are set to be completed in 2022.

**Target reference number:** Abs 3 – Net-zero Scope 1 and Scope 2 emissions from our operations (manufacture of all products) by 2050

**Year target was set**
2020

**Target coverage**
Company-wide

**Scope(s)**
- Scope 1
- Scope 2

**Scope 2 accounting method**
Market-based

**Base year**
2016

**Base year Scope 1 emissions covered by target (metric tons CO\textsubscript{2}e)**
0

**Base year Scope 2 emissions covered by target (metric tons CO\textsubscript{2}e)**

**Total base year emissions covered by target in all selected Scopes (metric tons CO\textsubscript{2}e)**
83,000,000

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

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

**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 CO\(_2\)e) [auto-calculated]**
0

**Scope 1 emissions in reporting year covered by target (metric tons CO\(_2\)e)**

**Scope 2 emissions in reporting year covered by target (metric tons CO\(_2\)e)**

**Total emissions in reporting year covered by target in all selected scopes (metric tons CO\(_2\)e)**
68,000,000

**% of target achieved relative to base year [auto-calculated]**
18.0722891566

**Target status in reporting year**
Underway

**Is this a science-based target?**
Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years

**Target ambition**
1.5°C aligned

**Please explain target coverage and identify any exclusions**
Abs3 – Net-zero Scope 1 and Scope 2 emissions from our operations (manufacture of all products) by 2050

(ETPR, p9) To achieve net-zero emissions by 2050, we are transforming how we produce energy as we continue to meet growing demand. In October
2021, we set a new target to halve the emissions from our operations (Scope 1), plus the energy we buy to run them (Scope 2), by 2030 compared with 2016 levels on a net basis.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.

(AR, p93) As there is no established standard for aligning an energy supplier’s decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

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

(AR, p91) In 2021, our total combined Scope 1 and 2 absolute GHG emissions (from assets and activities under our operational control) were 68 million tonnes on a CO₂ equivalent basis, a 4% reduction compared with 2020, and an 18% reduction compared with 2016, the base year.

(ETPR, p9) We have identified six main ways to decarbonise our operations:
- making portfolio changes such as acquisitions and investments in new, low-carbon projects. We are also 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 five refineries into low-carbon energy and chemicals parks;
- using more renewable electricity to power our operations; developing carbon capture and storage (CCS) for our facilities; if required;
- using nature-based solutions to offset any remaining emissions from our operations.

(AR, p92) Our direct GHG emissions (Scope 1) (consolidated using the operational control boundary) decreased from 63 million tonnes of carbon dioxide equivalent (CO₂e) in 2020 to 60 million tonnes CO₂e in 2021, driven by several factors including:
- the shutdown of the Convent refinery, USA, in late 2020;
- downtime at the Norco site, USA, due to impacts from Hurricane Ida;
- divestments in 2020 and 2021 (e.g. the Martinez and Puget Sound refineries in the USA, and the Fredericia refinery in Denmark);
- sustained emissions reductions (performance against our scorecard and additional reductions as discussed below (page 94)); and
- reductions in methane emissions. These decreases were partly offset by higher emissions due to the restart of the Prelude FLNG facility in Australia.
and increased flaring in facilities operated by Shell Nigeria Exploration and Production Company Limited (SNEPCo) in Nigeria.

(AR, p95) Sustained emission reduction (scorecard performance):
We have exceeded the target, which was 224 ktCO₂e, with 279 ktCO₂e of sustained emissions reductions, by implementing projects across a range of assets that we operate. We have also delivered around 3.6 million tonnes of other GHG reductions (not included in the scorecard). These reductions include GHG abatement projects and emissions reductions from permanent shutdowns and conversions of our facilities. Examples include flaring reduction and energy efficiency projects. The above reductions do not include 1.05 million tonnes of CO₂ captured and sequestered by our Quest CCS project in Canada in 2021.

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**Target reference number: Abs 4 - Net-zero Scope 3 emissions from the energy products we sell**

**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 Scope 3 emissions covered by target (metric tons CO₂e)**
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total base year emissions covered by target in all selected Scopes (metric tons CO(_2)e)</strong></td>
<td>1,545,000,000</td>
</tr>
<tr>
<td><strong>Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes</strong></td>
<td>100</td>
</tr>
<tr>
<td><strong>Target year</strong></td>
<td>2050</td>
</tr>
<tr>
<td><strong>Targeted reduction from base year (%)</strong></td>
<td>100</td>
</tr>
<tr>
<td><strong>Total emissions in target year covered by target in all selected Scopes (metric tons CO(_2)e) [auto-calculated]</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>Scope 3 emissions in reporting year covered by target (metric tons CO(_2)e)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total emissions in reporting year covered by target in all selected scopes (metric tons CO(_2)e)</strong></td>
<td>1,299,000,000</td>
</tr>
<tr>
<td><strong>% of target achieved relative to base year [auto-calculated]</strong></td>
<td>15.9223300971</td>
</tr>
<tr>
<td><strong>Target status in reporting year</strong></td>
<td>Underway</td>
</tr>
<tr>
<td><strong>Is this a science-based target?</strong></td>
<td>Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years</td>
</tr>
</tbody>
</table>
Target ambition

1.5°C aligned

Please explain target coverage and identify any exclusions

Abs4 - Net-zero Scope 3 emissions from the energy products we sell

The Scope 3 emissions we report include our customers’ emissions from the energy products we produce and sell as well as the life-cycle emissions of the energy products produced by other companies that we resell to our customers. This means that our target covers all the energy we sell, not just the oil and gas we produce and refine ourselves. We will work with our customers to address the emissions created when they use products bought from us (Scope 3) and help them find ways to reduce their emissions and overall carbon footprint to net zero by 2050.

(AR, p95) The NCI calculation uses Shell’s energy product sales volume data, as disclosed in the Annual Report and Sustainability Report. This excludes certain sales volumes such as:

■ certain contracts held for trading purposes reported net rather than gross. Business-specific methodologies to net volumes have been applied in oil products and pipeline gas and power. Paper trades that do not result in physical product delivery are excluded; and
■ retail sales volumes from markets where Shell operates under trademark licensing agreements.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.

(AR, p93) As there is no established standard for aligning an energy supplier’s decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

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

(AR, p94) The reduction of Shell’s NCI from 79 gCO₂e/MJ in 2016 to 77 gCO₂e/MJ in 2021 means that we have achieved our first short-term target of a 2-3% reduction in NCI by the end of 2021.

(AR, p91) The Scope 3 emissions from the energy products we sell account for the majority of our total emissions.

(AR, p91) The Scope 3 emissions from energy products included in our net carbon intensity were 1,299 million tonnes CO₂, in comparison to
compared with 1545 million tonnes CO\textsubscript{2}e in the reference year: 2016.

(AR, p94)The reduction of Shell’s NCI over this period has largely been driven by a reduction in oil product sales combined with growth in power sales.

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**Target reference number:** Abs 5 - Net-zero Scope 1 and Scope 2 emissions from our operations (manufacture of all products) by 2030

**Year target was set**

2021

**Target coverage**

Company-wide

**Scope(s)**

Scope 1
Scope 2

**Scope 2 accounting method**

Market-based

**Base year**

2016

**Base year Scope 1 emissions covered by target (metric tons CO\textsubscript{2}e)**

**Base year Scope 2 emissions covered by target (metric tons CO\textsubscript{2}e)**

**Total base year emissions covered by target in all selected Scopes (metric tons CO\textsubscript{2}e)**

83,000,000

**Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1**
<table>
<thead>
<tr>
<th>Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes</td>
</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td>Target year</td>
</tr>
<tr>
<td>2030</td>
</tr>
<tr>
<td>Targeted reduction from base year (%)</td>
</tr>
<tr>
<td>50</td>
</tr>
<tr>
<td>Total emissions in target year covered by target in all selected Scopes (metric tons CO₂e) [auto-calculated]</td>
</tr>
<tr>
<td>41,500,000</td>
</tr>
<tr>
<td>Scope 1 emissions in reporting year covered by target (metric tons CO₂e)</td>
</tr>
<tr>
<td>Scope 2 emissions in reporting year covered by target (metric tons CO₂e)</td>
</tr>
<tr>
<td>Total emissions in reporting year covered by target in all selected scopes (metric tons CO₂e)</td>
</tr>
<tr>
<td>68,000,000</td>
</tr>
<tr>
<td>% of target achieved relative to base year [auto-calculated]</td>
</tr>
<tr>
<td>36.1445783133</td>
</tr>
<tr>
<td>Target status in reporting year</td>
</tr>
<tr>
<td>Underway</td>
</tr>
<tr>
<td>Is this a science-based target?</td>
</tr>
</tbody>
</table>
Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years

**Target ambition**

1.5°C aligned

**Please explain target coverage and identify any exclusions**

Abs 5 - Net-zero Scope 1 and Scope 2 emissions from our operations (manufacture of all products) by 2030

(ETPR, p9) To achieve net-zero emissions by 2050, we are transforming how we produce energy as we continue to meet growing demand. In October 2021, we set a new target to halve the emissions from our operations (Scope 1), plus the energy we buy to run them (Scope 2), by 2030 compared with 2016 levels on a net basis.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.

(AR, p93) As there is no established standard for aligning an energy supplier’s decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

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

(AR, p91) In 2021, our total combined Scope 1 and 2 absolute GHG emissions (from assets and activities under our operational control) were 68 million tonnes on a CO₂ equivalent basis, a 4% reduction compared with 2020, and an 18% reduction compared with 2016, the base year.

(ETPR, p9) We have identified six main ways to decarbonise our operations:

- making portfolio changes such as acquisitions and investments in new, low-carbon projects. We are also 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 five refineries into low-carbon energy and chemicals parks;
- using more renewable electricity to power our operations;
- developing CCS for our facilities; and, if required,
- using nature-based solutions to offset any remaining emissions from our operations.

(AR, p92) Our direct GHG emissions (Scope 1) (consolidated using the operational control boundary) decreased from 63 million tonnes of carbon dioxide equivalent (CO₂e) in 2020 to 60 million tonnes CO₂e in 2021, driven by several factors including:

- shutdown of the Convent refinery, USA, in late 2020;
- downtime at the Norco site, USA, due to impacts from Hurricane Ida;
- divestments in 2020 and 2021 (e.g. the Martinez and Puget Sound refineries in the USA, and the Fredericia refinery in Denmark);
- sustained emissions reductions (performance against our scorecard and additional reductions as discussed below (p94); and
- reductions in methane emissions. These decreases were partly offset by higher emissions due to the restart of the Prelude FLNG facility in Australia and increased flaring in facilities operated by Shell Nigeria Exploration and Production Company Limited (SNEPCo) in Nigeria.

(AR, p95) Sustained emission reduction (scorecard performance):
We have exceeded the target, which was 224 ktCO₂e, with 279 ktCO₂e of sustained emissions reductions, by implementing projects across a range of assets that we operate. We have also delivered around 3.6 million tonnes of other GHG reductions (not included in the scorecard). These reductions include GHG abatement projects and emissions reductions from permanent shutdowns and conversions of our facilities. Examples include flaring reduction and energy efficiency projects. The above reductions do not include 1.05 million tonnes of CO₂ captured and sequestered by our Quest CCS project in Canada in 2021.

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

Target reference number: Int1 - Net Carbon Intensity (NCI) target 2021

Year target was set

2019

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 CO\(_2\) equivalent per megajoule

**Base year**
2016

**Intensity figure in base year for Scope 1 (metric tons CO\(_2\)e per unit of activity)**

**Intensity figure in base year for Scope 2 (metric tons CO\(_2\)e per unit of activity)**

**Intensity figure in base year for Scope 3 (metric tons CO\(_2\)e per unit of activity)**

**Intensity figure in base year for all selected Scopes (metric tons CO\(_2\)e per unit of activity)**
79%

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure
% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this Scope 3 intensity figure

% of total base year emissions in all selected Scopes covered by this intensity figure
100

Target year
2021

Targeted reduction from base year (%)
2

Intensity figure in target year for all selected Scopes (metric tons CO$_2$e per unit of activity) [auto-calculated]
77.42

% change anticipated in absolute Scope 1+2 emissions
0

% change anticipated in absolute Scope 3 emissions
0

Intensity figure in reporting year for Scope 1 (metric tons CO$_2$e per unit of activity)

Intensity figure in reporting year for Scope 2 (metric tons CO$_2$e per unit of activity)

Intensity figure in reporting year for Scope 3 (metric tons CO$_2$e per unit of activity)

Intensity figure in reporting year for all selected Scopes (metric tons CO$_2$e per unit of activity)
77

% of target achieved relative to base year [auto-calculated]
Target status in reporting year
Achieved

Is this a science-based target?
Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years

Target ambition
1.5°C aligned

Please explain target coverage and identify any exclusions
Int1 - Net Carbon Intensity (NCI) target 2021
Intensity metric: grams CO₂e per megajoule (MJ) consumed
We measure our carbon intensity with our Net Carbon Footprint (NCF) methodology which calculates the carbon intensity of the portfolio of energy products sold by Shell expressed as gCO₂e/MJ of energy delivered to, and consumed by, our customers.
(AR, p89) We have set specific carbon intensity reduction targets for the following years. These targets are compared with 2016 and linked to the remuneration of around 16,500 Shell employees: 2-3% by 2021, 3-4% by 2022, 6-8% by 2023, 9-12% by 2024.

(AR, p91) In 2021, Shell’s NCI was 77 gCO₂e/MJ, a 2.7% increase from the previous year and a 2.5% reduction compared with 2016, the reference year. The increase in Shell’s NCI in 2021 was largely due to the introduction of an improved approach for the estimation of the emissions intensity of power sold by Shell. The new approach is based on categorising power sales as certified renewable, own generation or power purchase agreement, or power purchased from the grid. Intensities are then assigned to each power sales category, allowing a better estimate of the overall intensity of power sold by Shell.

Shell’s NCF methodology is available on our website: www.shell.com/energy-and-innovation/the-energy-future/what-is-shells-net-carbon-footprint-ambition/faq

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.
(AR, p93) As there is no established standard for aligning an energy supplier’s decarbonisation targets with the temperature goal of the Paris
Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

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

(AR, p94) The reduction of Shell’s NCI from 79 gCO₂e/MJ in 2016 to 77 gCO₂e/MJ in 2021 means that we have achieved our first short-term target of a 2-3% reduction in NCI by the end of 2021. The reduction of Shell’s NCI over this period has largely been driven by a reduction in oil product sales combined with growth in power sales.

---

**Target reference number: Int 2 - Net Carbon Intensity (NCI) target 2022**

**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 Scope 1 (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 2 (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3 (metric tons CO₂e per unit of activity)

Intensity figure in base year for all selected Scopes (metric tons CO₂e per unit of activity)
79

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this Scope 3 intensity figure

% 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

% change anticipated in absolute Scope 1+2 emissions  
0

% change anticipated in absolute Scope 3 emissions  
0

Intensity figure in reporting year for Scope 1 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 2 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for all selected Scopes (metric tons CO₂e per unit of activity)  
77

% of target achieved relative to base year [auto-calculated]  
84.388185654

Target status in reporting year  
Underway

Is this a science-based target?  
Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years
Target ambition
1.5°C aligned

Please explain target coverage and identify any exclusions
Int2 - Net Carbon Intensity (NCI) target 2022
We measure our carbon intensity with our Net Carbon Footprint (NCF) methodology which calculates the carbon intensity of the portfolio of energy products sold by Shell expressed as grams of CO₂ equivalent (gCO₂e) per megajoule (MJ) of energy delivered to, and consumed by, our customers.

(AR, p89) We have set specific carbon intensity reduction targets for the following years. These targets are compared with 2016 and linked to the remuneration of around 16,500 Shell employees: 2-3% by 2021, 3-4% by 2022, 6-8% by 2023, 9-12% by 2024.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.
(AR, p93) As there is no established standard for aligning an energy supplier's decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

Plan for achieving target, and progress made to the end of the reporting year
(AR, p94) The reduction of Shell’s NCI from 79 gCO₂e/MJ in 2016 to 77gCO₂e/MJ in 2021 means that we have achieved our first short-term target of a 2-3% reduction in NCI by the end of 2021. The reduction of Shell’s NCI over this period has largely been driven by a reduction in oil product sales combined with growth in power sales.

Target reference number: Int 3 - Net Carbon Intensity (NCI) target 2023

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 Scope 1 (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 2 (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3 (metric tons CO₂e per unit of activity)

Intensity figure in base year for all selected Scopes (metric tons CO₂e per unit of activity)
79

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this Scope 3 intensity figure

% 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

% change anticipated in absolute Scope 1+2 emissions

0

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year for Scope 1 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 2 (metric tons CO₂e per unit of activity)
Intensity figure in reporting year for Scope 3 (metric tons CO₂e per unit of activity)

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

77

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

42.194092827

Target status in reporting year
Underway

Is this a science-based target?
Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years

Target ambition
1.5°C aligned

Please explain target coverage and identify any exclusions

Int3 - Net Carbon Intensity (NCI) target 2023
We measure our carbon intensity with our Net Carbon Footprint (NCF) methodology which calculates the carbon intensity of the portfolio of energy products sold by Shell expressed as grams of CO₂ equivalent (gCO₂e) per megajoule (MJ) of energy delivered to, and consumed by, our customers.

(AR, p89) We have set specific carbon intensity reduction targets for the following years. These targets are compared with 2016 and linked to the remuneration of around 16,500 Shell employees: 2-3% by 2021, 3-4% by 2022, 6-8% by 2023, 9-12% by 2024.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.

(AR, p93) As there is no established standard for aligning an energy supplier’s decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the
carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

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

(AR, p94) The reduction of Shell’s NCI from 79 gCO$_2$e/MJ in 2016 to 77gCO$_2$e/MJ in 2021 means that we have achieved our first short-term target of a 2-3% reduction in NCI by the end of 2021.

**Target reference number:** Int 4 - Net Carbon Intensity (NCI) target 2024

**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 CO$_2$e per megajoule
Base year
2016

Intensity figure in base year for Scope 1 (metric tons CO$_2$e per unit of activity)

Intensity figure in base year for Scope 2 (metric tons CO$_2$e per unit of activity)

Intensity figure in base year for Scope 3 (metric tons CO$_2$e per unit of activity)

Intensity figure in base year for all selected Scopes (metric tons CO$_2$e per unit of activity)

79

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this Scope 3 intensity figure

% 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 CO$_2$e per unit of activity) [auto-calculated]
63.2

% change anticipated in absolute Scope 1+2 emissions
0

% change anticipated in absolute Scope 3 emissions
0

Intensity figure in reporting year for Scope 1 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 2 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for all selected Scopes (metric tons CO₂e per unit of activity)
77

% of target achieved relative to base year [auto-calculated]
12.6582278481

Target status in reporting year
Underway

Is this a science-based target?
Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years

Target ambition
1.5°C aligned

Please explain target coverage and identify any exclusions
**Int4 - Net Carbon Intensity (NCI) target 2024**

We measure our carbon intensity with our Net Carbon Footprint (NCF) methodology which calculates the carbon intensity of the portfolio of energy products sold by Shell expressed as grams of CO₂ equivalent (gCO₂e) per megajoule (MJ) of energy delivered to, and consumed by, our customers.

(AR, p89) We have set specific carbon intensity reduction targets for the following years. These targets are compared with 2016 and linked to the remuneration of around 16,500 Shell employees: 2-3% by 2021, 3-4% by 2022, 6-8% by 2023, 9-12% by 2024.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.

(AR, p93) As there is no established standard for aligning an energy supplier's decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

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

(AR, p94) The reduction of Shell’s NCI from 79 gCO₂e/MJ in 2016 to 77gCO₂e/MJ in 2021 means that we have achieved our first short-term target of a 2-3% reduction in NCI by the end of 2021.

**Target reference number: Int 5 - Net Carbon Intensity (NCI) target 2030**

**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 CO$_2$e per megajoule

**Base year**
2016

**Intensity figure in base year for Scope 1 (metric tons CO$_2$e per unit of activity)**

**Intensity figure in base year for Scope 2 (metric tons CO$_2$e per unit of activity)**

**Intensity figure in base year for Scope 3 (metric tons CO$_2$e per unit of activity)**

**Intensity figure in base year for all selected Scopes (metric tons CO$_2$e per unit of activity)**
79

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure
% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this Scope 3 intensity figure

% of total base year emissions in all selected Scopes covered by this intensity figure
  100

Target year
  2035

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

% change anticipated in absolute Scope 1+2 emissions
  0

% change anticipated in absolute Scope 3 emissions
  0

Intensity figure in reporting year for Scope 1 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 2 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for all selected Scopes (metric tons CO₂e per unit of activity)
  77

% of target achieved relative to base year [auto-calculated]
12.6582278481

**Target status in reporting year**

Underway

**Is this a science-based target?**

Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years

**Target ambition**

1.5°C aligned

**Please explain target coverage and identify any exclusions**

Int5 - Net Carbon Intensity (NCI) target 2030

We measure our carbon intensity with our Net Carbon Footprint (NCF) methodology which calculates the carbon intensity of the portfolio of energy products sold by Shell expressed as grams of CO$_2$ equivalent (gCO$_2$e) per megajoule (MJ) of energy delivered to, and consumed by, our customers. These targets are compared with 2016: 20% by 2030.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.

(AR, p93) As there is no established standard for aligning an energy supplier’s decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

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

(AR, p94) The reduction of Shell’s NCI from 79 gCO$_2$e/MJ in 2016 to 77gCO$_2$e/MJ in 2021 means that we have achieved our first short-term target of a 2-3% reduction in NCI by the end of 2021.
Target reference number: Int 6 - Net Carbon Intensity (NCI) target 2035

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 CO$_2$e per megajoule

Base year
2016

Intensity figure in base year for Scope 1 (metric tons CO$_2$e per unit of activity)

Intensity figure in base year for Scope 2 (metric tons CO$_2$e per unit of activity)
Intensity figure in base year for Scope 3 (metric tons CO$_2$e per unit of activity)

Intensity figure in base year for all selected Scopes (metric tons CO$_2$e per unit of activity)

79

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this Scope 3 intensity figure

% 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 CO$_2$e per unit of activity) [auto-calculated]

43.45

% change anticipated in absolute Scope 1+2 emissions 

100

% change anticipated in absolute Scope 3 emissions 

100

Intensity figure in reporting year for Scope 1 (metric tons CO$_2$e per unit of activity)
Intensity figure in reporting year for Scope 2 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3 (metric tons CO₂e per unit of activity)

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

77%

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

5.6258790436

Target status in reporting year

Underway

Is this a science-based target?

Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years

Target ambition

1.5°C aligned

Please explain target coverage and identify any exclusions

Int6 - Net Carbon Intensity (NCI) target 2035

We measure our carbon intensity with our Net Carbon Footprint (NCF) methodology which calculates the carbon intensity of the portfolio of energy products sold by Shell expressed as grams of CO₂ equivalent (gCO₂e) per megajoule (MJ) of energy delivered to, and consumed by, our customers. These targets are compared with 2016: 45% by 2035. These targets include mitigation actions such as carbon capture and storage and nature-based offsets.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.
(AR, p93) As there is no established standard for aligning an energy supplier's decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

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

(AR, p94) The reduction of Shell’s NCI from 79 gCO₂e/MJ in 2016 to 77gCO₂e/MJ in 2021 means that we have achieved our first short-term target of a 2-3% reduction in NCI by the end of 2021.

Target reference number: Int 7 - Refineries intensity

Year target was set
2021

Target coverage
Business activity

Scope(s)
  Scope 1
  Scope 2

Scope 2 accounting method
Market-based

Intensity metric
Other, please specify: Tonnes of CO₂ equivalent per Solomon's Utilised Equivalent Distillation Capacity (UEDC)

Base year
2020
Intensity figure in base year for Scope 1 (metric tons CO$_2$e per unit of activity)

Intensity figure in base year for Scope 2 (metric tons CO$_2$e per unit of activity)

Intensity figure in base year for all selected Scopes (metric tons CO$_2$e per unit of activity)

1.05

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

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

37.67

Target year

2021

Targeted reduction from base year (%) 

1.9

Intensity figure in target year for all selected Scopes (metric tons CO$_2$e per unit of activity) [auto-calculated]

1.03005

% change anticipated in absolute Scope 1+2 emissions

-7

% change anticipated in absolute Scope 3 emissions

Intensity figure in reporting year for Scope 1 (metric tons CO$_2$e per unit of activity)
Intensity figure in reporting year for Scope 2 (metric tons CO$_2$e per unit of activity)

Intensity figure in reporting year for all selected Scopes (metric tons CO$_2$e per unit of activity)

1.05

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

0

Target status in reporting year

Expired

Is this a science-based target?

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

Please explain target coverage and identify any exclusions

Int7 - Refineries intensity

(AR, p37) UEDC TM (Utilised Equivalent Distillation Capacity) is a proprietary metric of Solomon Associates. It is a complexity-weighted normalisation parameter that reflects the operating cost intensity of a refinery based on size and configuration of its particular mix of process and non-process facilities.

(AR, p94) For our refineries, our target was to reduce GHG intensity to 1.03 tonnes or below of CO$_2$ equivalent per Solomon’s Utilised Equivalent Distillation Capacity (UEDC). (AR, p37) Refinery GHG intensity in 2021 was 1.05 tonnes CO$_2$e per UEDC compared with 1.05 in 2020.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.

(AR, p93) As there is no established standard for aligning an energy supplier’s decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the
carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

Target reference number: **Int 8 - Chemicals intensity**

Year target was set
2021

Target coverage
Business division

**Scope(s)**
Scope 1
Scope 2

**Scope 2 accounting method**
Market-based

**Intensity metric**
Other, please specify: Tonnes CO₂ equivalent per tonne of petrochemicals produced

**Base year**
2020

Intensity figure in base year for Scope 1 (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 2 (metric tons CO₂e per unit of activity)

Intensity figure in base year for all selected Scopes (metric tons CO₂e per unit of activity)
0.98
% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

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

10.36

Target year

2021

Targeted reduction from base year (%)

1

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

0.9702

% change anticipated in absolute Scope 1+2 emissions

4.6

% change anticipated in absolute Scope 3 emissions

Intensity figure in reporting year for Scope 1 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 2 (metric tons CO₂e per unit of activity)

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

0.95

% of target achieved relative to base year [auto-calculated]
**Target status in reporting year**

Achieved

**Is this a science-based target?**

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

**Please explain target coverage and identify any exclusions**

*Int8 - Chemicals intensity*

(SR, p76) High-value chemicals include olefin products (ethylene and propylene) plus the contained butadiene, benzene, acetylene, and high-purity hydrogen production.

(AR, p94) For our chemical plants, our target was to reduce GHG intensity to 0.97 tonnes or below of CO$_2$ equivalent per tonne of high-value petrochemicals produced. (AR, p37) Chemical GHG intensity was 0.95 tonnes CO$_2$ equivalent per tonne of high-value chemicals produced in 2021 compared with 0.98 in 2020.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.

(AR, p93) As there is no established standard for aligning an energy supplier’s decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

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

(AR, p98) At our Bukom site in Singapore, we completed a project to reduce the consumption of natural gas in flare purge. In addition, we completed two projects to minimise energy loss from steam at this site.

At our Moerdijk site in the Netherlands, we completed a project to replace two furnaces with more efficient versions, resulting in energy savings.
Target reference number: **Int 9 - Upstream / Integrated Gas intensity**

**Year target was set**
2021

**Target coverage**
Business activity

**Scope(s)**
- Scope 1
- Scope 2

**Scope 2 accounting method**
Market-based

**Intensity metric**
Other, please specify: Tonnes CO₂ equivalent per tonnes of GHG emissions (Scope 1+2) per tonne of oil and gas available for sale, liquefied natural gas and gas-to-liquids production

**Base year**
2020

**Intensity figure in base year for Scope 1 (metric tons CO₂e per unit of activity)**

**Intensity figure in base year for Scope 2 (metric tons CO₂e per unit of activity)**

**Intensity figure in base year for all selected Scopes (metric tons CO₂e per unit of activity)**
0.159

**% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure**
% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

% of total base year emissions in all selected Scopes covered by this intensity figure
37.92

Target year
2021

Targeted reduction from base year (%) 
4.4

Intensity figure in target year for all selected Scopes (metric tons CO₂e per unit of activity) [auto-calculated]
0.152004

% change anticipated in absolute Scope 1+2 emissions
-4.4

% change anticipated in absolute Scope 3 emissions

Intensity figure in reporting year for Scope 1 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 2 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for all selected Scopes (metric tons CO₂e per unit of activity)
0.172

% of target achieved relative to base year [auto-calculated]
Target status in reporting year
Expired

Is this a science-based target?
No, but we are reporting another target that is science-based

Please explain target coverage and identify any exclusions
Int9 - Upstream / Integrated Gas intensity
(AR, p94) For our Upstream and Integrated Gas facilities, our target was to achieve a GHG intensity of 0.152 tonnes or below of CO₂ equivalent per tonne of hydrocarbon production available for sale.

(AR, p37) Our Upstream and Integrated Gas GHG intensity was 0.172 tonnes CO₂ equivalent per tonne of hydrocarbon production available for sale in 2021 compared with 0.159 in 2020.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.

(AR, p93) As there is no established standard for aligning an energy supplier's decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

Target reference number: Int 10 - Net Carbon Intensity (NCI) target 2050

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 CO$_2$e per megajoule

**Base year**
- 2016

**Intensity figure in base year for Scope 1 (metric tons CO$_2$e per unit of activity)**

**Intensity figure in base year for Scope 2 (metric tons CO$_2$e per unit of activity)**

**Intensity figure in base year for Scope 3 (metric tons CO$_2$e per unit of activity)**

**Intensity figure in base year for all selected Scopes (metric tons CO$_2$e per unit of activity)**
- 79
% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this Scope 3 intensity figure

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

Target year

2050

Targeted reduction from base year (%)

100

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

0

% change anticipated in absolute Scope 1+2 emissions

100

% change anticipated in absolute Scope 3 emissions

100

Intensity figure in reporting year for Scope 1 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 2 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3 (metric tons CO₂e per unit of activity)
Intensity figure in reporting year for all selected Scopes (metric tons CO$_2$e per unit of activity)

77

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

2.531645696

Target status in reporting year

Underway

Is this a science-based target?

Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years

Target ambition

1.5°C aligned

Please explain target coverage and identify any exclusions

Int10 - Net Carbon Intensity (NCI) target 2050

We measure our carbon intensity with our Net Carbon Footprint methodology which calculates the carbon intensity of the portfolio of energy products sold by Shell expressed as grams of CO$_2$ equivalent (gCO$_2$e) per megajoule (MJ) of energy delivered to, and consumed by, our customers. We have set medium and long-term specific carbon intensity reduction targets. These targets are compared with 2016: 100% by 2050. These targets include mitigation actions such as carbon capture and storage and nature-based offsets.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.

(AR, p93) As there is no established standard for aligning an energy supplier’s decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the
carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

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

(AR, p94) The reduction of Shell’s NCI from 79 gCO$_2$e/MJ in 2016 to 77gCO$_2$e/MJ in 2021 means that we have achieved our first short-term target of a 2-3% reduction in NCI by the end of 2021.

**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 emissions intensity target

**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 m$^3$

**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
0.06

% of target achieved relative to base year [auto-calculated]
-16.6666666667

Target status in reporting year
Underway

Is this target part of an emissions target?
n.a.

Is this target part of an overarching initiative?
Other, please specify: The target is not part of a particular external initiative but based on the work of an industry coalition which developed the Methane Guiding Principles and is aligned with the Oil and Gas Climate Initiative methane intensity target.

Please explain target coverage and identify any exclusions
(SR, p27) Shell’s methane emissions intensity target covers all Upstream and Integrated Gas oil and gas assets for which Shell is the operator.

Plan for achieving target, and progress made to the end of the reporting year
(SR, p27) By 2025, we expect to have kept the methane emissions intensity of Shell-operated assets to below 0.2%. In 2021, our methane emissions intensity averaged 0.06% for assets with marketed gas and 0.01% for assets without marketed gas. Shell’s methane emissions intensity ranged from below 0.01% to 1.5% in 2021 compared with 0.01% to 0.6% in 2020. In 2021, our methane emissions intensity averaged 0.06% for assets with marketed gas and 0.01% for assets without marketed gas. Shell’s methane emissions intensity ranged from below 0.01% to 1.5% in 2021 compared
with 0.01% to 0.6% in 2020. In 2021, our methane emissions intensity averaged 0.06% for assets with marketed gas and 0.01% for assets without marketed gas. Shell’s methane emissions intensity ranged from below 0.01% to 1.5% in 2021 compared with 0.01% to 0.6% in 2020.

In 2021, Shell’s total methane emissions were 55 thousand tonnes compared with 67 thousand tonnes in 2020, in part due to reduced methane emissions reported for Malaysia because we relinquished the operatorship of two complexes (E11PA and E11PB) on December 31, 2020. We also implemented a more accurate method for calculating fugitive emissions at the Shell operated QGC natural gas facility in Australia. Methane emissions were less than 3% of Shell’s greenhouse gas emissions on a CO₂-equivalent basis in 2021. More than 65% of our reported methane emissions in 2021 came from flaring and venting in our upstream and midstream operations.

(SR, p28) We encourage industry-wide action on methane emissions reduction by participating in voluntary initiatives. For example, we participate in multi-stakeholder groups, such as the Methane Guiding Principles coalition, which we initiated in 2017, and the Oil and Gas Methane Partnership (OGMP) 2.0, which seeks to improve measurement and reporting. In 2021, environmental organisations and energy companies, including Shell, developed policy recommendations to support European Union (EU) legislation for ambitious methane emissions reductions across the supply chain of natural gas consumed within the EU.

In 2022, the Oil and Gas Climate Initiative (OGCI) – of which Shell is a member – launched “Aiming for Zero Methane Emissions Initiative”, which strives to reach near-zero methane emissions from operated oil and gas assets.

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

**Target reference number:** NZ1 – NZE Energy Business

**Target coverage**

Company-wide

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

Abs3
Abs4
Int10

**Target year for achieving net zero**

2050
Is this a science-based target?
Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next 2 years.

Please explain target coverage and identify any exclusions

NZ1 – NZE Energy Business
(AR 2020, p94; Shell Energy Transition report 2021) We announced a long-term target to become a net-zero emissions energy business by 2050. This includes a target to be net zero on all emissions from the manufacture of all our products – (our Scope 1 and 2 emissions) – by 2050, and also net zero from the end use of all the energy products we sell (Scope 3 emissions). We aim to reduce the net carbon intensity of energy sold by 6-8% by 2023, 9-12% by 2024, 20% by 2030, 45% by 2035 and 100% by 2050, in comparison with 2016.
(AR, p91) The Scope 3 emissions from the energy products we sell account for the majority of total emissions reported by Shell, so we must also work with our customers to reduce their emissions when that energy is used.

That means offering them the low-carbon products and services they need such as renewable electricity, biofuels, hydrogen, carbon capture and storage and nature-based offsets.
Importantly, our target includes emissions not only from the energy we produce and process ourselves, including oil and gas, but also from all the energy products that other companies produce and we sell. This is significant because we sell more than three times the energy we produce ourselves.
In summary, our targets include all emissions from the energy we sell, and the majority of the emissions we include in our targets are not related to our own oil and gas production.
Shell will reduce the carbon intensity of our energy products by working with our customers, sector by sector, to help them navigate the energy transition. As we do so, we intend to build even deeper relationships with our customers and meet more of their energy needs. We will start by adding more low-carbon products, such as biofuels and electricity, to the mix of energy products we sell. Eventually, low-carbon products will replace the higher carbon products that we sell today. This transformation of our business will require a fundamental change to energy-related infrastructure and assets across economies.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.

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

(ETPR, p22) Shell’s ambition is to work with governments, customers and partners to unlock the potential for carbon capture and storage (CCS) to reduce emissions where there are no currently scalable low-carbon alternatives. We seek to have access to an additional 25 million tonnes a year of CCS capacity by 2035 – equal to 25 CCS facilities the size of our Quest site in Canada.

(ETPR, p22) In 2021, Shell’s operating costs for and investment in CCS opportunities amounted to around $146 million. Shell’s share of captured and stored CO₂ was 0.4 million tonnes in 2021. By the end of 2021, our Quest CCS operations in Canada (Shell interest 10%) had captured and safely stored more than 6.5 million tonnes of CO₂ since it began operating in 2015. In Australia, the Gorgon CCS project (Shell interest 25%, operated by Chevron), which started operating in August 2019, had stored more than 5 million tonnes of CO₂ by the end of 2021. Gorgon is the largest CCS operation in the world.

(ETPR, p22) We have taken a final investment decision on the Northern Lights project in Norway which includes the transport and permanent storage of CO₂ in a reservoir beneath the sea. The first phase of this project will provide more than 0.25 million tonnes per annum (mtpa) of CCS capacity by 2025. In total, we have two CCS projects in operation and more than 10 under development.

(ETPR, p22) Shell’s CANSOLV CO₂ system is one of the leading large-scale, post-combustion, carbon capture technologies in commercial operation. After capture, the CO₂ is released as a pure stream that can be stored or used in other processes. In 2021 and the first quarter of 2022, Shell’s CANSOLV technology was selected for six projects with the potential to capture a combined 12 million tonnes of CO₂ a year [A]. These projects are in the UK and the USA and span the refining, chemicals and power sectors.

[A] This is shared as an example of how Shell is developing and using technology to capture CO₂.

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

Comment relating to the SBTi and above item "explain target coverage":

(AR, p93) As there is no established standard for aligning an energy supplier’s decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.
Target reference number: NZ2 - NZE Scope 1 and 2 of our operations

Target coverage
Company-wide

Absolute/intensity emission target(s) linked to this net-zero target
Abs3

Target year for achieving net zero
2050

Is this a science-based target?
Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next 2 years

Please explain target coverage and identify any exclusions
NZ2 - NZE Scope 1 and 2 of our operations
Abs3 – Net-zero Scope 1 and Scope 2 emissions from our operations (manufacture of all products) by 2050.

(ETPR, p9) To achieve net-zero emissions by 2050, we are transforming how we produce energy as we continue to meet growing demand. In October 2021, we set a new target to halve the emissions from our operations (Scope 1), plus the energy we buy to run them (Scope 2), by 2030 compared with 2016 levels on a net basis.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.

(AR, p93) As there is no established standard for aligning an energy supplier’s decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.
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

(ETPR, p22) Shell's ambition is to work with governments, customers and partners to unlock the potential for carbon capture and storage (CCS) to reduce emissions where there are no currently scalable low-carbon alternatives. We seek to have access to an additional 25 million tonnes a year of CCS capacity by 2035 – equal to 25 CCS facilities the size of our Quest site in Canada.

(ETPR, p22) In 2021, Shell's operating costs for and investment in CCS opportunities amounted to around $146 million. Shell's share of captured and stored CO₂ was 0.4 million tonnes in 2021. By the end of 2021, our Quest CCS operations in Canada (Shell interest 10%) had captured and safely stored more than 6.5 million tonnes of CO₂ since it began operating in 2015. In Australia, the Gorgon CCS project (Shell interest 25%, operated by Chevron), which started operating in August 2019, had stored more than 5 million tonnes of CO₂ by the end of 2021. Gorgon is the largest CCS operation in the world.

(ETPR, p22) We have taken a final investment decision on the Northern Lights project in Norway which includes the transport and permanent storage of CO₂ in a reservoir beneath the sea. The first phase of this project will provide more than 0.25 million tonnes per annum (mtpa) of CCS capacity by 2025. In total, we have two CCS projects in operation and more than 10 under development.

(ETPR, p22) Shell’s CANSOLV CO₂ system is one of the leading large-scale, post-combustion, carbon capture technologies in commercial operation. After capture, the CO₂ is released as a pure stream that can be stored or used in other processes. In 2021 and the first quarter of 2022, Shell's CANSOLV technology was selected for six projects with the potential to capture a combined 12 million tonnes of CO₂ a year [A]. These projects are in the UK and the USA and span the refining, chemicals and power sectors.

[A] This is shared as an example of how Shell is developing and using technology to capture CO₂.

Target reference number: NZ3 - Scope 3 emissions

Target coverage
Company-wide

Absolute/intensity emission target(s) linked to this net-zero target
Target year for achieving net zero
2050

Is this a science-based target?
Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next 2 years.

Please explain target coverage and identify any exclusions

NZ3 - Scope 3 emissions
Abs4 - Net-zero Scope 3 emissions from the energy products sold by Shell

The Scope 3 emissions reported by Shell include our customers’ emissions from the energy products we produce and sell as well as the life-cycle emissions of the energy products produced by other companies that we resell to our customers. This means that our target covers all the energy we sell, not just the oil and gas we produce and refine ourselves. We will work with our customers to address the emissions created when they use products bought from us (Scope 3) and help them find ways to reduce their emissions and overall carbon footprint to net zero by 2050.

(AR, p95) The NCI calculation uses Shell’s energy product sales volume data, as disclosed in the Annual Report and Sustainability Report. This excludes certain sales volumes such as:
- certain contracts held for trading purposes reported net rather than gross. Business-specific methodologies to net volumes have been applied in oil products and pipeline gas and power. Paper trades that do not result in physical product delivery are excluded; and
- retail sales volumes from markets where Shell operates under trademark licensing agreements.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.

(AR, p93) As there is no established standard for aligning an energy supplier’s decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?
Planned milestones and/or near-term investments for neutralization at target year

Target reference number: **NZ4 - NZE Net Carbon intensity (NCI) of our energy products**

**Target coverage**
Company-wide

**Absolute/intensity emission target(s) linked to this net-zero target**
Int10

**Target year for achieving net zero**
2050

**Is this a science-based target?**
Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next 2 years

**Please explain target coverage and identify any exclusions**
- **NZ4 - NZE Net Carbon intensity (NCI) of our energy products**
- Int10 - Net Carbon Intensity (NCI) target 2050

We measure our carbon intensity with our Net Carbon Footprint methodology which calculates the carbon intensity of the portfolio of energy products sold by Shell expressed as grams of CO₂ equivalent (gCO₂e) per megajoule (MJ) of energy delivered to, and consumed by, our customers. We have set medium and long-term specific carbon intensity reduction targets. These targets are compared with 2016: 100% by 2050. These targets include mitigation actions such as carbon capture and storage and nature-based offsets.

(AR, p85) We continue to engage with the Science Based Targets initiative (SBTi), and we are a member of its Technical Working Group that is currently working to define its methodology to set science-based targets for the oil, gas and integrated energy sectors.

(AR, p93) As there is no established standard for aligning an energy supplier’s decarbonisation targets with the temperature goal of the Paris Agreement, we have developed our own approach to demonstrate that our carbon intensity targets are aligned with the 1.5°C goal. We set our targets for...
using scenarios taken from a database developed for the IPCC Special Report on Global Warming of 1.5°C. We started with the complete range of IPCC 1.5°C scenarios, then chose scenarios that focused on earlier action and placed less reliance on the use of carbon sinks. We then calculated the carbon intensity of each of the selected scenarios and, after removing outlying values, used the resulting range of intensities to produce the final 1.5°C pathways used to set our targets.

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

(ETPR, p22) Shell's ambition is to work with governments, customers and partners to unlock the potential for carbon capture and storage (CCS) to reduce emissions where there are no currently scalable low-carbon alternatives. We seek to have access to an additional 25 million tonnes a year of CCS capacity by 2035 – equal to 25 CCS facilities the size of our Quest site in Canada.

(ETPR, p22) In 2021, Shell's operating costs for and investment in CCS opportunities amounted to around $146 million. Shell's share of captured and stored CO₂ was 0.4 million tonnes in 2021. By the end of 2021, our Quest CCS operations in Canada (Shell interest 10%) had captured and safely stored more than 6.5 million tonnes of CO₂ since it began operating in 2015. In Australia, the Gorgon CCS project (Shell interest 25%, operated by Chevron), which started operating in August 2019, had stored more than 5 million tonnes of CO₂ by the end of 2021. Gorgon is the largest CCS operation in the world.

(ETPR, p22) We have taken a final investment decision on the Northern Lights project in Norway which includes the transport and permanent storage of CO₂ in a reservoir beneath the sea. The first phase of this project will provide more than 0.25 million tonnes per annum (mtpa) of CCS capacity by 2025. In total, we have two CCS projects in operation and more than 10 under development.

(ETPR, p22) Shell's CANSOLV CO₂ system is one of the leading large-scale, post-combustion, carbon capture technologies in commercial operation. After capture, the CO₂ is released as a pure stream that can be stored or used in other processes. In 2021 and the first quarter of 2022, Shell's CANSOLV technology was selected for six projects with the potential to capture a combined 12 million tonnes of CO₂ a year [A]. These projects are in the UK and the USA and span the refining, chemicals and power sectors.

[A] This is shared as an example of how Shell is developing and using technology to capture CO₂.

(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.

<table>
<thead>
<tr>
<th>Number of initiatives</th>
<th>Total estimated annual CO₂e savings in metric tonnes CO₂e (only for rows marked *)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under investigation</td>
<td>183</td>
</tr>
<tr>
<td>To be implemented*</td>
<td>71</td>
</tr>
<tr>
<td>Implementation commenced*</td>
<td>10</td>
</tr>
<tr>
<td>Implemented*</td>
<td>137</td>
</tr>
<tr>
<td>Not to be implemented</td>
<td>208</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Initiative category &amp; Initiative type</th>
<th>Estimated annual CO₂e savings (metric tonnes CO₂e)</th>
<th>Scope(s) or Scope 3 category(ies) where emissions savings occur</th>
<th>Voluntary/Mandatory</th>
<th>Annual monetary savings (unit currency – as specified in C0.4)</th>
<th>Investment required (unit currency – as specified in C0.4)</th>
<th>Payback period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fugitive emissions reductions</td>
<td>22,435</td>
<td>Scope 1</td>
<td>Voluntary</td>
<td>316,667</td>
<td>1,400,000</td>
<td></td>
</tr>
</tbody>
</table>
4-10 years

**Estimated lifetime of the initiative**
16-20 years

**Comment**
This project reduces venting emissions.

**Initiative category & Initiative type**
Other, please specify
Other, please specify: This collection of Upstream projects reduces flaring.

**Estimated annual CO₂e savings (metric tonnes CO₂e)**
11,175

**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)**
17,589,655

**Investment required (unit currency – as specified in C0.4)**
1,200,000

**Payback period**
<1 year

**Estimated lifetime of the initiative**
16-20 years
Comment

Initiative category & Initiative type
   Other, please specify
   Other, please specify: This collection of Upstream projects reduces flaring.

Estimated annual CO$_2$e savings (metric tonnes CO$_2$e)
   17,200

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)
   166,667

Investment required (unit currency – as specified in C0.4)
   700,000

Payback period
   4-10 years

Estimated lifetime of the initiative
   21-30 years

Comment

Initiative category & Initiative type
Other, please specify
Other, please specify: This project reduces flaring.

**Estimated annual CO\textsubscript{2}e savings (metric tonnes CO\textsubscript{2}e)**
245,440

**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)**
72,347,826

**Investment required (unit currency – as specified in C0.4)**
538,000,000

**Payback period**
<1 year

**Estimated lifetime of the initiative**
21-30 years

**Comment**

**Initiative category & Initiative type**
Energy efficiency in production processes
Process optimization

**Estimated annual CO\textsubscript{2}e savings (metric tonnes CO\textsubscript{2}e)**
32,200
**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)**
1,200,000

**Investment required (unit currency – as specified in C0.4)**
4,000,000

**Payback period**
<1 year

**Estimated lifetime of the initiative**
6-10 years

**Comment**
This project increases energy efficiency though process optimisation.

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**Initiative category & Initiative type**
Transportation
Other, please specify: This collection of Upstream projects increases energy efficiency.

**Estimated annual CO₂e savings (metric tonnes CO₂e)**
18,375

**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)**
254,167

**Investment required (unit currency – as specified in C0.4)**
5,600,000

**Payback period**
21-25 years

**Estimated lifetime of the initiative**
11-15 years

**Comment**

**Initiative category & Initiative type**
Fugitive emissions reductions
Oil/natural gas methane leak capture/prevention

**Estimated annual CO$_2$e savings (metric tonnes CO$_2$e)**
15,517

**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)**
440,000
Investment required (unit currency – as specified in C0.4)
400,000

Payback period
<1 year

Estimated lifetime of the initiative
11-15 years

Comment
This project reduces venting emissions.

Initiative category & Initiative type
Energy efficiency in production processes
Other, please specify: This project increases energy efficiencies.

Estimated annual CO₂e savings (metric tonnes CO₂e)
11,885

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)
0

Investment required (unit currency – as specified in C0.4)
8,200,000

Payback period
| Initiative category & Initiative type                              | Fugitive emissions reductions  
<p>|                                                                 | Oil/natural gas methane leak capture/prevention |
| <strong>Estimated annual CO\textsubscript{2}e savings (metric tonnes CO\textsubscript{2}e)</strong> | 28,205 |
| <strong>Scope(s) or Scope 3 category(ies) where emissions savings occur</strong> | Scope 1 |
| <strong>Voluntary/Mandatory</strong>                                           | Voluntary |
| <strong>Annual monetary savings (unit currency – as specified in C0.4)</strong> | 25,000 |
| <strong>Investment required (unit currency – as specified in C0.4)</strong>     | 475,000 |
| <strong>Payback period</strong>                                                | &lt;1 year |
| <strong>Estimated lifetime of the initiative</strong>                          | 3-5 years |</p>
<table>
<thead>
<tr>
<th>Initiative category &amp; Initiative type</th>
<th>Fugitive emissions reductions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oil/natural gas methane leak capture/prevention</td>
</tr>
<tr>
<td>Estimated annual CO(_2)e savings (metric tonnes CO(_2)e)</td>
<td>6,871</td>
</tr>
<tr>
<td>Scope(s) or Scope 3 category(ies) where emissions savings occur</td>
<td>Scope 1</td>
</tr>
<tr>
<td>Voluntary/Mandatory</td>
<td>Voluntary</td>
</tr>
<tr>
<td>Annual monetary savings (unit currency – as specified in C0.4)</td>
<td>493</td>
</tr>
<tr>
<td>Investment required (unit currency – as specified in C0.4)</td>
<td>6,600,000</td>
</tr>
<tr>
<td>Payback period</td>
<td>No payback</td>
</tr>
<tr>
<td>Estimated lifetime of the initiative</td>
<td>&gt;30 years</td>
</tr>
</tbody>
</table>

Comment
This project reduced venting emissions.
### Initiative category & Initiative type
- Company policy or behavioral change
- Other, please specify: This project reduces emissions through electrification.

### Estimated annual CO₂e savings (metric tonnes CO₂e)
- 19,350

### 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
- No payback

### Estimated lifetime of the initiative
- >30 years

### Comment

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### Initiative category & Initiative type
- Other, please specify
- Other, please specify: This collection of smaller projects across Upstream portfolio is aimed at reducing emissions through flare reductions, energy efficiencies and fugitive reductions.
Estimated annual CO$_2$e savings (metric tonnes CO$_2$e)
8,990

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)
75,000

Investment required (unit currency – as specified in C0.4)
700,000

Payback period
<1 year

Estimated lifetime of the initiative
11-15 years

Comment

Initiative category & Initiative type
Other, please specify
Other, please specify: This collection of smaller projects across the Integrated Gas portfolio is aimed at reducing emissions through flare reductions, energy efficiencies and fugitive reductions.

Estimated annual CO$_2$e savings (metric tonnes CO$_2$e)
9,071

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)
350,000

Investment required (unit currency – as specified in C0.4)
100,000

Payback period
4-10 years

Estimated lifetime of the initiative
21-30 years

Comment

Initiative category & Initiative type
Company policy or behavioral change
Other, please specify: This project reduced emissions by adjusting company operations.

Estimated annual CO₂e savings (metric tonnes CO₂e)
13,171

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)  
100,000

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

Payback period  
No payback

Estimated lifetime of the initiative  
21-30 years

Comment

Initiative category & Initiative type  
Energy efficiency in production processes  
Other, please specify: This collection of projects reduces electrical consumption.

Estimated annual CO₂e savings (metric tonnes CO₂e)  
15,319

Scope(s) or Scope 3 category(ies) where emissions savings occur  
Scope 2 (market-based)

Voluntary/Mandatory  
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)  
1,988,462

Investment required (unit currency – as specified in C0.4)
**Payback period**
<1 year

**Estimated lifetime of the initiative**
21-30 years

**Comment**

**Initiative category & Initiative type**
Fugitive emissions reductions
Oil/natural gas methane leak capture/prevention

**Estimated annual CO$_2$e savings (metric tonnes CO$_2$e)**
51,912

**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)**
350,000

**Investment required (unit currency – as specified in C0.4)**
100,000

**Payback period**
<1 year

**Estimated lifetime of the initiative**
21-30 years
Comment
This collection of projects reduces methane emissions.

Initiative category & Initiative type
Energy efficiency in production processes
Other, please specify: This project increases energy efficiency.

Estimated annual CO$_2$e savings (metric tonnes CO$_2$e)
58,638

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)
88,889

Investment required (unit currency – as specified in C0.4)
2,500,000

Payback period
>25 years

Estimated lifetime of the initiative
16-20 years

Comment
Initiative category & Initiative type
Other, please specify
Other, please specify: This collection of projects increases energy efficiency, and reduces fugitive emissions.

Estimated annual CO$_2$e savings (metric tonnes CO$_2$e)
304,300

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)
101,866

Investment required (unit currency – as specified in C0.4)
192,000,000

Payback period
No payback

Estimated lifetime of the initiative
21-30 years

Comment

Initiative category & Initiative type
Energy efficiency in production processes
Other, please specify: This collection of projects increases energy efficiency.

Estimated annual CO$_2$e savings (metric tonnes CO$_2$e)
<table>
<thead>
<tr>
<th>Initiative category &amp; Initiative type</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Energy efficiency in production processes</td>
</tr>
<tr>
<td></td>
<td>Waste heat recovery</td>
</tr>
<tr>
<td>Estimated annual CO\textsubscript{2}e savings (metric tonnes CO\textsubscript{2}e)</td>
<td>26,527</td>
</tr>
<tr>
<td>Scope(s) or Scope 3 category(ies) where emissions savings occur</td>
<td>Scope 1</td>
</tr>
</tbody>
</table>
Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
2,280,000

Investment required (unit currency – as specified in C0.4)
34,500,000

Payback period
16-20 years

Estimated lifetime of the initiative
16-20 years

Comment
This project increased energy efficiency.

Initiative category & Initiative type
Energy efficiency in production processes
Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)
22,084

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)
1,317,000

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

Payback period
<1 year

Estimated lifetime of the initiative
16-20 years

Comment
This project increased energy efficiency.

Initiative category & Initiative type
Energy efficiency in production processes
Process optimization

Estimated annual CO$_2$e savings (metric tonnes CO$_2$e)
20,339

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)
130,000

Investment required (unit currency – as specified in C0.4)
Payback period
<1 year

Estimated lifetime of the initiative
16-20 years

Comment
This project increased energy efficiency.

Initiative category & Initiative type
Energy efficiency in production processes
Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)
18,502

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)
717,000

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

Payback period
<1 year

Estimated lifetime of the initiative
16-20 years

**Comment**
This project increased energy efficiency.

### Initiative category & Initiative type
- Energy efficiency in production processes
- Reuse of steam

### Estimated annual CO₂e savings (metric tonnes CO₂e)
17,808

### 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)
963,158

### Investment required (unit currency – as specified in C0.4)
1,000,000

### Payback period
1-3 years

### Estimated lifetime of the initiative
16-20 years

**Comment**
This project increased energy efficiency.
<table>
<thead>
<tr>
<th>Initiative category &amp; Initiative type</th>
<th>Energy efficiency in production processes Machine/equipment replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated annual CO₂e savings (metric tonnes CO₂e)</td>
<td>5,216</td>
</tr>
<tr>
<td>Scope(s) or Scope 3 category(ies) where emissions savings occur</td>
<td>Scope 2 (market-based)</td>
</tr>
<tr>
<td>Voluntary/Mandatory</td>
<td>Voluntary</td>
</tr>
<tr>
<td>Annual monetary savings (unit currency – as specified in C0.4)</td>
<td>40,000</td>
</tr>
<tr>
<td>Investment required (unit currency – as specified in C0.4)</td>
<td>200,000</td>
</tr>
<tr>
<td>Payback period</td>
<td>4-10 years</td>
</tr>
<tr>
<td>Estimated lifetime of the initiative</td>
<td>16-20 years</td>
</tr>
<tr>
<td>Comment</td>
<td>This project reduced power consumption.</td>
</tr>
<tr>
<td>Initiative category &amp; Initiative type</td>
<td>Energy efficiency in production processes</td>
</tr>
</tbody>
</table>

Machine/equipment replacement

**Estimated annual CO₂e savings (metric tonnes CO₂e)**
9,122

**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)**
425,000

**Investment required (unit currency – as specified in C0.4)**
4,700,000

**Payback period**
11-15 years

**Estimated lifetime of the initiative**
16-20 years

**Comment**
This collection of projects increased energy efficiency.

---

**Initiative category & Initiative type**

- Energy efficiency in production processes
- Machine/equipment replacement

**Estimated annual CO₂e savings (metric tonnes CO₂e)**
24,515
Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
2,226,579

Investment required (unit currency – as specified in C0.4)
26,100,000

Payback period
11-15 years

Estimated lifetime of the initiative
16-20 years

Comment
This collection of projects increased energy efficiency.

Initiative category & Initiative type
Energy efficiency in production processes
Motors and drives

Estimated annual CO₂e savings (metric tonnes CO₂e)
2,239

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
3,087,000

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

Payback period
<1 year

Estimated lifetime of the initiative
16-20 years

Comment
This collection of projects reduced power consumption.

Initiative category & Initiative type
Energy efficiency in production processes
Waste heat recovery

Estimated annual CO₂e savings (metric tonnes CO₂e)
3,614

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)
240,000
**Investment required (unit currency – as specified in C0.4)**

**Payback period**
<1 year

**Estimated lifetime of the initiative**
16-20 years

**Comment**
This project increased energy efficiency.

---

**Initiative category & Initiative type**
Transportation
Other, please specify: This project reduced emissions through increased transportation efficiency.

**Estimated annual CO₂e savings (metric tonnes CO₂e)**
667

**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)**
750,000

**Investment required (unit currency – as specified in C0.4)**
3,200,000

**Payback period**
Initiative category & Initiative type
Company policy or behavioral change
Waste management

Estimated annual CO$_2$e savings (metric tonnes CO$_2$e)
372

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)
225,000

Investment required (unit currency – as specified in C0.4)
600,000

Payback period
1-3 years

Estimated lifetime of the initiative
16-20 years

Comment
This project reduced emissions through increased transportation efficiency.
Comment
This project increased energy efficiency and reduced power consumption.

Initiative category & Initiative type
Energy efficiency in buildings
Lighting

Estimated annual CO\textsubscript{2}e savings (metric tonnes CO\textsubscript{2}e)
910

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
80,000

Investment required (unit currency – as specified in C0.4)
10,000

Payback period
<1 year

Estimated lifetime of the initiative
16-20 years

Comment
This project reduced power consumption.
**Initiative category & Initiative type**
- Company policy or behavioral change
- Site consolidation/closure

**Estimated annual CO₂e savings (metric tonnes CO₂e)**
2,781,032

**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)**
12,660,000

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

**Payback period**
<1 year

**Estimated lifetime of the initiative**
>30 years

**Comment**
This collection of projects reduced emissions due to site closures.

---

**Initiative category & Initiative type**
- Energy efficiency in production processes
- Process optimization
**Estimated annual CO₂e savings (metric tonnes CO₂e)**
7,114

**Scope(s) or Scope 3 category(ies) where emissions savings occur**
Scope 2 (market-based)

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
1,400,000

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

**Payback period**
<1 year

**Estimated lifetime of the initiative**
16-20 years

**Comment**
This collection of projects reduced power consumption.

**Initiative category & Initiative type**
Energy efficiency in production processes
Smart control system

**Estimated annual CO₂e savings (metric tonnes CO₂e)**
4,093

**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)
194,000

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

Payback period
<1 year

Estimated lifetime of the initiative
16-20 years

Comment
This collection of projects increased energy efficiency.

Initiative category & Initiative type
Energy efficiency in production processes
Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)
7,613

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)
232,000

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

Payback period
<1 year

Estimated lifetime of the initiative
16-20 years

Comment
This collection of projects increased energy efficiency.

Initiative category & Initiative type
Energy efficiency in production processes
Reuse of steam

Estimated annual CO₂e savings (metric tonnes CO₂e)
2,323

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)
94,737

Investment required (unit currency – as specified in C0.4)
3,000,000

**Payback period**
>25 years

**Estimated lifetime of the initiative**
16-20 years

**Comment**
This project increased energy efficiency.

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

<table>
<thead>
<tr>
<th>Method</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance with regulatory requirements/standards</td>
<td><em>(AR, p 281) For Shell, the most significant carbon pricing mechanisms are established in the Europe, in Canada, Singapore and the USA.</em></td>
</tr>
<tr>
<td>Internal price on carbon</td>
<td><em>(AR,p78) To assess the resilience of new projects we consider the potential costs associated with operational GHG emissions. We have developed country-specific short-medium and long-term estimates of future costs of carbon which are reviewed and updated annually. In 2021, we increased the expected cost of carbon, so by 2050, in real terms our cost of carbon estimates for all countries increased to between $125 and $200 per tonne of GHG emissions. The process for developing our cost of carbon estimates uses short-term policy outlooks and long-term scenario forecasts. We believe our estimates appropriately reflect society’s current implementation of the Paris Agreement. Unfortunately, however, society is not yet on track to meet the goals of the Paris Agreement. Shell will continue to update the cost of carbon estimates to take account of changes in the economic environment and pace of energy transition.</em></td>
</tr>
</tbody>
</table>
| Internal incentives/recognition programs     | *(AR, p76) Climate performance and remuneration
Climate-related key performance indicators were considered as part of the 2021 annual bonus scorecard (15% weighting) for almost all of Shell’s employees, as well as the 2021 Performance Share Plan (PSP) awards (10% weighting) and the 2021 Long-term Incentive Plan (LTIP) (20% weighting, vesting in 2023) for senior executives.

*(AR, p170) Other changes to 2022 remuneration
To ensure that Shell’s remuneration structures continue to be closely aligned with strategy, we will make the following changes to the 2022 annual bonus scorecard:*                                                                                                                                                                                                                   |
The progress in the energy transition measure has to date focused on managing and reducing our operational emissions. However, succeeding in the energy transition requires us to change what we sell.

To date, this has been reflected in pay through the LTIP’s energy transition performance condition. Starting in 2022, we will widen the scope of the progress in the energy transition measure on the annual bonus scorecard, to be based on three key themes:

- **Selling lower-carbon products** – as an energy supplier, we help customers to reduce their emissions by supplying lower-carbon products. We will measure our success at this according to the earnings share of our Marketing business from low- and no-carbon products.
- **Reducing our emissions** – as an energy user, our target is to achieve a 50% reduction by 2030; and this measure will be based on reducing our Scope 1 and 2 operational emissions.
- **Partnering to decarbonise** – as a partner, we work with our customers to help them reduce their emissions. In 2022, we will measure success in this area in terms of our progress in rolling out our electric vehicle charging network.

Powering Progress emphasises the importance of building on our strong customer relationships to help transform Shell in the energy transition. To emphasise the importance of becoming increasingly customer-led, we will introduce a new customer excellence measure for 2022 under operational excellence. This will be based on our customer satisfaction scores, and the extent to which people prefer Shell over competitor brands, measured via brand preference scores. The customer excellence measure will combine elements of business-to-business and business-to-customer performance.

### Partnering with governments on technology development

**(ETS, p7)** All parts of society including energy producers, consumers and policymakers will need to take action. That is why Shell’s strategy is based on working with our customers and others to accelerate the transition of the energy system. This includes supporting government policies that will help the world achieve net-zero emissions by 2050.

**(ETPR, p22)** EXAMPLE: Carbon Capture and Storage

Shell’s ambition is to work with governments, customers and partners to unlock the potential for carbon capture and storage (CCS) to reduce emissions where there are not currently scalable low-carbon alternatives. We seek to have access to an additional 25 million tonnes a year of CCS capacity by 2035 – equal to 25 CCS facilities the size of our Quest site in Canada.

In 2021, Shell's operating costs for and investment in CCS opportunities amounted to around $146 million. Shell's share of captured and stored CO₂ was 0.4 million tonnes in 2021. By the end of 2021, our Quest CCS operations in Canada (Shell interest 10%) had captured and safely stored more than 6.5 million tonnes of CO₂ since it began operating in 2015. In Australia, the Gorgon CCS project (Shell interest 25%, operated by Chevron), which started operating in August 2019, had stored more than 5 million tonnes of CO₂ by the end of 2021. Gorgon is the largest CCS operation in the world.
We have taken a final investment decision on the Northern Lights project in Norway which includes the transport and permanent storage of CO₂ in a reservoir beneath the sea. The first phase of this project will provide more than 0.25 million tonnes per annum (mtpa) of CCS capacity by 2025. In total, we have two CCS projects in operation and more than 10 under development.

Read more about our CCS projects at www.shell.com/ccs.

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

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

<table>
<thead>
<tr>
<th>Level of aggregation</th>
<th>Group of products or services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxonomy used to classify product(s) or service(s) as low-carbon</td>
<td>The EU Taxonomy for environmentally sustainable economic activities</td>
</tr>
<tr>
<td>Type of product(s) or service(s)</td>
<td>Other</td>
</tr>
<tr>
<td>Description of product(s) or service(s)</td>
<td>The following products are included: biofuels (including volumes from Raízen), lubricants, bitumen (Construction &amp; Road), sulphur (Agriculture &amp; Forestry), convenience retail and revenue from EV charge points in Mobility.</td>
</tr>
<tr>
<td>Have you estimated the avoided emissions of this low-carbon product(s) or service(s)</td>
<td>Yes</td>
</tr>
<tr>
<td>Methodology used to calculate avoided emissions</td>
<td>Other, please specify</td>
</tr>
</tbody>
</table>
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.

Introduction
Shell identifies and tracks implementation of methane improvement opportunities across our assets as part of a company-wide GHG abatement programme. We continue to test and deploy new and existing technologies for detecting and quantifying methane emissions. We use a range of methods and technologies to limit leaks of methane from our oil and gas operations, including implementing robust leak detection and repair programmes. We use the best existing technologies and invest increasingly in emerging technologies, such as drones and other aircraft equipped with optical gas imaging cameras, and satellites to detect leaks.

Collaboration
We encourage industry-wide action on methane emissions reduction by participating in voluntary initiatives. In 2021, we:
· are actively participating in the Oil and Gas Methane Partnership 2.0, which is designed to enhance methane emissions reporting and transparency and encourage greater participation across the industry;
· proposed recommendations to the European Commission on reducing methane emissions in the oil and gas industry, alongside BP, the Environmental Defense Fund, Eni, Equinor, the Florence School of Regulation, Repsol, the Rocky Mountain Institute, Total and Wintershall Dea; and
· advocated a return to the direct regulation of methane under the Clean Air Act in the USA.

We also participate in the Methane Guiding Principles coalition, which we initiated in 2017; the Oil and Gas Climate Initiative (OGCI) where methane is a focus area; the World Bank Zero Routine Flaring by 2030 initiative (Shell has committed to bringing forward the initiative for completion by no later than 2025); and the Oil and Gas Methane Partnership 2.0 task forces and steering committees - multi-stakeholder partnerships focusing on improved methane emissions reporting and abatement.

Performance
Our target is to maintain methane emissions intensity below 0.20% by 2025. This target covers all Upstream and Integrated Gas oil and gas assets for which Shell is the operator. In 2021, our methane intensity averaged 0.06% for assets with marketed gas and 0.01% for assets without marketed gas. Shell's methane emissions intensity in 2021 ranged from below 0.01% to 1.5%.

In 2021, our total methane emissions were 55 thousand tonnes compared with 67 thousand tonnes in 2020, in part driven by divestments (for example, in Canada and the USA), abatement projects, and more rigorous reporting methods. Methane emissions were less than 3% of Shell’s GHG emissions on a CO₂-equivalent basis. More than 65% of our reported methane emissions in 2021 came from flaring and venting in our upstream and midstream (for example, storage and processing) operations.

(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.

Introduction
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.

Leak Detection and Repair (LDAR) recommended practice
We updated our recommended practice for LDAR in 2019 to support our assets in improving the identification, quantification and repair of methane emissions from leaks and abnormally operating equipment. It was redesigned to reflect evolving approaches, our methane commitments and 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 maturity and 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, 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 – like optical gas imaging cameras – to reduce methane emissions at our sites. Since 2018, a full leak source inventory has been conducted to improve detection and reporting at seven facilities including:
1. Pearl Gas to Liquids (GTL), Qatar
2. Shell Middle Distillate Synthesis (SMDS), Malaysia
3. Trinidad and Tobago, Upstream
4. Gasnor LNG, Norway
5. Oman LNG (OLNG) - a non-operated venture
6. QGC upstream
7. QGC LNG

Fugitive methane emissions contributed ~13% to our total methane emissions in 2021, a decrease of approximately 5% over 2020 (7kt in 2021, compared to 12kt in 2020) (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 contributes to climate change and wastes valuable resources. We have committed to bringing forward the target to eliminate routine gas flaring from our Upstream operated assets from 2030 to 2025. This accelerates our commitment in 2015 to end routine flaring as a signatory to the World Bank’s Zero Routine Flaring by 2030 initiative. All of Shell’s operated assets within the Integrated Gas business already comply with zero routine flaring, as they were designed to gather gas resources to sell and avoid routine flaring.

**Performance**

Flaring of gas in our Upstream and Integrated Gas businesses contributed around 7% to our overall direct greenhouse gas (GHG) emissions in 2021. Gas routinely produced with oil, known as associated gas, may be flared. In 2021, around 17% of greenhouse gas emissions from flaring occurred at facilities where there was no infrastructure to capture the gas (down from around 24% in 2020). Overall flaring increased to 4.5 million tonnes of carbon dioxide equivalent (CO$_2$e) in 2021 from 3.8 million tonnes of carbon dioxide equivalent in 2020.

**Efforts to reduce flaring - Shell action**

Around 60% of flaring in our Upstream and Integrated Gas facilities in 2021 occurred in assets operated by the Shell Petroleum Development Company of Nigeria Limited (SPDC) and Shell Nigeria Exploration and Production Company Limited (SNEPCo). Flaring from SPDC-operated facilities increased by around 5% in 2021 compared with 2020. Flaring at SNEPCo-operated facilities increased by 160% in 2021 compared with 2020. This was because repairs to a flexible joint on the gas export riser on the Bonga deep-water floating production, storage and offloading (FPSO) facility took longer than planned. A large amount of gas was therefore flared while the FPSO continued to produce oil.


**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
Name of organization(s) acquired, divested from, or merged with

There were several divestments completed in 2021. The list below includes assets that were under our operational control prior to divestment:

- Puget Sound Refinery (USA)
- Fredericia Refinery (Denmark)
- OML 17 (Nigeria)
- Permian (USA)
- Gasnor (Norway)
- Fox Creek and Rocky Mountain House assets (Canada).

There were a number of acquisitions completed in 2021, for example, Savion LLC (USA), Inspire Energy Capital (USA), Next Kraftwerke (Europe), ubitricity (Europe).

Details of structural change(s), including completion dates

The list above includes assets which were divested or acquired in full in 2021 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 (e.g., 100% of the emissions from assets and activities under our operational control); therefore, partial equity changes or non-operated assets are not included.

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

<table>
<thead>
<tr>
<th>Change(s) in methodology, boundary, and/or reporting year definition?</th>
<th>Details of methodology, boundary, and/or reporting year definition change(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, a change in methodology</td>
<td>Methodology changes: we have updated our Scope 2 GHG emissions for 2020 following a correction of an efficiency factor for one of our assets and a revision of how internal energy transfers of steam and electricity were accounted for at several of our assets to remove double-counting of the same emissions between Scopes 1 and 2.</td>
</tr>
<tr>
<td>Yes, a change in boundary</td>
<td>Boundary change: following internal reviews, we have reclassified Nyhamna gas processing plant (Norway) from operated to non-operated.</td>
</tr>
</tbody>
</table>

(C5.1c) Have your organization’s base year emissions been recalculated as result of the changes or errors reported in C5.1a and C5.1b?

<table>
<thead>
<tr>
<th>Base year recalculation</th>
<th>Base year emissions recalculation policy, including significance threshold</th>
</tr>
</thead>
</table>
Yes  | Shell uses the prior year’s emissions as the base year 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 >5% of Business 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.

The 2020 base year Scope 1 emissions in 2021 did not change by more than the 5% threshold; therefore, the base year has not been recalculated.

The 2020 base year Scope 2 emissions (market-based method) in 2021 have changed by more than the 5% threshold; therefore, the base year Scope 2 emissions have been recalculated from 9 to 8 million tonnes on a CO₂ equivalent basis.

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

**Scope 1**

**Base year start**

January 1, 2020

**Base year end**

December 31, 2020

**Base year emissions (metric tons CO₂e)**

63,000,000

**Comment**

For the calendar year 2021, our base year was 2020.
Our 2020 base year Scope 1 GHG emissions did not change by more than 5% in 2021; therefore, the base year has not been recalculated.
Scope 2 (location-based)

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, 2020

Base year end
December 31, 2020

Base year emissions (metric tons CO$_2$e)
8,000,000

Comment
For the 2021 calendar year, our base year was 2020.
Our 2020 base year Scope 2 GHG emissions (using the market-based method) did change by more than 5% in 2021; therefore, the base year has been recalculated from 9 to 8 million tonnes CO$_2$e.

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.
- Australia - National Greenhouse and Energy Reporting Act
- Defra Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance, 2019
- ISO 14064-1
- US EPA Mandatory Greenhouse Gas Reporting Rule
- US EPA Emissions & Generation Resource Integrated Database (eGRID)
C6. Emissions data

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

<table>
<thead>
<tr>
<th>Reporting year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross global Scope 1 emissions (metric tons CO₂e)</td>
</tr>
<tr>
<td>60,000,000</td>
</tr>
<tr>
<td>Start date</td>
</tr>
<tr>
<td>January 1, 2021</td>
</tr>
<tr>
<td>End date</td>
</tr>
<tr>
<td>December 31, 2021</td>
</tr>
<tr>
<td>Comment</td>
</tr>
<tr>
<td>Emissions have been rounded to the nearest million tonnes CO₂ equivalents.</td>
</tr>
</tbody>
</table>

(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

<table>
<thead>
<tr>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>We track and report our Scope 2 emissions using both location-based and market-based methods.</td>
</tr>
</tbody>
</table>

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

**Scope 2, location-based**

9,000,000

**Scope 2, market-based (if applicable)**

8,000,000

**Start date**

January 1, 2021

**End date**

December 31, 2021

**Comment**

Emissions have been rounded to the nearest million tonnes CO₂ equivalents.

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

**Source**

Some non-material sources

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

No emissions excluded
Relevance of market-based Scope 2 emissions from this source (if applicable)
No emissions excluded

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.

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

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
Country grid factors

Relevance of Scope 1 emissions from this source
No emissions excluded
Relevance of location-based Scope 2 emissions from this source
Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)
Emissions are not relevant

Explain why this source is excluded
Some country electricity grid factors are only available in CO₂ and not CO₂ equivalents. Where both are available, the difference between them is immaterial (about 1%).

Estimated percentage of total Scope 1+2 emissions this excluded source represents
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 CO₂e 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)
147,000,000

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. Please see: www.shell.com/ghg.

**Capital goods**

<table>
<thead>
<tr>
<th>Evaluation status</th>
<th>Relevant, not yet calculated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Please explain</strong></td>
<td>We estimated our Scope 3 emissions from capital goods in 2021 to be 15,000,000 tonnes based on the operational control boundary. These emissions are published on our website: <a href="http://www.shell.com/ghg">www.shell.com/ghg</a>. We have not yet been able to estimate category 2 emissions for the equity boundary, but we expect them to be comparable.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Evaluation status</th>
<th>Relevant, calculated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emissions in reporting year (metric tons CO₂e)</strong></td>
<td>138,000,000</td>
</tr>
<tr>
<td><strong>Emissions calculation methodology</strong></td>
<td>Average data method</td>
</tr>
<tr>
<td><strong>Percentage of emissions calculated using data obtained from suppliers or value chain partners</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>Please explain</strong></td>
<td>This value shows i) estimated well-to-wire emissions from generation of purchased third-party power included in our Net Carbon Intensity (136 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.</td>
</tr>
</tbody>
</table>
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 2021 to be around 500,000 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 2021 to be around 33,000 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 CO$_2$e)

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. The assessment for 2021 did not include the impact of COVID-19, which resulted in a significant number of employees working from home; therefore, we believe our assessment is conservative.

### Upstream leased assets

<table>
<thead>
<tr>
<th>Evaluation status</th>
<th>Relevant, calculated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions in reporting year (metric tons CO$_2$e)</td>
<td>2,300,000</td>
</tr>
<tr>
<td>Emissions calculation methodology</td>
<td>Asset-specific method</td>
</tr>
<tr>
<td>Percentage of emissions calculated using data obtained from suppliers or value chain partners</td>
<td>100</td>
</tr>
</tbody>
</table>

### 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 2021 Scope 1 and 2 equity inventory.

### Downstream transportation and distribution

<table>
<thead>
<tr>
<th>Evaluation status</th>
<th>Relevant, calculated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions in reporting year (metric tons CO₂e)</td>
<td>8,000,000</td>
</tr>
<tr>
<td>Emissions calculation methodology</td>
<td>Average data method, Distance-based method</td>
</tr>
<tr>
<td>Percentage of emissions calculated using data obtained from suppliers or value chain partners</td>
<td>0</td>
</tr>
</tbody>
</table>

**Please explain**

Estimated emissions from downstream transportation and distribution of oil products, LNG, GTL, natural gas, chemicals and lubricants not included in our Scope 1 emissions or other Scope 3 categories.

### Processing of sold products

<table>
<thead>
<tr>
<th>Evaluation status</th>
<th>Relevant, calculated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions in reporting year (metric tons CO₂e)</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Emissions calculation methodology</td>
<td>Average data method</td>
</tr>
<tr>
<td>Percentage of emissions calculated using data obtained from suppliers or value chain partners</td>
<td></td>
</tr>
</tbody>
</table>
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)
1,010,390,000

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 or internal financial reporting systems, while the emission factors were taken from the 2009 API Compendium. This category also includes metered amounts of CO₂ 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 CO\(_2\)e)**

19,000,000

**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 2021.

**Franchises**

**Evaluation status**

Relevant, calculated

**Emissions in reporting year (metric tons CO\(_2\)e)**

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 CO₂/CO₂e electricity grid factors were used based on the number of sites in each country.

Investments

**Evaluation status**
Not relevant, calculated

**Emissions in reporting year (metric tons CO₂e)**
300,000

**Emissions calculation methodology**
Investment-specific method

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
50

Please explain
The data are collected via our investments in major facilities and reflects these facilities' Scope 1 and 2 GHG emissions. These are typically investments that are reported under the cost dividend accounting method and therefore not included in our equity Scope 1 and 2 GHG emissions. The numbers are either reported to us by the facilities or estimated.

(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.

<table>
<thead>
<tr>
<th>CO₂ emissions from biogenic carbon (metric tons CO₂)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,600</td>
<td>This number reflects direct biogenic CO₂ emissions.</td>
</tr>
</tbody>
</table>
(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
0.00038

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)
100,000,000

Metric denominator
unit total revenue

Metric denominator: Unit total
261,504,000,000

Scope 2 figure used
Market-based

% change from previous year
35

Direction of change
Decreased

Reason for change
GHG intensity decreased in 2021 due to higher revenue (up 45% compared to 2020).
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
% change from previous year
8

Direction of change
Increased

Reason for change
The Upstream and Integrated Gas GHG intensity – measured in tonnes of CO₂ equivalent per tonne of hydrocarbon production available for sale – increased from 0.159 in 2020 to 0.172 in 2021. This was partly due to below-plan production at several of our assets.

Comment
GHG emissions used to calculate upstream and midstream 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
1.05

% change from previous year
0

Direction of change
No change

Reason for change
The Refining GHG intensity – measured in tonnes of CO₂ equivalent per Solomon’s Utilised Equivalent Distillation Capacity (UEDC™) – remained unchanged at 1.05 in 2021.
Comment
GHG emissions used to calculate refining 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: Tonne of high value chemicals

Metric tons CO₂e from hydrocarbon category per unit specified
0.95

% change from previous year
3

Direction of change
Decreased

Reason for change
The Chemicals GHG intensity – measured in tonnes of CO₂ equivalent per tonne of high value chemicals – decreased from 0.98 in 2020 to 0.95 in 2021. This was in part driven by sustained good reliability at our Bukom chemical plant in Singapore.

Comment
GHG emissions used to calculate chemicals GHG intensity comprise Scope 1 and 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
0.06
Estimated total methane emitted expressed as % of total hydrocarbon production or throughput at given division

0.03

Comment

The methane emissions intensity (0.06%) 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 2021, our overall methane intensity was 0.06% 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 1.5% in 2021 compared with 0.01% to 0.6% in 2020. The estimated total methane emitted as a % of total hydrocarbon production (0.03%) reflects the total methane emissions per total hydrocarbon production available for sale in our Upstream and Integrated Gas businesses.

We encourage industry-wide action on methane emissions reduction by participating in voluntary initiatives. For example, we participate in multi-stakeholder groups, such as the Methane Guiding Principles coalition, which we initiated in 2017, and the Oil and Gas Methane Partnership (OGMP) 2.0, which seeks to improve measurement and reporting. In 2021, environmental organisations and energy companies, including Shell, developed policy recommendations to support European Union (EU) legislation for ambitious methane emissions reductions across the supply chain of natural gas consumed within the EU.

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).

<table>
<thead>
<tr>
<th>Greenhouse gas</th>
<th>Scope 1 emissions (metric tons of CO₂e)</th>
<th>GWP Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂</td>
<td>58,000,000</td>
<td>IPCC Fourth Assessment Report (AR4 - 100 year)</td>
</tr>
<tr>
<td>CH₄</td>
<td>1,400,000</td>
<td>IPCC Fourth Assessment Report (AR4 - 100 year)</td>
</tr>
<tr>
<td>N₂O</td>
<td>210,000</td>
<td>IPCC Fourth Assessment Report (AR4 - 100 year)</td>
</tr>
<tr>
<td>HFCs</td>
<td>35,000</td>
<td>IPCC Fourth Assessment Report (AR4 - 100 year)</td>
</tr>
</tbody>
</table>
(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)**
- 20,900,000

**Gross Scope 1 methane emissions (metric tons CH₄)**
- 5,000

**Total gross Scope 1 emissions (metric tons CO₂e)**
- 21,000,000

**Comment**
- The total gross Scope 1 emissions field above only includes CO₂ and CH₄ emissions. Other GHG emissions are shown separately. The numbers have been rounded.
Flaring

Value chain
   Upstream
   Midstream

Product
   Unable to disaggregate

Gross Scope 1 CO₂ emissions (metric tons CO₂)
   4,100,000

Gross Scope 1 methane emissions (metric tons CH4)
   16,000

Total gross Scope 1 emissions (metric tons CO₂e)
   4,500,000

Comment
   The total gross Scope 1 emissions field above only includes CO₂ 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)
- 890,000

### Gross Scope 1 methane emissions (metric tons CH₄)
- 19,000

### Total gross Scope 1 emissions (metric tons CO₂e)
- 1,400,000

**Comment**
The total gross Scope 1 emissions field above only includes CO₂ and CH₄ emissions. Other GHG emissions are shown separately. The numbers have been rounded.

<table>
<thead>
<tr>
<th>Emissions category</th>
<th>Value chain</th>
<th>Product</th>
<th>Gross Scope 1 CO₂ emissions (metric tons CO₂)</th>
<th>Gross Scope 1 methane emissions (metric tons CH₄)</th>
<th>Total gross Scope 1 emissions (metric tons CO₂e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fugitives</td>
<td>Upstream</td>
<td>Unable to disaggregate</td>
<td>16,000</td>
<td>5,000</td>
<td>150,000</td>
</tr>
</tbody>
</table>
### Comment
The total gross Scope 1 emissions field above only includes CO₂ and CH₄ emissions. Other GHG emissions are shown separately. The numbers have been rounded.

<table>
<thead>
<tr>
<th>Emissions category</th>
<th>Value chain</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process (feedstock) emissions</td>
<td>Upstream</td>
<td>Unable to disaggregate</td>
</tr>
<tr>
<td>Value chain</td>
<td>Midstream</td>
<td></td>
</tr>
</tbody>
</table>

#### Gross Scope 1 CO₂ emissions (metric tons CO₂)
1,000

#### Gross Scope 1 methane emissions (metric tons CH₄)
2,000

#### Total gross Scope 1 emissions (metric tons CO₂e)
60,000

### Comment
The total gross Scope 1 emissions field above only includes CO₂ 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 CO\(_2\) emissions (metric tons CO\(_2\))**
0

**Gross Scope 1 methane emissions (metric tons CH\(_4\))**
0

**Total gross Scope 1 emissions (metric tons CO\(_2\)e)**
100,000

**Comment**
Includes total N\(_2\)O, HCF and SF\(_6\) 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)**
26,400,000

**Gross Scope 1 methane emissions (metric tons CH₄)**
3,000

**Total gross Scope 1 emissions (metric tons CO₂e)**
26,400,000

**Comment**
The total gross Scope 1 emissions field above only includes CO₂ and CH₄ emissions. Other GHG emissions are shown separately. The numbers have been rounded.

<table>
<thead>
<tr>
<th>Emissions category</th>
<th>Flaring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value chain</strong></td>
<td>Downstream</td>
</tr>
<tr>
<td><strong>Product</strong></td>
<td>Unable to disaggregate</td>
</tr>
</tbody>
</table>

**Gross Scope 1 CO₂ emissions (metric tons CO₂)**
1,220,000

**Gross Scope 1 methane emissions (metric tons CH₄)**
3,000

**Total gross Scope 1 emissions (metric tons CO₂e)**
1,300,000

**Comment**
The total gross Scope 1 emissions field above only includes CO₂ and CH4 emissions. Other GHG emissions are shown separately. The numbers have been rounded.

<table>
<thead>
<tr>
<th>Emissions category</th>
<th>Value chain</th>
<th>Product</th>
<th>Gross Scope 1 CO₂ emissions (metric tons CO₂)</th>
<th>Gross Scope 1 methane emissions (metric tons CH4)</th>
<th>Total gross Scope 1 emissions (metric tons CO₂e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Venting</td>
<td>Downstream</td>
<td>Unable to disaggregate</td>
<td>4,000</td>
<td>600</td>
<td>20,000</td>
</tr>
</tbody>
</table>

Comment
- The total gross Scope 1 emissions field above only includes CO₂ and CH4 emissions. Other GHG emissions are shown separately. The numbers have been rounded.
Product
Unable to disaggregate

Gross Scope 1 CO₂ emissions (metric tons CO₂)
5,000

Gross Scope 1 methane emissions (metric tons CH₄)
1,000

Total gross Scope 1 emissions (metric tons CO₂e)
40,000

Comment
The total gross Scope 1 emissions field above only includes CO₂ 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)
4,650,000

Gross Scope 1 methane emissions (metric tons CH₄)
300

Total gross Scope 1 emissions (metric tons CO₂e)
4,700,000

**Comment**
The total gross Scope 1 emissions field above only includes CO₂ 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 CO₂ equivalents. The numbers have been rounded.

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

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Scope 1 emissions (metric tons CO₂e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States of America</td>
<td>13,000,000</td>
</tr>
<tr>
<td>Middle East</td>
<td>9,000,000</td>
</tr>
<tr>
<td>Netherlands</td>
<td>7,000,000</td>
</tr>
<tr>
<td>Canada</td>
<td>5,000,000</td>
</tr>
<tr>
<td>Singapore</td>
<td>5,000,000</td>
</tr>
<tr>
<td>Nigeria</td>
<td>5,000,000</td>
</tr>
<tr>
<td>Germany</td>
<td>3,000,000</td>
</tr>
<tr>
<td>Malaysia</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Australia</td>
<td>5,000,000</td>
</tr>
<tr>
<td>United Kingdom of Great Britain and Northern Ireland</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Other, please specify: International Waters</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Other, please specify: Rest of World</td>
<td>2,000,000</td>
</tr>
</tbody>
</table>

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.**

<table>
<thead>
<tr>
<th>Business division</th>
<th>Scope 1 emissions (metric ton CO₂e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upstream</td>
<td>11,700,000</td>
</tr>
<tr>
<td>Integrated Gas</td>
<td>15,500,000</td>
</tr>
</tbody>
</table>
(C-OG7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO₂e.

<table>
<thead>
<tr>
<th>Sector Production Activity</th>
<th>Gross Scope 1 emissions, metric tons CO₂e</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil and gas production activities (upstream)</td>
<td>27,200,000</td>
<td>Includes Upstream and Integrated Gas businesses</td>
</tr>
<tr>
<td>Oil and gas production activities (midstream)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil and gas production activities (downstream)</td>
<td>32,600,000</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Scope 2, location-based (metric tons CO₂e)</th>
<th>Scope 2, market-based (metric tons CO₂e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States of America</td>
<td>2,600,000</td>
<td>2,600,000</td>
</tr>
<tr>
<td>Canada</td>
<td>1,200,000</td>
<td>1,200,000</td>
</tr>
<tr>
<td>Australia</td>
<td>2,500,000</td>
<td>1,300,000</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1,400,000</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Germany</td>
<td>200,000</td>
<td>200,000</td>
</tr>
<tr>
<td>Singapore</td>
<td>500,000</td>
<td>500,000</td>
</tr>
<tr>
<td>Other, please specify: Rest of World</td>
<td>300,000</td>
<td>200,000</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Business division</th>
<th>Scope 2, location-based (metric tons CO₂e)</th>
<th>Scope 2, market-based (metric tons CO₂e)</th>
</tr>
</thead>
</table>
(C-OG7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO$_2$e.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Scope 2, location-based, metric tons CO$_2$e</th>
<th>Scope 2, market-based (if applicable), metric tons CO$_2$e</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil and gas production activities (upstream)</td>
<td>3,200,000</td>
<td>2,000,000</td>
<td>Includes Upstream and Integrated Gas businesses</td>
</tr>
<tr>
<td>Oil and gas production activities (midstream)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil and gas production activities (downstream)</td>
<td>5,500,000</td>
<td>5,600,000</td>
<td></td>
</tr>
</tbody>
</table>

(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.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Change in emissions (metric tons CO$_2$e)</th>
<th>Direction of change</th>
<th>Emissions value (percentage)</th>
<th>Please explain calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in renewable energy consumption</td>
<td>160,000</td>
<td>Decreased</td>
<td>0.2</td>
<td>In 2021, our energy indirect GHG emissions decreased by around 0.16 million tonnes CO$_2$e due to renewable energy consumption, which translates to a reduction of 0.2% of our total Scope 1 and 2 GHG emissions in 2020 (72 million tonnes). We arrived at 0.2% through (0.16/72)*100.</td>
</tr>
<tr>
<td>Other emissions reduction activities</td>
<td>3,860,000</td>
<td>Decreased</td>
<td>5.4</td>
<td>In 2021, our GHG emissions decreased by around 3.9 million tonnes due to our emission reduction projects and permanent shutdowns or conversions of existing assets, which translates to a reduction of 5.4% of our total Scope 1 and 2 GHG emissions in 2020 (72 million tonnes CO$_2$e).</td>
</tr>
</tbody>
</table>
We arrived at 5.4% through \((3.9 \div 72)^\times 100\).
Note, this GHG emission reduction total does NOT include 1.05 million tonnes of CO₂ captured and sequestered by the Quest CCS Project in Canada in 2021.

<table>
<thead>
<tr>
<th>Category</th>
<th>Total</th>
<th>Change</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Divestment</td>
<td>2,000,000</td>
<td>Decreased</td>
<td>2.8</td>
</tr>
<tr>
<td>Acquisitions</td>
<td>2,000</td>
<td>Increased</td>
<td>0.003</td>
</tr>
<tr>
<td>Mergers</td>
<td>0</td>
<td>No change</td>
<td>0</td>
</tr>
<tr>
<td>Change in output</td>
<td>2,700,000</td>
<td>Increased</td>
<td>3.8</td>
</tr>
<tr>
<td>Change in methodology</td>
<td>70,000</td>
<td>Decreased</td>
<td>0.1</td>
</tr>
<tr>
<td>Change in boundary</td>
<td>40,000</td>
<td>Decreased</td>
<td>0.06</td>
</tr>
<tr>
<td>Change in physical operating conditions</td>
<td>140,000</td>
<td>Decreased</td>
<td>0.2</td>
</tr>
<tr>
<td>Unidentified</td>
<td>0</td>
<td>No change</td>
<td>0</td>
</tr>
</tbody>
</table>

In 2021, our emissions decreased by around 2 million tonnes of GHG due to divestments (see C5.1a), which translates to a decrease of 2.8% of our total Scope 1 and 2 GHG emissions in 2020 (72 million tonnes CO₂e). We arrived at 2.8% through \(2\div 72)^\times 100\).

In 2021, our emissions increased by around 0.002 million tonnes of GHG due to acquisitions (see C5.1a). We arrived at 0.003% through \(0.002\div 72)^\times 100\).

No mergers in 2021.

In 2021, our emissions increased by around 2.7 million tonnes of CO₂ equivalents due to a change in output, which translates to an increase of 3.8% of our total Scope 1 and 2 GHG emissions in 2020 (72 million tonnes CO₂e). We arrived at 3.8% through \(2.7\div 72)^\times 100\).

In 2021, our emissions decreased by around 0.07 million tonnes of CO₂ equivalents due to a change in methodology, which translates to a decrease of 0.1% of our total Scope 1 and 2 GHG emissions in 2020 (72 million tonnes CO₂e). We arrived at 0.1% through \(0.07\div 72)^\times 100\).

In 2021, our emissions decreased by around 0.04 million tonnes of CO₂ equivalents due to a change in boundary, which translates to a decrease of 0.06% of our total Scope 1 and 2 GHG emissions in 2020 (72 million tonnes CO₂e). We arrived at 0.06% through \(0.04\div 72)^\times 100\).

In 2021, our emissions decreased by around 0.14 million tonnes of CO₂ equivalents due to a change in physical operating conditions (Hurricane Ida and the winter freeze in the USA), which translates to a decrease of 0.2% of our total Scope 1 and 2 GHG emissions in 2020 (72 million tonnes CO₂e). We arrived at 0.2% through \(0.14\div 72)^\times 100\).
In 2021, our emissions decreased by around 0.84 million tonnes of CO₂ equivalents due to other reasons, which translates to a decrease of 1.2% of our total Scope 1 and 2 GHG emissions in 2020 (72 million tonnes CO₂e). We arrived at 1.2% through (0.84/72)*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 10% but less than or equal to 15%

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

<table>
<thead>
<tr>
<th>Activity</th>
<th>Indicate whether your organization undertook this energy-related activity in the reporting year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption of fuel (excluding feedstocks)</td>
<td>Yes</td>
</tr>
<tr>
<td>Consumption of purchased or acquired electricity</td>
<td>Yes</td>
</tr>
<tr>
<td>Consumption of purchased or acquired heat</td>
<td>No</td>
</tr>
<tr>
<td>Consumption of purchased or acquired steam</td>
<td>Yes</td>
</tr>
<tr>
<td>Consumption of purchased or acquired cooling</td>
<td>No</td>
</tr>
<tr>
<td>Generation of electricity, heat, steam, or cooling</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Activity</th>
<th>Heating value</th>
<th>MWh from renewable sources</th>
<th>MWh from non-renewable sources</th>
<th>Total (renewable and non-renewable) MWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption of fuel (excluding feedstock)</td>
<td>LHV (lower heating value)</td>
<td>35,000</td>
<td>189,500,000</td>
<td>189,500,000</td>
</tr>
<tr>
<td>Consumption of purchased or acquired electricity</td>
<td>2,100,000</td>
<td>17,500,000</td>
<td>19,600,000</td>
<td></td>
</tr>
<tr>
<td>Consumption of purchased or acquired steam</td>
<td>0</td>
<td>13,600,000</td>
<td>13,600,000</td>
<td></td>
</tr>
<tr>
<td>Consumption of self-generated non-fuel renewable energy</td>
<td>4,000</td>
<td>4,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total energy consumption</td>
<td>2,100,000</td>
<td>221,000,000</td>
<td>223,000,000</td>
<td></td>
</tr>
</tbody>
</table>

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

| 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

**Total fuel MWh consumed by the organization**

- 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

Other biomass

<table>
<thead>
<tr>
<th>Heating value</th>
<th>LHV</th>
</tr>
</thead>
</table>

Total fuel MWh consumed by the organization

35,000

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

35,000

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 for self-generation of heat includes 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

Total fuel MWh consumed by the organization

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

Coal

Heating value

Total fuel MWh consumed by the organization

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

**Oil**

Heating value

**Total fuel MWh consumed by the organization**

**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

**Gas**
<table>
<thead>
<tr>
<th>Heating value</th>
<th>LHV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total fuel MWh consumed by the organization</strong></td>
<td>21,300,000</td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of electricity</td>
<td></td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of heat</td>
<td>21,300,000</td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of steam</td>
<td></td>
</tr>
<tr>
<td>MWh fuel consumed for self- cogeneration or self-trigeneration</td>
<td></td>
</tr>
</tbody>
</table>

**Comment**

We have included purchased Natural Gas only under this category. We do not track fuel consumption by application at a global level. The number included under MWh fuel consumed for self-generation of heat includes generation of electricity, steam and heat for internal use because we are unable to split them. Numbers have been rounded.

<table>
<thead>
<tr>
<th>Other non-renewable fuels (e.g. non-renewable hydrogen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating value</td>
</tr>
<tr>
<td><strong>Total fuel MWh consumed by the organization</strong></td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of electricity</td>
</tr>
</tbody>
</table>
MWh fuel consumed for self-generation of heat
168,200,000

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 for self-generation of heat includes generation of electricity, steam and heat for internal use because we are unable to split them. This category also includes non-renewable fuels such as marine and road transport fuel. Numbers have been rounded.

Total fuel

Heating value
LHV

Total fuel MWh consumed by the organization
189,500,000

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat
189,500,000

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 for self-generation of heat includes generation of electricity, steam and heat for internal use because we are unable to split them. Numbers have been rounded.

C8.2d

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

<table>
<thead>
<tr>
<th>Total Gross generation (MWh)</th>
<th>Generation that is consumed by the organization (MWh)</th>
<th>Gross generation from renewable sources (MWh)</th>
<th>Generation from renewable sources that is consumed by the organization (MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td></td>
<td>500,000</td>
<td>4,000</td>
</tr>
<tr>
<td>Heat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steam</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooling</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(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.

Sourcing method
Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier
Electricity

Low-carbon technology type
Low-carbon 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 stations.

Country/area of low-carbon energy consumption
Australia
**Tracking instrument used**
Other, please specify: Australian Government REC Registry

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
1,494,000

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

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

**Comment**
Numbers have been rounded.

---

**Sourcing method**
Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**
Electricity

**Low-carbon technology type**
Hydropower (capacity unknown)

**Country/area of low-carbon energy consumption**
Norway

**Tracking instrument used**
GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
210,000
Country/area of origin (generation) of the low-carbon energy or energy attribute
Norway

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

Comment
Numbers have been rounded.

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Low-carbon energy mix, please specify: Biomass and other renewable/low carbon energy sources.

Country/area of low-carbon energy consumption
United Kingdom of Great Britain and Northern Ireland

Tracking instrument used
REGO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
173,000

Country/area of origin (generation) of the low-carbon energy or energy attribute
United Kingdom of Great Britain and Northern Ireland

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
### Sourcing method
Unbundled energy attribute certificates (EACs) purchase

### Energy carrier
Electricity

### Low-carbon technology type
Large hydropower (＞25 MW)

### Country/area of low-carbon energy consumption
Malaysia

### Tracking instrument used
TIGR

### Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
53,000

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

### Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
1,985

### Comment
Numbers have been rounded.
Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Solar

Country/area of low-carbon energy consumption
United States of America

Tracking instrument used
US-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
30,000

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

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2,016

Comment
Renewable electricity generated in the state of Texas for assets in Texas.
Low-carbon technology type
Wind

Country/area of low-carbon energy consumption
United States of America

Tracking instrument used
US-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
51,000

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

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2,003

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

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Wind

Country/area of low-carbon energy consumption
United States of America

**Tracking instrument used**
US-REC

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
3,000

**Country/area of origin (generation) of the low-carbon energy or energy attribute**
United States of America

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
2,020

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

---

**Sourcing method**
Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**
Electricity

**Low-carbon technology type**
Wind

**Country/area of low-carbon energy consumption**
United States of America

**Tracking instrument used**
US-REC
Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
2,000

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

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2,018

Comment
Numbers have been rounded. Renewable electricity generated in the Eastern Interconnection purchased for Shell assets in the Eastern Interconnection.

Sourcing method
Direct procurement from an off-site grid-connected generator e.g. Power purchase agreement (PPA)

Energy carrier
Electricity

Low-carbon technology type
Wind

Country/area of low-carbon energy consumption
Netherlands

Tracking instrument used
GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
29,000

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

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

**Comment**
Numbers have been rounded.

---

**Sourcing method**
Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**
Electricity

**Low-carbon technology type**
Solar

**Country/area of low-carbon energy consumption**
Netherlands

**Tracking instrument used**
GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
500

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

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

**Comment**
Sourcing method
Direct procurement from an off-site grid-connected generator e.g. Power purchase agreement (PPA)

Energy carrier
Electricity

Low-carbon technology type
Solar

Country/area of low-carbon energy consumption
India

Tracking instrument used
Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
18,000

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

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

Comment
Numbers have been rounded.
### Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**
- Electricity

**Low-carbon technology type**
- Hydropower (capacity unknown)

**Country/area of low-carbon energy consumption**
- Germany

**Tracking instrument used**
- GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
- 11,000

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

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

**Comment**
- Numbers have been rounded.

---

**Sourcing method**
- Green electricity products from an energy supplier (e.g. green tariffs)

**Energy carrier**
- Electricity

**Low-carbon technology type**
<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wind</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Country/area of low-carbon energy consumption</strong></td>
<td>Belgium</td>
</tr>
<tr>
<td><strong>Tracking instrument used</strong></td>
<td>GO</td>
</tr>
<tr>
<td><strong>Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)</strong></td>
<td>10,000</td>
</tr>
<tr>
<td><strong>Country/area of origin (generation) of the low-carbon energy or energy attribute</strong></td>
<td>Belgium</td>
</tr>
<tr>
<td><strong>Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Comment</strong></td>
<td>Numbers have been rounded.</td>
</tr>
</tbody>
</table>

**Sourcing method**
Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify: A mix of hydroelectricity and wind power.

**Country/area of low-carbon energy consumption**
Canada

**Tracking instrument used**

<table>
<thead>
<tr>
<th>Sourcing method</th>
<th>Unbundled energy attribute certificates (EACs) purchase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy carrier</td>
<td>Electricity</td>
</tr>
<tr>
<td>Low-carbon technology type</td>
<td>Geothermal</td>
</tr>
<tr>
<td>Country/area of low-carbon energy consumption</td>
<td>Philippines</td>
</tr>
<tr>
<td>Tracking instrument used</td>
<td>I-REC</td>
</tr>
</tbody>
</table>

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
3,000

**Country/area of origin (generation) of the low-carbon energy or energy attribute**
United States of America

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

**Comment**
Numbers have been rounded.
Philippines

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

Comment
Numbers have been rounded.

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Low-carbon energy mix, please specify: A mix of wind power and biomass.

Country/area of low-carbon energy consumption
Poland

Tracking instrument used
GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
2,500

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

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

Comment
Numbers have been rounded.

<table>
<thead>
<tr>
<th><strong>Sourcing method</strong></th>
<th>Green electricity products from an energy supplier (e.g., green tariffs)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy carrier</strong></td>
<td>Electricity</td>
</tr>
<tr>
<td><strong>Low-carbon technology type</strong></td>
<td>Hydropower (capacity unknown)</td>
</tr>
<tr>
<td><strong>Country/area of low-carbon energy consumption</strong></td>
<td>Switzerland</td>
</tr>
<tr>
<td><strong>Tracking instrument used</strong></td>
<td>Other, please specify: Since the electricity consumption is below a certain threshold, hydroelectricity is automatically supplied.</td>
</tr>
<tr>
<td><strong>Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)</strong></td>
<td>60</td>
</tr>
<tr>
<td><strong>Country/area of origin (generation) of the low-carbon energy or energy attribute</strong></td>
<td>Switzerland</td>
</tr>
<tr>
<td><strong>Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Comment**
Numbers are rounded.

(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.

**Country/area**
<table>
<thead>
<tr>
<th>Country/area</th>
<th>Consumption of electricity (MWh)</th>
<th>Consumption of heat, steam, and cooling (MWh)</th>
<th>Total non-fuel energy consumption (MWh) [Auto-calculated]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>1,494,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumption of heat, steam, and cooling (MWh)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total non-fuel energy consumption (MWh) [Auto-calculated]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>210,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumption of heat, steam, and cooling (MWh)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total non-fuel energy consumption (MWh) [Auto-calculated]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom of Great Britain and Northern Ireland</td>
<td>173,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumption of heat, steam, and cooling (MWh)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total non-fuel energy consumption (MWh) [Auto-calculated]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Country/area</td>
<td>United States of America</td>
<td>85,000</td>
<td>Malaysia</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------</td>
<td>--------</td>
<td>----------</td>
</tr>
<tr>
<td><strong>Consumption of electricity (MWh)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Consumption of heat, steam, and cooling (MWh)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total non-fuel energy consumption (MWh) [Auto-calculated]</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Country/area</td>
<td>Total non-fuel energy consumption (MWh) [Auto-calculated]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>India</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Consumption of electricity (MWh)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>18,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Consumption of heat, steam, and cooling (MWh)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Germany</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Consumption of electricity (MWh)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Belgium</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Consumption of electricity (MWh)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Consumption of heat, steam, and cooling (MWh)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Consumption of electricity (MWh)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Consumption of heat, steam, and cooling (MWh)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Country/area</td>
<td>Consumption of electricity (MWh)</td>
<td>Consumption of heat, steam, and cooling (MWh)</td>
<td>Total non-fuel energy consumption (MWh) [Auto-calculated]</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Canada</td>
<td>10,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>3,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Country/area
Poland

Consumption of electricity (MWh)
2,500

Consumption of heat, steam, and cooling (MWh)

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

Country/area
Switzerland

Consumption of electricity (MWh)
60

Consumption of heat, steam, and cooling (MWh)

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

C9. Additional metrics

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

<table>
<thead>
<tr>
<th></th>
<th>In-year net production</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude oil and condensate, million barrels</td>
<td>615</td>
<td>Shell Annual Report and Accounts 2021, p61.</td>
</tr>
<tr>
<td>Natural gas liquids, million barrels</td>
<td>615</td>
<td>Shell Annual Report and Accounts 2021, p61.</td>
</tr>
</tbody>
</table>
Oil sands, million barrels (includes bitumen and synthetic crude) | 20 | Shell Annual Report and Accounts 2021, p61.

(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, please explain this.

See Shell Annual Report and Accounts 2021 pages 57-64 and pages 284-301.

PROVED RESERVES

(AR, p284) Proved reserves estimates are calculated pursuant to the US Securities and Exchange Commission (SEC) Rules and the Financial Accounting Standards Board (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, 2021, were divided into 80% developed and 20% undeveloped on a barrel of oil equivalent basis. For the Shell share of joint ventures and associates, the proved reserves at December 31, 2021, were divided into 88% developed and 12% 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, 2021, 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 1,835 million barrels of crude oil and natural gas liquids, and 12,804 thousand million standard cubic feet (scf) of natural gas. Proved reserves cannot be measured exactly because estimation of reserves involves subjective judgement (see “Risk factors” on page 26 and our “Proved reserves assurance process” below). These estimates remain subject to revision and are unaudited supplementary information.

PROVED RESERVES ASSURANCE PROCESS

A central group of reserves experts, who on average have around 25 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 36 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.

<table>
<thead>
<tr>
<th>Estimated total net proved + probable reserves (2P) (million BOE)</th>
<th>Estimated total net proved + probable + possible reserves (3P) (million BOE)</th>
<th>Estimated net total resource base (million BOE)</th>
<th>Comment</th>
</tr>
</thead>
</table>
| 9,365                                                          |                                                                 |                                                | Only proved reserves are reported.  
\[See Shell Annual Report and Accounts 2021 pages 57-64 and pages 284-301 for full details.\] |

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

<table>
<thead>
<tr>
<th>Net proved + probable reserves (2P) (%)</th>
<th>Net proved + probable + possible reserves (3P) (%)</th>
<th>Net total resource base (%)</th>
<th>Comment</th>
</tr>
</thead>
</table>
| Crude oil/ condensate/ natural gas liquids |                                                                 |                              | Only proved reserves are reported.  
\[See Shell Annual Report and Accounts 2021 pages 57-64 and pages 284-301 for full details.  
\[See page 59 for a summary of proved reserves.\] |
| Natural gas                         |                                                                 |                              | Only proved reserves are reported.  
\[See Shell Annual Report and Accounts 2021 pages 57-64 and pages 284-301 for full details.  
\[See page 59 for a summary of proved reserves.\] |
| Oil sands (includes bitumen and synthetic crude) |                                                                 |                              | Only proved reserves are reported.  
\[See Shell Annual Report and Accounts 2021 pages 57-64 and pages 284-301 for full details.  
\[See page 59 for a summary of proved reserves.\] |

(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.

<table>
<thead>
<tr>
<th>Capacity (Thousand barrels per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,149</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Throughput (Million barrels)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>546</td>
</tr>
<tr>
<td>Other feedstocks</td>
<td>52</td>
</tr>
<tr>
<td>Total</td>
<td>598</td>
</tr>
</tbody>
</table>

Refinery processing intake on page 69 of Shell Annual Report and Accounts 2021.

Total = 1,639 thousand barrels/day x 365 days = 598,235

(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.

<table>
<thead>
<tr>
<th>Product produced</th>
<th>Refinery net production (Million barrels) *not including products used/consumed on site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gasolines</td>
<td>227.76</td>
</tr>
<tr>
<td>Kerosenes</td>
<td>51.47</td>
</tr>
<tr>
<td>Other, please specify: Gas / Diesel Oils</td>
<td>223.02</td>
</tr>
<tr>
<td>Fuel oils</td>
<td>39.42</td>
</tr>
<tr>
<td>Other, please specify: Other</td>
<td>94.17</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Product</th>
<th>Production, Thousand metric tons</th>
<th>Capacity, Thousand metric tons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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, p39) In 2021, we spent $815 million on research and development (R&D), compared with $907 million in 2020. In 2021, we started work on 182 R&D projects with universities, compared with 124 in 2020.

Our R&D activities are key to achieving our net-zero emissions target. In 2021, our R&D expenditure on projects that contributed to decarbonisation was around $328 million, representing around 40% of our total R&D spend. This includes expenditure on reducing greenhouse gas emissions:
- 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, and synthetic fuels and products made from low-carbon electricity, hydrogen produced using renewable sources or using natural gas combined with carbon capture utilisation and storage (CCUS);
- by CCUS; and
- by creating nature-based solutions (NBS) to offset emissions.

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.

<table>
<thead>
<tr>
<th>Technology area</th>
<th>Stage of development in the reporting year</th>
<th>Average % of total R&amp;D investment over the last 3 years</th>
<th>R&amp;D investment figure in the reporting year (optional)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other, please specify: Ethylene</td>
<td></td>
<td></td>
<td>6,589</td>
<td></td>
</tr>
<tr>
<td>Other, please specify: Styrene</td>
<td></td>
<td></td>
<td>3,004</td>
<td></td>
</tr>
<tr>
<td>Other, please specify: Ethylene glycol</td>
<td></td>
<td></td>
<td>2,510</td>
<td></td>
</tr>
<tr>
<td>Other, please specify: Higher olefins</td>
<td></td>
<td></td>
<td>1,390</td>
<td></td>
</tr>
</tbody>
</table>
Unable to disaggregate by technology area  

| 21-40% | 328,000,000 |

(SR, p39) In 2021, we spent $815 million on research and development (R&D), compared with $907 million in 2020. In 2021, we started work on 182 R&D projects with universities, compared with 124 in 2020. Our R&D activities are key to achieving our net-zero emissions target. In 2021, our R&D expenditure on projects that contributed to decarbonisation was around $328 million, representing around 40% of our total R&D spend. This includes expenditure on reducing greenhouse gas emissions: 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, and synthetic fuels and products made from low-carbon electricity, hydrogen produced using renewable sources or using natural gas combined with carbon capture utilisation and storage (CCUS); by CCUS; and by creating nature-based solutions (NBS) to offset emissions.

Our low-carbon R&D programme consists of a large number of projects of which many are in the stage of “applied research and development”. Some are less advanced while others are more advanced.

(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.

(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).

<table>
<thead>
<tr>
<th>CO₂ transferred – reporting year (metric tons CO₂)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ transferred in</td>
</tr>
</tbody>
</table>
**(C-OG9.8b)** Provide gross masses of CO\(_2\) injected and stored for the purposes of CCS during the reporting year according to the injection and storage pathway.

<table>
<thead>
<tr>
<th>Injection and storage pathway</th>
<th>Injected CO(_2) (metric tons CO(_2))</th>
<th>Percentage of injected CO(_2) intended for long-term (&gt;100 year) storage</th>
<th>Year in which injection began</th>
<th>Cumulative CO(_2) injected and stored (metric tons CO(_2))</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO(_2) injected into a geological formation or saline formation for long-term storage</td>
<td>1,050,000</td>
<td>100</td>
<td>2,015</td>
<td>6,800,000</td>
</tr>
</tbody>
</table>

**(C-OG9.8c)** Provide clarification on any other relevant information pertaining to your activities related to transfer and sequestration of CO\(_2\).

(ETPR, p22) Carbon capture and storage

Shell’s ambition is to work with governments, customers and partners to unlock the potential for carbon capture and storage (CCS) to reduce emissions where there are no currently scalable low-carbon alternatives. We seek to have access to an additional 25 million tonnes a year of CCS capacity by 2035 – equal to 25 CCS facilities the size of our Quest site in Canada.

In 2021, Shell’s operating costs for and investment in CCS opportunities amounted to around $146 million. Shell’s share of captured and stored CO\(_2\) was 0.4 million tonnes in 2021. By the end of 2021, our Quest CCS operations in Canada (Shell interest 10%) had captured and safely stored more than 6.5 million tonnes of CO\(_2\) since it began operating in 2015. In Australia, the Gorgon CCS project (Shell interest 25%, operated by Chevron), which started operating in August 2019, had stored more than 5 million tonnes of CO\(_2\) by the end of 2021. Gorgon is the largest CCS operation in the world.

We have taken a final investment decision on the Northern Lights project in Norway which includes the transport and permanent storage of CO\(_2\) in a reservoir beneath the sea. The first phase of this project will provide more than 0.25 million tonnes per annum (mtpa) of CCS capacity by 2025. In total, we have two CCS projects in operation and more than 10 under development.

Shell’s CANSOLV CO\(_2\) system is one of the leading large-scale, post-combustion, carbon capture technologies in commercial operation. After capture, the CO\(_2\) is released as a pure stream that can be stored or used in other processes. In 2021 and the first quarter of 2022, Shell’s CANSOLV technology was selected for six projects with the potential to capture a combined 12 million tonnes of CO\(_2\) a year [A]. These projects are in the UK and the USA and span the refining, chemicals and power sectors.

[A] This is shared as an example of how Shell is developing and using technology to capture CO\(_2\).

Read more about our CCS projects at [www.shell.com/ccs](http://www.shell.com/ccs).
C10. Verification

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

<table>
<thead>
<tr>
<th>Scope</th>
<th>Verification/assurance status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope 1</td>
<td>Third-party verification or assurance process in place</td>
</tr>
<tr>
<td>Scope 2 (location-based or market-based)</td>
<td>Third-party verification or assurance process in place</td>
</tr>
<tr>
<td>Scope 3</td>
<td>Third-party verification or assurance process in place</td>
</tr>
</tbody>
</table>

C10.1a

(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

Page/ section reference
The attachment is a 2-page standalone assurance statement for GHG emissions by Lloyd's Register (LR). The tonnes assured match C6.1 and cover 100% of the inventory. The assertion confirms that the verification covers direct (Scope 1) emissions for 2021. The section “LR's approach” on page 1 references the standard and level of assurance. The opinion is on page 2.

Relevant standard
ISO14064-3
(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**

**Page/section reference**
The attachment is a 2-page standalone assurance statement for GHG emissions by LR. 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 2021. The section “LR’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 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**

**Page/ section reference**
The attachment is a 2-page standalone assurance statement for GHG emissions by LR. 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 2021. The section “LR’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**
limited-assurance-of-the-2021-scope-3-emissions-included-in-net-carbon-intensity.pdf

**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 “LR's approach” on page 1 references the level of assurance and the relevant standard. 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**
limited-assurance-of-the-2021-scope-3-emissions-included-in-net-carbon-intensity.pdf

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 “LR's approach” on page 1 references the level of assurance and the relevant standard. 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
limited-assurance-of-the-2021-scope-3-emissions-included-in-net-carbon-intensity.pdf

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 "LR's approach" on page 1 references the level of assurance and the relevant standard. The opinion is on page 2.

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
100

<table>
<thead>
<tr>
<th>Scope 3 category</th>
<th>Scope 3: Downstream transportation and distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verification or assurance cycle in place</td>
<td>Annual process</td>
</tr>
<tr>
<td>Status in the current reporting year</td>
<td>Complete</td>
</tr>
<tr>
<td>Type of verification or assurance</td>
<td>Limited assurance</td>
</tr>
</tbody>
</table>

Attach the statement
limited-assurance-of-the-2021-scope-3-emissions-included-in-net-carbon-intensity.pdf

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 transportation and distribution of sold energy products included in our Net Carbon Intensity. The section "LR's approach" on page 1 references the level of assurance and the relevant standard. The opinion is on page 2.

Relevant standard
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?

<table>
<thead>
<tr>
<th>Disclosure module verification relates to</th>
<th>Data verified</th>
<th>Verification standard</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4. Targets and performance</td>
<td>Other, please specify Shell's 2021 Net Carbon Intensity (Net Carbon Footprint)</td>
<td>ISO 14064-3</td>
<td>The attached assurance statement provides limited assurance for our 2021 Net Carbon Intensity (NCI) (referred to in the Assurance Statement as Net Carbon Footprint). NOTE: Our assurance statements can also be found on our webpage: <a href="http://www.shell.com/ghg">www.shell.com/ghg</a> - tab &quot;Net Carbon Footprint Assurance&quot;</td>
</tr>
<tr>
<td>C5. Emissions performance</td>
<td>Change in Scope 1 emissions against a base year (not target related)</td>
<td>ISO 14064-3</td>
<td>Our assurance statement also covers the base year. NOTE: Our assurance statements can also be found on our webpage: <a href="http://www.shell.com/ghg">www.shell.com/ghg</a> - tab “Assurance”</td>
</tr>
<tr>
<td>C5. Emissions performance</td>
<td>Change in Scope 2 emissions against a base year (not target related)</td>
<td>ISO 14064-3</td>
<td>Our assurance statement also covers the base year. NOTE: Our assurance statements can also be found on our webpage: <a href="http://www.shell.com/ghg">www.shell.com/ghg</a> - tab “Assurance”</td>
</tr>
</tbody>
</table>

1 limited-assurance-of-the-net-carbon-footprint-2021.pdf
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.

<table>
<thead>
<tr>
<th>Alberta TIER - ETS</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Scope 1 emissions covered by the ETS</td>
</tr>
<tr>
<td>% of Scope 2 emissions covered by the ETS</td>
</tr>
<tr>
<td>Period start date</td>
</tr>
<tr>
<td>Period end date</td>
</tr>
<tr>
<td>Allowances allocated</td>
</tr>
<tr>
<td>Allowances purchased</td>
</tr>
</tbody>
</table>
Verified Scope 1 emissions in metric tons CO$_2$e
5,127,984

Verified Scope 2 emissions in metric tons CO$_2$e
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 = Allowed 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
18

% of Scope 2 emissions covered by the ETS
0

Period start date
January 1, 2021

Period end date
December 31, 2021

Allowances allocated
7,194,310

Allowances purchased
3,554,897
Verified Scope 1 emissions in metric tons CO$_2$e
10,749,207

Verified Scope 2 emissions in metric tons CO$_2$e
0

Details of ownership
Other, please specify: Facilities operated by Shell

Comment
The amount 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
2

% of Scope 2 emissions covered by the ETS
0

Period start date
January 1, 2021

Period end date
December 31, 2021

Allowances allocated
539,513

Allowances purchased
848,025

Verified Scope 1 emissions in metric tons CO$_2$e
1,387,538

**Verified Scope 2 emissions in metric tons CO₂e**
0

**Details of ownership**
Other, please specify: Facilities operated by Shell

**Comment**
The amount 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) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?**
Shell subsidiaries provide compliance balancing services to all Shell companies who have obligations under the above emissions trading systems. We proactively support emissions trading as a mechanism to deliver a price on CO₂ which allows installations to manage emission levels down in an economically efficient manner.

Improving the energy efficiency of our facilities is one of the ways to help us reduce GHG emissions from our operations. We achieve this by replacing old machinery with more energy-efficient equipment, among other things. We will work to ensure that any GHG emissions from making our products that cannot be avoided will be captured or offset using technology and nature.

(AR, p78) To assess the resilience of new projects we consider the potential costs associated with operational GHG emissions. We have developed country-specific short-medium and long-term estimates of future costs of carbon which are reviewed and updated annually. In 2021, we increased the expected cost of carbon, so by 2050, in real terms our cost of carbon estimates for all countries increased to between $125 and $200 per tonne of GHG emissions. The process for developing our cost of carbon estimates uses short-term policy outlooks and long-term scenario forecasts. We believe our estimates appropriately reflect society’s current implementation of the Paris Agreement. Unfortunately, however, society is not yet on track to meet the goals of the Paris Agreement. Shell will continue to update the cost of carbon estimates to take account of changes in the economic environment and pace of energy transition.

(AR, p80) 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. 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 originated or purchased any project-based carbon credits within the reporting period?

Yes

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit origination

Project type

Other, please specify: Carbon Capture and Storage (CCS)

The amount of credits shown reflects the base credits generated between January 1 and December 31, 2021

Project identification

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$_2$.

Verified to which standard

Other, please specify: Alberta Carbon Offset System Standards

Number of credits (metric tonnes CO$_2$e)

784,241

Number of credits (metric tonnes CO$_2$e): Risk adjusted volume

784,241

Credits cancelled

No

Purpose, e.g. compliance

Compliance
Credit origination or credit purchase
Credit purchase

Project type
Forests
These project-based carbon credits are examples of carbon credits retired for 2021. 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 identification
Cordillera Azul National Park REDD Project

Verified to which standard
VCS (Verified Carbon Standard)

Number of credits (metric tonnes CO$_2$e)
2,205,699

Number of credits (metric tonnes CO$_2$e): Risk adjusted volume
2,205,699

Credits cancelled
Yes

Purpose, e.g. compliance
Voluntary Offsetting

Credit origination or credit purchase
Credit purchase
Project type
Forests

These project-based carbon credits are examples of carbon credits retired for 2021. 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 identification
Katingan Peatland Restoration and Conservation Project

Verified to which standard
VCS (Verified Carbon Standard)

Number of credits (metric tonnes CO₂e)
2,393,040

Number of credits (metric tonnes CO₂e): Risk adjusted volume
2,393,040

Credits cancelled
Yes

Purpose, e.g. compliance
Voluntary Offsetting

Credit origination or credit purchase
Credit purchase

Project type
Forests
These project-based carbon credits are examples of carbon credits retired for 2021. 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 identification**
The Kasigau Corridor REDD Project - Phase II The Community Ranches

**Verified to which standard**
VCS (Verified Carbon Standard)

**Number of credits (metric tonnes CO$_2$e)**
791,297

**Number of credits (metric tonnes CO$_2$e): Risk adjusted volume**
791,297

**Credits cancelled**
Yes

**Purpose, e.g. compliance**
VoluntaryOffsetting

**Credit origination or credit purchase**
Credit purchase

**Project type**
Forests

These project-based carbon credits are examples of carbon credits retired for 2021. 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 identification
Xiguan Afforestation Project in Guizhou Province

Verified to which standard
VCS (Verified Carbon Standard)

Number of credits (metric tonnes CO₂e)
243,193

Number of credits (metric tonnes CO₂e): Risk adjusted volume
243,193

Credits cancelled
Yes

Purpose, e.g. compliance
Voluntary Offsetting

Credit origination or credit purchase
Credit purchase

Project type
Forests

These project-based carbon credits are examples of carbon credits retired for 2021. 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 identification
Hechu Afforestation Project in Anhui Province

Verified to which standard
VCS (Verified Carbon Standard)

**Number of credits (metric tonnes CO₂e)**

171,574

**Number of credits (metric tonnes CO₂e): Risk adjusted volume**

171,574

**Credits cancelled**

Yes

**Purpose, e.g. compliance**

Voluntary Offsetting

---

**Credit origination or credit purchase**

Credit purchase

**Project type**

Forests

These project-based carbon credits are examples of carbon credits retired for 2021. 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 identification**

Qianxinan Afforestation Project in Guizhou Province

**Verified to which standard**

VCS (Verified Carbon Standard)

**Number of credits (metric tonnes CO₂e)**

160,087
Number of credits (metric tonnes CO₂e): Risk adjusted volume
160,087

Credits cancelled
Yes

Purpose, e.g. compliance
Voluntary Offsetting

Credit origination or credit purchase
Credit purchase

Project type
Forests

These project-based carbon credits are examples of carbon credits retired for 2021. 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 identification
XinJiang Makit County Afforestation Carbon Sequestration Project

Verified to which standard
VCS (Verified Carbon Standard)

Number of credits (metric tonnes CO₂e)
84,400

Number of credits (metric tonnes CO₂e): Risk adjusted volume
84,400

Credits cancelled
Yes

**Purpose, e.g. compliance**
Voluntary Offsetting

**Credit origination or credit purchase**
Credit purchase

**Project type**
Energy efficiency: households

These project-based carbon credits are examples of carbon credits retired for 2021. 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 identification**
CLEAN Cooking Solutions for the disadvantaged households, Nepal

**Verified to which standard**
VER+ (TÜV SÜD standard)

**Number of credits (metric tonnes CO₂e)**
43,573

**Number of credits (metric tonnes CO₂e): Risk adjusted volume**
43,573

**Credits cancelled**
Yes

**Purpose, e.g. compliance**
Voluntary Offsetting
<table>
<thead>
<tr>
<th>Credit origination or credit purchase</th>
<th>Credit purchase</th>
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</thead>
<tbody>
<tr>
<td><strong>Project type</strong></td>
<td></td>
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<tr>
<td>Forests</td>
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These project-based carbon credits are examples of carbon credits retired for 2021. 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.

<table>
<thead>
<tr>
<th>Project identification</th>
<th>Reforestation of degraded forest reserves in Ghana</th>
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</thead>
<tbody>
<tr>
<td><strong>Verified to which standard</strong></td>
<td>VCS (Verified Carbon Standard)</td>
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<tr>
<td><strong>Number of credits (metric tonnes CO₂e)</strong></td>
<td>24,632</td>
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<td><strong>Number of credits (metric tonnes CO₂e): Risk adjusted volume</strong></td>
<td>24,632</td>
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<td><strong>Credits cancelled</strong></td>
<td>Yes</td>
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<td><strong>Purpose, e.g. compliance</strong></td>
<td>Voluntary Offsetting</td>
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</table>
**Project type**  
Forests

These project-based carbon credits are examples of carbon credits retired for 2021. 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 identification**  
Darkwoods Forest Carbon Project

**Verified to which standard**  
VCS (Verified Carbon Standard)

**Number of credits (metric tonnes CO₂e)**  
16,962

**Number of credits (metric tonnes CO₂e): Risk adjusted volume**  
16,962

**Credits cancelled**  
Yes

**Purpose, e.g. compliance**  
Voluntary Offsetting

**Credit origination or credit purchase**  
Credit purchase

**Project type**  
Forests
These project-based carbon credits are examples of carbon credits retired for 2021. 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 identification
GreenTrees ACRE (Advanced Carbon Restored Ecosystem)

Verified to which standard
ACR (American Carbon Registry)

Number of credits (metric tonnes CO₂e)
16,464

Number of credits (metric tonnes CO₂e): Risk adjusted volume
16,464

Credits cancelled
Yes

Purpose, e.g. compliance
Voluntary Offsetting

Credit origination or credit purchase
Credit purchase

Project type
Forests

These project-based carbon credits are examples of carbon credits retired for 2021. 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.
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<th>Project identification</th>
<th>Haidong Afforestation Project</th>
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<tr>
<td>Verified to which standard</td>
<td>VCS (Verified Carbon Standard)</td>
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<tr>
<td>Number of credits (metric tonnes CO₂e)</td>
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<td>Number of credits (metric tonnes CO₂e): Risk adjusted volume</td>
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<td>Credits cancelled</td>
<td>Yes</td>
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<tr>
<td>Purpose, e.g. compliance</td>
<td>Voluntary Offsetting</td>
</tr>
</tbody>
</table>

**Credit origination or credit purchase**

Credit purchase

**Project type**

Forests

- These project-based carbon credits are examples of carbon credits retired for 2021. 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 identification**

Guinan Afforestation Project

**Verified to which standard**
<table>
<thead>
<tr>
<th><strong>VCS (Verified Carbon Standard)</strong></th>
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</thead>
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<td><strong>Credits cancelled</strong></td>
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<tr>
<td>Yes</td>
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<tr>
<td><strong>Purpose, e.g. compliance</strong></td>
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<tr>
<td>Voluntary Offsetting</td>
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<tr>
<th><strong>Credit origination or credit purchase</strong></th>
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<td>Credit purchase</td>
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<tr>
<th><strong>Project type</strong></th>
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<tr>
<td>Forests</td>
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<table>
<thead>
<tr>
<th><strong>Project identification</strong></th>
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<tr>
<td>Jilin Linjiang Afforestation Project</td>
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<th><strong>Verified to which standard</strong></th>
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<tr>
<td>VCS (Verified Carbon Standard)</td>
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<table>
<thead>
<tr>
<th><strong>Number of credits (metric tonnes CO\textsubscript{2}e)</strong></th>
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<tbody>
<tr>
<td>101</td>
</tr>
</tbody>
</table>
**Number of credits (metric tonnes CO₂e): Risk adjusted volume**

101

**Credits cancelled**

Yes

**Purpose, e.g. compliance**

Voluntary Offsetting

**Credit origination or credit purchase**

Credit purchase

**Project type**

Forests

These project-based carbon credits are examples of carbon credits retired for 2021. 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 identification**

Jiangxi Afforestation Project

**Verified to which standard**

VCS (Verified Carbon Standard)

**Number of credits (metric tonnes CO₂e)**

216,461

**Number of credits (metric tonnes CO₂e): Risk adjusted volume**

216,461

**Credits cancelled**
(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.

Objective for implementing an internal carbon price
- Drive low-carbon investment
- Stress test investments
- Identify and seize low-carbon opportunities

GHG Scope
- Scope 1, Scope 2

Application
Shell believes carbon pricing can be an effective way to reduce GHG emissions across the economy at the lowest overall cost to society.

(AR, p83) Shell’s company-wide process for business planning includes assumptions about internal and external parameters. These assumptions are developed with input from our scenarios and internal estimates and outlooks. The level of uncertainty around these assumptions increases over longer time horizons.

The annual business plan - approved by the Board - is our way of putting the strategy into effect.

(AR, p87) Projects under development that are expected to have a material GHG footprint must meet our internal carbon performance standards or industry benchmarks. This indicates that they will be able to compete and prosper in a future where society aims to limit overall GHG emissions. These project assessments can lead to projects being stopped or designs being changed. An exception process is in place to manage specific incidental cases.

Actual price(s) used (Currency /metric ton)
125
**Variance of price(s) used**

(AR, p78) To assess the resilience of new projects we consider the potential costs associated with operational GHG emissions. We have developed country-specific short-medium and long-term estimates of future costs of carbon which are reviewed and updated annually. In 2021, we increased the expected cost of carbon, so by 2050, in real terms our cost of carbon estimates for all countries increased to between $125 and $200 per tonne of GHG emissions. The process for developing our cost of carbon estimates uses short-term policy outlooks and long-term scenario forecasts. We believe our estimates appropriately reflect society’s current implementation of the Paris Agreement. Unfortunately, however, society is not yet on track to meet the goals of the Paris Agreement. Shell will continue to update the cost of carbon estimates to take account of changes in the economic environment and pace of energy transition.

**Type of internal carbon price**

Shadow price

Other, please specify

Shadow price, (AR, p78) country-specific short-medium and long-term estimates of future costs of carbon which are reviewed and updated annually

**Impact & implication**

(AR, p77) Several processes are employed across the organisation to ensure that management teams can effectively monitor and manage climate-related matters. The management teams are helped by a combination of carbon-management-related standards and frameworks, forums at various levels of the organisation, and capability development programmes. This includes carbon pricing. 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.

Example of impact:

(AR, p80) Shell’s cost of compliance with the EU Emissions Trading Scheme (ETS) and related schemes was around $331 million in 2021.

Implication: (AR, p80) 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 2030 is estimated to be within the range of $1.0-2.5 billion. 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-terms carbon cost estimates which range from around $25 to around $200 per tonne of GHG emissions in 2030.

(AR, p153) In 2021, Shell’s Audit Committee reviewed the pricing methodology for oil and gas and discussed with management how the impact of climate change was reflected in the methodology. This topic provided greater insights to the audit committee as to how macroeconomic conditions, major trends in the industry, and geopolitical factors, including carbon pricing and long-term demand for oil and gas, are considered in developing the outlook for commodity prices and refining margin assumptions, which are important considerations in business planning, asset impairment analyses,
and investment and divestment decisions. (AR, p80) 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.

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 climate change and carbon information at least annually from suppliers

- % of suppliers by number
  - 1

- % total procurement spend (direct and indirect)
  - 20

- % of supplier-related Scope 3 emissions as reported in C6.5
  - 25

**Rationale for the coverage of your engagement**
The most important lever of Shell’s net zero energy business ambition is partnering for decarbonisation of energy use. In this context, it means partnering with our suppliers. One of the ways we do this is that we designed a new interactive tool for suppliers to set a target and track, among other things, their emissions performance against other suppliers to Shell in their industry. In focus are suppliers that are in the purchase categories with the
highest CO₂ emissions as that is where we believe the greatest opportunity for impact lies. And, we work to establish relations with them which allow us to share our respective expertise and build on innovative thinking.

**Impact of engagement, including measures of success**

Our supplier engagements include discussions on pathways to measure and reduce supplier CO₂ emissions. The impacts are reported per supplier, establishing emission baselines, setting ambitions and sharing plans to achieve these. As an example of the impact of this engagement, suppliers are maintaining programmes that support joint sustainability objectives, including but not limited to a reduction in CO₂ intensity.

**Comment**

**Type of engagement**

Engagement & incentivization (changing supplier behavior)

**Details of engagement**

Offer financial incentives for suppliers who reduce your operational emissions (Scopes 1 & 2)
Other, please specify: Supplier relationship management tool

% of suppliers by number

1

% total procurement spend (direct and indirect)

33

% of supplier-related Scope 3 emissions as reported in C6.5

25

**Rationale for the coverage of your engagement**

We use our greenhouse gas (GHG) and energy management manual to evaluate options to improve our GHG intensity performance. Our planning process helps to guide our decisions on technology and whether to move ahead with a project.

This makes building strong relationships with our contractors and suppliers essential to deliver new projects and run our operations efficiently. We target high impact goods and services categories which are likely to affect our own Scope 1 and 2 emissions, such as equipment (rotating/electrical),
We worked with suppliers to jointly identify the best-performing lower-carbon equipment available and call attention to these products in the catalogues Shell employees use to place orders for projects. The aim is to make it easier to choose products that can drive sustainability deeper into our projects and facilities.

**Impact of engagement, including measures of success**

Suppliers’ contributions to reducing our operational emissions (Scope 1 and 2) include, for example: technologies upgrading the equipment; sustainable site design and construction; increasing the use of sustainable raw materials; reduction, reuse and recycling of packaging across our supply chains; increasing availability of renewable energy at our sites; and continuous focus on maintenance measures to enhance the reliability of equipment and reduce emissions through leaks.

(AR, p98) In 2021, 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 2021 are listed in our Annual Report and Accounts 2021, page 98 (with estimated total savings of around 675 million kWh in 2021).

**Comment**

**Type of engagement**

Innovation & collaboration (changing markets)

**Details of engagement**

Other, please specify: Shell Supplier Energy Transition Hub, a collaborative digital platform to help suppliers reduce their emissions.

**% of suppliers by number**

1

**% total procurement spend (direct and indirect)**

40

**% of supplier-related Scope 3 emissions as reported in C6.5**

5
Rationale for the coverage of your engagement

In 2021, we signed an agreement with Daimler Truck AG to jointly drive the adoption of hydrogen trucks and accelerate the decarbonisation of road freight in Europe. The aim is to build 150 Shell green hydrogen refuelling stations and supply around 5,000 Mercedes-Benz heavy-duty hydrogen trucks by 2030.

In 2021, we announced a strategic collaboration with Penske to help drive decarbonisation and sustainability across sectors. The collaboration aims to help customers address emissions across their supply chains - from warehouse facilities, vehicle and fleet technologies to sustainable transportation routes, with an initial focus on the USA. As fleets switch to new vehicle models with batteries for electricity or hydrogen, some vehicles will still need fuels that work with existing engines. Today, the sector can use liquefied natural gas (LNG), biogases, and biofuels to reduce its carbon emissions through the transition to battery-electric and fuel-cell electric vehicles. LNG can help to reduce greenhouse gas emissions in trucks and buses and, in 2021, Shell added 18 LNG refuelling stations to our network, which now consists of 44 sites across Europe and North America. We plan to increase our network of LNG refuelling stations to nearly 80 by the end of 2022.

In 2021, we also entered into strategic partnerships to reduce emissions in heavy industry, which includes steel, chemicals and cement, and other intensive manufacturing industries. These involved partnerships within the steel industry, with Sumitomo, in cement, with Pan-United Corporation and eight new partnerships within the construction and road sector.


Impact of engagement, including measures of success

(SR, p50) 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.

The platform facilitates Shell working together with its suppliers to provide alternative low-carbon energy solutions, as well as jointly develop innovative responses to accelerate energy transition. The Hub’s primary focus is on the reduction of Scope 3 emissions reported by Shell, which is critical as emissions from the end use of Shell’s energy products account for over 90% of its total emissions. The Hub’s design lends itself to further imbed Shell’s collaborative approach to lowering further suppliers’ Scope 3 emissions, by allowing its supply chain to invite their suppliers to join the platform. The Hub’s evolutionary nature and focus on innovation should allow it to address current and future decarbonisation needs, through several potential energy solutions. This is just the beginning of our journey, as the Hub was designed to allow it grow and evolve, as it applies a learner mindset to continually remain relevant in the fast paced, constantly changing and highly sophisticated business ecosystem, which needs relevant solutions to decarbonise. For Shell to realise its goal of achieving net-zero emissions, digital platforms such as the Hub will play an important role, in accelerating the energy transition journey.
By the end of 2021, 258 of our suppliers had joined the platform, 103 of which have already set emission reduction targets, of which 32 suppliers provided the share of emissions attributable to products/services purchased by Shell in 2020, representing about 5% of supplier-related Scope 3 emissions.

**Comment**

<table>
<thead>
<tr>
<th>Type of engagement</th>
<th>Other, please specify: Supplier onboarding on Shell Supplier Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details of engagement</td>
<td>Other, please specify: Environment related KPI</td>
</tr>
<tr>
<td>% of suppliers by number</td>
<td>100</td>
</tr>
<tr>
<td>% total procurement spend (direct and indirect)</td>
<td>100</td>
</tr>
<tr>
<td>% of supplier-related Scope 3 emissions as reported in C6.5</td>
<td>100</td>
</tr>
</tbody>
</table>

**Rationale for the coverage of your engagement**

Shell aims to work with contractors and suppliers that behave in an economically, environmentally and socially responsible manner. Our approach to suppliers and contractors is set out in our Shell General Business Principles and Shell Supplier Principles. Through our Shell Supplier Principles, we expect that: “Contractors and suppliers have a systematic approach to HSSE management, designed to ensure compliance with all applicable laws and regulations and to achieve continuous performance improvement. 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.”

For more information visit our webpage www.shell.com/business-customers/shell-for-suppliers/supplier-principles.html
Shell’s Contracting & Procurement team is responsible for nearly everything that Shell buys across the full scope of activities in Upstream, Downstream, and Projects & Technology. Our set of policies and assurance processes define how we aim to operate in socially and environmentally responsible ways. Same performance and compliance expectations apply to all suppliers by applying our Category Management and Contracting Process. In our model procurement contracts, contractors and suppliers agree to adhere to the Shell General Business Principles and the Shell Supplier Principles.

For more info visit our webpage www.shell.com/business-customers/shell-for-suppliers

**Impact of engagement, including measures of success**

(SR, p50) In 2021, Shell spent around $37.5 billion on goods and services from around 24,000 suppliers globally.

We continue to work with our contractors and suppliers to find ways for them to build lower-carbon solutions into our supply chains. At present, the Shell Supplier Principles, that are embedded in contracts, are the tool we use for all suppliers for qualification on emissions. In addition, we are providing examples across the Category Management and Contracting Process how to embed the Energy Transition into Contracting and Procurement ways of working while building on existing best practices across the contracting and procurement community. Performance of our suppliers is measured at individual levels within the asset that the contract supports. We do not aggregate data as requested by CDP on a global level on this topic because we do not find it meaningful, e.g., in context of differing local environments.

**Comment**

(C12.1b) Give details of your climate-related engagement strategy with your customers.

**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
Through our retail business Mobility, we offer customers ways to avoid, reduce and offset their CO₂ emissions.
Since 2019, Shell offered customers in select markets the option to offset the CO₂ emissions associated with the production, distribution, and end use of the fuel they purchase from Shell. Carbon offsetting is an important option for customers who are not yet ready or able to switch to a lower-emission alternative such as electric vehicles.
The programme continues to be accompanied by a campaign to share information with current and prospective customers about projects Shell uses to offset the CO₂ emissions associated with the customer offer.
We shared information about the programme — including how carbon offsetting works and details on the carbon offset projects — via multiple platforms including but not limited to the Shell website, email, social media, and onsite at select Shell mobility stations (e.g., www.shell.com/energy-and-innovation/new-energies/nature-based-solutions).
We address current customers, loyalty programme members, and prospective customers in markets where our carbon offsetting programme is already available. These include the UK, Austria, Germany, Hungary, Switzerland, Canada, Denmark and the Netherlands.
Shell is planning to roll out this offering to more markets in the coming years because it has been taken up by our customers.

**Impact of engagement, including measures of success**

The impact of the engagement was that we made customers aware of the option to offset CO₂ emissions caused by the production, distribution and consumption of fuel.
Between 2019 and 2020, we sold over 1 billion litres of fuel, and adding over 300 million litres in 2021 that customers offset with their contributions.
The offset fuels volume is our measure of success. The achieved levels since 2019 met our expectations and caused us to seek to expand the programme to more countries in the coming years.

**(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.**

(AR, p6) Our Powering Progress strategy combines our ambitions under four goals: generating shareholder value, achieving net-zero emissions, powering lives and respecting nature. This will help accelerate our progress towards becoming a net-zero emissions energy business by 2050. We aim to deliver value through our integrated assets and supply chains, optimising value and managing risk for Shell and our customers as we produce, buy, trade, transport and sell energy products and solutions across the world.
Our stakeholders:
· Our investor community
· Our customers
· Our employees/workforce/pensioners
· Our strategic partners/suppliers
· Communities
· NGOs/civil society stakeholders/academia/think-tanks
· Governments/regulators

We are partnering with customers, businesses and others to address emissions, including in sectors that are difficult to decarbonise, such as aviation, shipping, road freight and industry. Partnering with others includes supporting government policies to reduce carbon emissions, sector by sector. We will continue to drive innovation to provide the cleaner energy that our customers need.

Collaboration with governments, non-governmental organisations, other energy producers, industry bodies, consumers and local communities helps us in many different ways. It is a proven way to learn new things, share best practices, achieve specific objectives, set future goals, and build trust with the many different stakeholders who have an interest in our company. We work in partnership in many areas – for example, to help us implement our investment in communities more effectively, to reduce our environmental impact, to protect biodiversity or to improve on specific areas of human rights. Partnerships are also essential to help enhance safety and environmental standards and practices within our industry.

Examples from our climate-related engagement strategy:

Partner: companies that we partner with to develop new approaches, processes, products, including peer companies in the energy industry.

To help accelerate the transition to net-zero emissions, we will build on existing relationships with other stakeholders, such as energy suppliers, policymakers, infrastructure owners and consumers to support a sector-based approach. Transforming energy demand is the focus of our decarbonisation strategy. We are working with customers sector-by-sector across the energy system and will change the mix of energy products we sell to meet their changing energy demands.

Prioritisation:
Transforming energy demand is the focus of our decarbonisation strategy.

Methods of engagement:
We are now forming strategic alliances with big multinational companies such as Microsoft and Amazon, helping them and us to achieve our net-zero aims. For example, we are supplying Microsoft with renewable energy as part of our strategic alliance launched in 2020.

Measure of success:
In 2021, we advanced this partnership by signing several agreements to supply more than 500 MW of renewable energy, helping Microsoft to meet its goal of using 100% renewable energy by 2025.

Partner: citizens in neighbourhoods where Shell operates

Separate to our commercial ambition, we invest in social programmes that benefit communities where we work. Through these voluntary initiatives, we work with partner organisations to help individuals and communities access reliable electricity to improve lives and generate greater economic opportunity.
Prioritisation:
In 2021, we continued to develop programmes to improve access to energy in Ethiopia, Mozambique, Pakistan and South Africa.

Methods of engagement:
(SR, 49) To understand the impact of our projects, we commissioned an evaluation of seven of our access to energy projects in Canada, China, Malaysia, Myanmar, Pakistan, the Philippines, and Tanzania.

Measure of success:
A key finding of the evaluation was that 74% of participants felt their quality of life was improved. We have also identified several areas where we need to do better, such as an improved feedback mechanism for communities.

Partner: citizens in neighbourhoods where Shell operates

Prioritisation:
(SR, p52) Our community skills and entrepreneurship programmes benefit local communities where we operate by creating employment opportunities and contributing to economic development, while adding value to our supply chain.

Methods of engagement and measure of success:
In 2021, around 26,700 people participated in and more than 700 businesses were supported by our skills development and entrepreneurship programmes.

Measure of success:
In 2021, our community skills programmes helped more than 1,300 people to gain employment immediately following the training.

(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
Other, please specify
Sustainability clauses in contracts

Description of this climate related requirement
(AR, p112) We continually work with our suppliers to find ways to reduce greenhouse gas emissions across our supply chains.
(AR, p108) We will include requirements in our purchasing policies to reflect our environmental framework, and take the energy efficiency, material efficiency and sustainability of products into consideration in our purchases.
Our suppliers are critical to our ability to run our businesses. They are involved in almost every step of our operations. They often play an important part in Shell having a positive impact on local communities and achieving business success. Shell aims to work with suppliers, including contractors, that behave in an economically, environmentally and socially responsible manner, as set out in our Shell General Business Principles and Shell Supplier Principles. The way we engage with our contractors and suppliers is based on our Shell Supplier Principles, which are embedded in contracts. They require contractors and suppliers: to commit to protect the environment in compliance with all applicable environmental laws and regulations; to use energy and natural resources efficiently; and to continually look for ways to minimise waste, emissions and discharge from their operations, products and services.

<table>
<thead>
<tr>
<th>% suppliers by procurement spend that have to comply with this climate-related requirement</th>
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<tr>
<th>% suppliers by procurement spend in compliance with this climate-related requirement</th>
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**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**
- Measuring product-level emissions

**Description of this climate related requirement**

Digital applications can help deliver efficiency. And in some cases that efficiency means lower fuel consumption. And therefore, lower emissions. In shipping, for example, we have successfully deployed digital solutions to improve the draft and trim of a vessel as well as optimise its arrival time at a port. Both have helped to reduce emissions. And in the world of road freight, we have tackled one of its major challenges – minimizing empty runs. In 2020, we invested in InstaFreight, a digital logistics leader in Germany.
We have now just engaged them to optimise our own lubricants supply chain in Europe. InstaFreight will organise the transportation of Shell lubricants from our blending plant in Germany to Shell warehouses all across Europe. They will optimise routes via road and rail transport. And we are looking for this technology solution to help us cut up to 50% of these transport CO₂ emissions.

% suppliers by procurement spend that have to comply with this climate-related requirement
40

% suppliers by procurement spend in compliance with this climate-related requirement
5

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: Accelerate decarbonization via supplier partnerships

Description of this climate related requirement
(AR, p85) We introduced a sector-based approach, so our businesses can help drive the decarbonisation of the sectors they cover such as aviation, commercial road transport, passenger transport, shipping, technology and industry. We will build on our existing relationships across each sector, with consumers, infrastructure owners, other suppliers and policymakers to help to accelerate change. A key theme running through the whole of our strategic approach to climate change is to work collaboratively. We aim to make strategic alliances with customers, other companies and entire sectors so we and they can make profitable progress towards net zero. For example, we are working with Swiss food and drinks group Nestlé to reduce emissions across the full cycle of their products, from increasing agricultural yields with high performance fertilisers, to providing renewable energy for the manufacturing process and providing low-carbon fuels for transport.

By the end of 2021, against a target of 150 suppliers to comply with this climate-related requirement, 35 suppliers have provided disclosures and are also registered in supplier relations management programme that represents about 8% by procurement spend.
More details at www.shell.com/media/news-and-media-releases/2021, e.g.:
Shell and Deutsche Telekom agree to advance digital innovation in pursuit of climate goals
Shell and Baker Hughes Sign Broad Collaboration Agreement to Accelerate Energy Transition, Achieve Net-Zero Emissions

% suppliers by procurement spend that have to comply with this climate-related requirement
0.01

% suppliers by procurement spend in compliance with this climate-related requirement
8

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
Climate-related disclosure through a non-public platform

Description of this climate related requirement
(AR, p112) In 2020, Shell and 50 of our major suppliers piloted a new digital platform, the Shell Supplier Energy Transition Hub. This platform enables suppliers to set emission targets and track performance, share best practice and exchange emissions data with their own supply chains. In 2021, we rolled out the platform free of charge to the rest of our supply chain and any other interested companies. By the end of 2021, against a target of 150 suppliers to comply with this climate-related requirement, 258 of our suppliers had joined the platform, 103 of which have already set emission reduction targets, which represents about 13% by procurement spend.

% suppliers by procurement spend that have to comply with this climate-related requirement
40
% suppliers by procurement spend in compliance with this climate-related requirement
13

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?

Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate
Yes, we engage directly with policy makers
Yes, we engage indirectly through trade associations
Yes, we engage indirectly by funding other organizations whose activities may influence policy, law, or regulation that may significantly 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)
Global Climate and Energy Transition Policy Positions
Global Climate and Energy Transition Policy Positions.pdf

Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy
We provide our Corporate Political Engagement Statement at www.shell.com/advocacy. This includes our principles for responsible lobbying that apply to all staff.
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. Our global climate and energy transition policy positions serve as a general global framework for our 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 provide examples of our advocacy at www.shell.com/advocacy.

Please note that information provided in this section is not an exhaustive list of Shell’s engagements with policy makers nor the trade associations. We may be engaging with policy makers also on policies, laws or regulations not listed in this section and we may be members of some other associations on CDP’s drop-down list, but since they are not included in our 2021 Industry Associations Climate Review these have not been included. Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that we support. Our latest detailed review in 2021 featured 36 key associations; we found “material misalignment” with one association, “some misalignment” with seven, and “alignment” with 28.

Information provided in C12.3b relates to 22 of these associations; these have been listed because they appear on the CDP drop-down list in C12.3b, or because we paid the association $500,000 or more in 2021, or we found “some misalignment” or “material misalignment” in our 2021 review. Our 2021 review used our 2020 climate-related policy positions as a review basis.

In 2022, we published an Industry Associations Climate Review Update. This is a progress update about associations where we identified misalignment in the 2021 review; we set out the actions taken by Shell, key changes in the associations’ positions and next steps. An update is planned for 2023.

(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?

Focus of policy, law, or regulation that may impact the climate
Climate-related targets

Specify the policy, law, or regulation on which your organization is engaging with policy makers
Green Deal / Fit-for-55 package

Policy, law, or regulation geographic coverage
Regional
**Country/region the policy, law, or regulation applies to**

Europe

**Your organization’s position on the policy, law, or regulation**

Support with minor exceptions

**Description of engagement with policy makers**

Shell advocated an ambitious Fit-for-55 (FF55) package, intended to set the EU on course to achieve its targets to reduce greenhouse gas emissions by 55% by 2030 and reach climate neutrality by 2050.

Shell supported a strengthened EU Emissions Trading System (ETS), aligned with the new EU climate goals, and a higher renewable energy target under the revised Renewable Energy Directive. We also advocated policies to accelerate sectoral decarbonisation, especially in sectors that are harder-to-abate such as aviation, shipping, commercial road transport and heavy industry. These include sectoral mandates for the use of renewable hydrogen in heavy industry and road transport under the Renewable Energy Directive, as well as sustainable aviation fuels under the proposed ReFuelEU Aviation regulation. Refer to our paper ‘Achieving sectoral decarbonisation under the EU Green Deal ‘Fit for 55 package’’: https://www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/advocacy-releases/_jcr_content/par/tabbedcontent/tab_902116744/textimage.stream/1624574590941/4c8e3fde14529abb4f62c4a446299e8db248316c/shell-contribution-to-eu-ff.pdf.

We worked with the news organisation POLITICO Europe to present three policy dialogues with EU policymakers on key aspects of the FF55 package. These events included public discussions on the decarbonisation of aviation, the role of hydrogen in heavy industry and transport, and a pathway for the EU to reach its climate neutrality target.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

**Details of exceptions (if applicable) and your organization’s proposed alternative approach to the policy, law or regulation**

Please refer to our positions on specific parts of the FF55 package in this CDP response and on our Advocacy Updates webpage: https://www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/advocacy-releases.html.

**Have you evaluated whether your organization’s engagement is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

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**Focus of policy, law, or regulation that may impact the climate**
Specify the policy, law, or regulation on which your organization is engaging with policy makers

US net-zero emissions by 2050 target

Policy, law, or regulation geographic coverage
National

Country/region the policy, law, or regulation applies to
United States of America

Your organization’s position on the policy, law, or regulation
Support with no exceptions

Description of engagement with policy makers
Shell has advocated in support of the Biden administration’s target of net-zero emissions by 2050. We have also supported calls for ambitious 2030 emission reductions in line with the Biden administration’s 2050 target.
For example, Shell signed the CEO Climate Dialogue letter to President Biden urging it to set an ambitious U.S. Nationally Determined Contribution that would ensure the country is on a path to achieve net-zero greenhouse gas emissions across the economy by 2050 with aggressive near and mid-term emission reductions commensurate with this goal (www.ceoclimatedialogue.org/ccd-urges-biden-admin-on-ndc).
We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Details of exceptions (if applicable) and your organization’s proposed alternative approach to the policy, law or regulation

Have you evaluated whether your organization’s engagement is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate
Emissions trading schemes

Specify the policy, law, or regulation on which your organization is engaging with policy makers
**International carbon markets policy framework**

**Policy, law, or regulation geographic coverage**

Global

**Your organization’s position on the policy, law, or regulation**

Support with no exceptions

**Description of engagement with policy makers**

Shell published updated climate and energy transition policy positions (www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/global-climate-and-energy-transition-policy-positions.html) that serve as a general global framework for Shell’s advocacy with governments, international organisations, industry associations, coalitions and other stakeholders globally, regionally and within countries. These include a position calling on policymakers to “put a direct price on carbon emissions as part of a broader policy framework to achieve net-zero emissions. The carbon price, whether through taxation, cap-and-trade or a hybrid system, should apply to as many sectors of the economy as possible and increase over time. Policies should be based on robust and transparent modelling of the impacts of carbon pricing on consumers and industry”. The positions also stated “promote greater international cooperation through systems that transfer carbon credits between countries. Ensure that international carbon credit transactions have environmental integrity by avoiding double counting across national inventories”.

Shell supported the development of international carbon markets through adoption of the rules for Article 6 of the Paris Agreement at COP26, including supporting advocacy by the International Emissions Trading Association and through our position on the Board of the World Bank’s Carbon Pricing Leadership Coalition (see www.linkedin.com/pulse/my-hopes-cop26-ben-van-beurden/).

Shell’s CEO chaired the 2021 B7 Climate & Biodiversity Working Group which called for the agreement and operationalisation of Article 6 (see www.linkedin.com/pulse/tackling-business-climate-change-ben-van-beurden/).

Shell co-chaired the working group that developed the International Chamber of Commerce’s Carbon Pricing Principles that were launched at COP26 (see https://iccwbo.org/publication/icc-carbon-pricing-principles/).

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

**Have you evaluated whether your organization’s engagement is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

**Focus of policy, law, or regulation that may impact the climate**
Emissions trading schemes

Specify the policy, law, or regulation on which your organization is engaging with policy makers

EU Emissions Trading System (EU ETS) update

Policy, law, or regulation geographic coverage
Regional

Country/region the policy, law, or regulation applies to
Europe

Your organization’s position on the policy, law, or regulation
Support with minor exceptions

Description of engagement with policy makers
Shell supports the reform of the EU ETS to align with the raised 2030 greenhouse gas emissions reduction target. Within the EU climate and energy policy framework, an effective ETS remains one of the key policy measures to deliver sectoral decarbonisation by cost-effectively reducing emissions across regulated sectors (www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/advocacy-releases). We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Details of exceptions (if applicable) and your organization’s proposed alternative approach to the policy, law or regulation

Have you evaluated whether your organization’s engagement is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned
Focus of policy, law, or regulation that may impact the climate
Methane emissions

Specify the policy, law, or regulation on which your organization is engaging with policy makers
Reinstatement of US federal regulation of methane emissions

Policy, law, or regulation geographic coverage
National

Country/region the policy, law, or regulation applies to
United States of America

Your organization’s position on the policy, law, or regulation
Support with no exceptions

Description of engagement with policy makers
Shell advocated the restoration of direct federal regulation of methane emissions from new or modified sources, which was signed into law in 2021. See our letter to policymakers: www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/advocacy-releases/_jcr_content/par/tabbedcontent/tab_902116744/textimage.stream/1635257040339/50054e7e9489cdaebae588db2c02ab1af2c84fcf/shell-letter-on-methane-april-2021.pdf
We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate
Methane emissions

Specify the policy, law, or regulation on which your organization is engaging with policy makers
**EU methane policy**

**Policy, law, or regulation geographic coverage**  
Regional

**Country/region the policy, law, or regulation applies to**  
Europe

**Your organization’s position on the policy, law, or regulation**  
Support with minor exceptions

**Description of engagement with policy makers**  
Shell expressed support for an ambitious and consistent policy framework covering the full range of methane emissions priorities as identified in the EU Methane Strategy, including measures applying to the global supply chain. Advocacy examples include our response to the inception impact assessment for the EU methane legislative act: https://www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/advocacy-releases/_jcr_content/par/tabbedcontent/tab_902116744/textimage.stream/1613063719034/239e9b4485cb96e598c3a106df4e0cd458f0c72b/shell-response-to-the-inception-impact-assessment-on-the-eu-proposal-for-a-legislative-act-to-reduce-methane-emissions-in-the-oil-gas-and-coal-sectors.pdf

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

**Details of exceptions (if applicable) and your organization’s proposed alternative approach to the policy, law or regulation**  
Please refer to Shell’s comments in our response to the inception impact assessment for the EU methane legislative act:  

**Have you evaluated whether your organization’s engagement is aligned with the goals of the Paris Agreement?**  
Yes, we have evaluated, and it is aligned
**Focus of policy, law, or regulation that may impact the climate**
New fossil fuel energy generation capacity

**Specify the policy, law, or regulation on which your organization is engaging with policy makers**
*Phase-out of unabated coal power generation*

**Policy, law, or regulation geographic coverage**
Global

**Your organization’s position on the policy, law, or regulation**
Support with minor exceptions

**Description of engagement with policy makers**
Shell published updated climate and energy transition policy positions (www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/global-climate-and-energy-transition-policy-positions.html#iframe=L3dlYmFwcHMvYWR2b2NhY3kv) that serve as a general global framework for Shell’s advocacy with governments, international organisations, industry associations, coalitions and other stakeholders globally, regionally and within countries. These include calling on governments and policymakers to end approval of investments in new unabated coal power generation and phase out unabated coal power generation by 2040, where feasible.

Our CEO chaired the B7 Climate & Biodiversity Working Group and called for G7 governments to set a target to phase out unabated coal power generation by 2040, where feasible. Further information is provided in this statement by our CEO: www.linkedin.com/pulse/tackling-business-climate-change-ben-van-beurden/?trackingId=J50Bf0jdQOaV6WKC5QVK9A%3D%3D

Our climate and energy transition policy positions also include calling on governments and policymakers to accelerate electrification using renewable and low-carbon power sources by unlocking both demand and supply. Demand-side policies should increase the ability for companies to sign power purchase agreements, support competitive markets for generation and supply, and increase demand including through incentives and standards. Supply-side policies should include carbon pricing, time-limited incentives to reduce the cost of new technologies, and transparent and timely environmental planning, permitting and grid connection regimes. We recognise natural gas and other low-carbon gases* as partners for renewable sources to offer reliable and flexible access to more and cleaner energy. We believe that natural gas policies should require abatement of carbon emissions, such as through carbon capture and storage and management of methane emissions.

* "Low-carbon gases" refers to biogas, biomethane, hydrogen made from renewable sources, hydrogen sourced from natural gas, and synthetic
We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

**Details of exceptions (if applicable) and your organization’s proposed alternative approach to the policy, law or regulation**

As per our climate and energy transition policy positions (www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/global-climate-and-energy-transition-policy-positions.html#frame=L3dIYmFwcHMvYWR2b2NhY3kv), we call on governments and policymakers to end approval of investments in new unabated coal power generation and phase out unabated coal power generation by 2040, where feasible.

**Have you evaluated whether your organization’s engagement is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

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**Focus of policy, law, or regulation that may impact the climate**

New fossil fuel energy generation capacity

**Specify the policy, law, or regulation on which your organization is engaging with policy makers**

UK government consultation on aligning UK international support for the clean energy transition

**Policy, law, or regulation geographic coverage**

National

**Country/region the policy, law, or regulation applies to**

United Kingdom of Great Britain and Northern Ireland

**Your organization’s position on the policy, law, or regulation**

Support with minor exceptions

**Description of engagement with policy makers**

Shell supported the ending of government funding for overseas fossil fuels projects, and a pivot to a focus on clean growth for trade promotion and diplomatic support. See Shell’s response to UK government consultation on aligning UK international support for the clean energy transition: www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/advocacy-
We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

### Details of exceptions (if applicable) and your organization’s proposed alternative approach to the policy, law or regulation


**Have you evaluated whether your organization’s engagement is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

### Focus of policy, law, or regulation that may impact the climate

Renewable energy generation

### Specify the policy, law, or regulation on which your organization is engaging with policy makers

**US Build Back Better Act – climate provisions, including renewables**

### Policy, law, or regulation geographic coverage

National

### Country/region the policy, law, or regulation applies to

United States of America

### Your organization’s position on the policy, law, or regulation

Support with minor exceptions

### Description of engagement with policy makers

We supported the inclusion of climate provisions, which include expanded tax credits for CCUS, the purchase of electric vehicles, and wind, solar and hydrogen production. An example of our advocacy is the joint letter with other companies to congressional leadership urging Congress to include the
Please also refer to the statement by the President of Shell Oil Company:
We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Details of exceptions (if applicable) and your organization’s proposed alternative approach to the policy, law or regulation

Have you evaluated whether your organization’s engagement is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate
Other, please specify: Clean energy infrastructure and technology

Specify the policy, law, or regulation on which your organization is engaging with policy makers
US infrastructure package

Policy, law, or regulation geographic coverage
National

Country/region the policy, law, or regulation applies to
United States of America

Your organization’s position on the policy, law, or regulation
Support with no exceptions
Description of engagement with policy makers

We stated support for the bipartisan infrastructure package. This includes billions of dollars for hydrogen hubs, carbon capture utilisation and storage (CCUS), clean energy infrastructure (including for electric vehicles) and a modernised power grid better able to support renewable electricity. Refer to the statement by the President of Shell Oil Company:www.linkedin.com/posts/gretchen-watkins_fact-sheet-historic-bipartisan-infrastructure-activity-6831369029920337920-HPeP

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate

Renewable energy generation

Specify the policy, law, or regulation on which your organization is engaging with policy makers

EU Renewable Energy Directive (RED II) review

Policy, law, or regulation geographic coverage

Regional

Country/region the policy, law, or regulation applies to

Europe

Your organization’s position on the policy, law, or regulation

Support with minor exceptions

Description of engagement with policy makers


Shell’s CEO co-signed a joint MEP-CEO letter to EU Commission President Ursula von der Leyen and EVP Frans Timmermans, urging the

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Details of exceptions (if applicable) and your organization’s proposed alternative approach to the policy, law or regulation


This includes the statement that the overall target should be increased to meet the EU’s -55% GHG target in 2030.

Have you evaluated whether your organization’s engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate

Renewable energy generation

Specify the policy, law, or regulation on which your organization is engaging with policy makers

EU Hydrogen and Gas Market Decarbonisation Package

Policy, law, or regulation geographic coverage

Regional

Country/region the policy, law, or regulation applies to

Europe

Your organization’s position on the policy, law, or regulation

Support with minor exceptions
Description of engagement with policy makers

Shell responded to the European Commission consultation on the Hydrogen and Gas Market Decarbonisation package:

This states that achieving climate neutrality in the EU by 2050 will require significant renewable electrification and energy efficiency. Decarbonised and renewable gases will play a key role in hard-to-abate sectors like chemicals, aviation, shipping, steel and heavy-duty trucking, and in replacing coal with gas in electricity generation.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Details of exceptions (if applicable) and your organization’s proposed alternative approach to the policy, law or regulation

Please refer to comments in our consultation response:

Have you evaluated whether your organization’s engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate

Renewable energy generation

Specify the policy, law, or regulation on which your organization is engaging with policy makers

UN Energy Compact – SDG 7

Policy, law, or regulation geographic coverage

Global

Your organization’s position on the policy, law, or regulation

Support with no exceptions
Description of engagement with policy makers
Support for SDG 7 through UN Energy compact commitment: www.un.org/en/energycompacts/page/registry#Shell

Have you evaluated whether your organization’s engagement is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate
Other, please specify: Sectoral decarbonisation policy to help achieve net-zero emissions by synchronising supply and demand, providing enabling infrastructure and supporting new business models

Specify the policy, law, or regulation on which your organization is engaging with policy makers
Sectoral decarbonisation policy to help achieve net-zero emissions

Policy, law, or regulation geographic coverage
Global

Your organization’s position on the policy, law, or regulation

Description of engagement with policy makers
Shell published updated climate and energy transition policy positions (www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/global-climate-and-energy-transition-policy-positions.html#iframe=L3dlYmFwcHMvYWR2b2NhY3kv) that include calling on governments and policymakers to “set binding targets to reach economy-wide net-zero emissions by 2050 or sooner and include interim targets for 2030 and 2040. These targets must be supported by strategies and plans to accelerate decarbonisation of key sectors of the economy”. These positions serve as a general global framework for Shell’s advocacy with governments, international organisations, industry associations, coalitions and other stakeholders globally, regionally and within countries.
Our policy positions reflect our belief that the world needs to rapidly decarbonise each of the key sectors that contribute to global emissions. In sectors that are harder to decarbonise, such as aviation, shipping, heavy industry and commercial road transport, governments need to help drive the transition to low- and zero-carbon energy. In these sectors we are calling for policies that create commercial markets for fuels such as sustainable aviation fuel, hydrogen and advanced biofuels.
In 2021, we launched a set of reports on decarbonising the marine, aviation and commercial road transport sectors, including key policy asks. See:
We have evaluated whether our organisation's engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate
Other, please specify: Decarbonised hydrogen policy initiatives

Specify the policy, law, or regulation on which your organization is engaging with policy makers
Sustainable Markets Initiative (SMI) and World Business Council for Sustainable Development (WBCSD) decarbonised hydrogen policy initiatives

Policy, law, or regulation geographic coverage
Global

Your organization’s position on the policy, law, or regulation
Support with no exceptions

Description of engagement with policy makers
These include a position calling on governments and policymakers to scale up energies and innovative technologies that will be key to decarbonising sectors that are hard to electrify, including decarbonised hydrogen, advanced biofuels and carbon capture, utilisation and storage (CCUS).


and


See also the rows above on EU Hydrogen and Gas Market Decarbonisation Package and US infrastructure package.

We have evaluated whether our organisation's engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

**Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

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**Focus of policy, law, or regulation that may impact the climate**

Other, please specify: Sustainable Aviation Fuels

**Specify the policy, law, or regulation on which your organization is engaging with policy makers**

ReFuelEU Aviation Regulation

**Policy, law, or regulation geographic coverage**

Regional

**Country/region the policy, law, or regulation applies to**

Europe

**Your organization’s position on the policy, law, or regulation**

Support with minor exceptions
Description of engagement with policy makers

Shell welcomed the Commission’s proposals for a SAF blending mandate and advocated for a higher SAF mandate by 2030 extended to cover i) recycled carbon fuels made from non-recyclable Municipal Solid Waste as a means to de-risk pathways to green synthetic aviation fuels, as well as ii) for a transition period, intermediate crops that meet the sustainability criteria and do not trigger demand for additional land or that are grown on degraded lands.


We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Details of exceptions (if applicable) and your organization’s proposed alternative approach to the policy, law or regulation

Please refer to Shell’s submission to the Commission consultation: www.shell.com/sustainability/transparency-and-sustainability-reporting/advocacy-and-political-activity/advocacy-releases/_jcr_content/par/tabbedcontent/tab/textimage.stream/1611048164161/d13ae9c9334d2667427d3dcde6cc68202e7a191b/refuel-aviation-shell-response-27102020.pdf

Have you evaluated whether your organization’s engagement 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 engages with which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

International Air Transport Association

Is your organization’s position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?

We are not attempting to influence their position
State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)

Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review assessed IATA against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted that IATA had stated:
- it welcomed the Paris Agreement
- ambition to cut aviation CO₂ emissions by half by 2050. It stated a position that although the pace will vary in different regions the aviation industry could achieve net-zero emissions a decade or so later, reflecting the fact that the industry does not yet have readily available solutions to decarbonise
- support for carbon pricing
- support for additional policies, such as on the deployment of sustainable low-carbon aviation fuels
- support for the use of carbon offsets and nature-based solutions within the Carbon Offsetting and Reduction Scheme for International Aviation framework, and for voluntary offsets.

The 2021 review noted that IATA had not stated a position on the role of natural gas or the management of methane emissions.

The 2021 review found ‘alignment’ with IATA; a progress update on IATA was therefore not provided in our 2022 Industry Associations Climate Review Update.

Please also refer to the organisation’s own disclosures such as its website.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

International Association of Oil and Gas Producers (IOGP)

Is your organization’s position on climate change consistent with theirs?
Consistent

Has your organization influenced, or is your organization attempting to influence their position?
We have already influenced them to change their position

State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)
Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.
Our 2021 Industry Associations Climate Review assessed IOGP against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.
The 2021 review noted that IOGP had stated:
- support for the goal of the Paris Agreement
- support for the EU Green Deal's target to achieve climate neutrality by 2050
- support for carbon pricing mechanisms
- support for additional policies, including energy efficiency and low-carbon liquids (biofuels and synthetic fuels).
- support for the role of natural gas in the energy transition and the importance of addressing methane emissions
- support for enabling policies for carbon capture, (use) and storage at scale and nature-based solutions.
The 2021 review found ‘alignment’ with IOGP; a progress update on IOGP was therefore not provided in our 2022 Industry Associations Climate Review Update.
Please also refer to the organisation’s own disclosures such as its website.
We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Trade association
Other, please specify: Oil and Gas Climate Initiative (OGCI)
Is your organization's position on climate change consistent with theirs?
Consistent

Has your organization influenced, or is your organization attempting to influence their position?
We have already influenced them to change their position

State the trade association's position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)
Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.
Our 2021 Industry Associations Climate Review assessed OGCI against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.
The 2021 review noted that OGCI had stated:
- support for the goal of the Paris Agreement,
- support for carbon pricing mechanisms,
- support for additional policies, including those that accelerate the reduction of operational emissions and the uptake of decarbonisation solutions in sectors such as industry, transport and buildings,
- support for the role of natural gas in the energy transition and the importance of addressing methane emissions,and
- support for carbon capture, utilisation and storage and nature-based solutions.

The 2021 review noted that OGCI had not taken a position on net-zero emissions.
The 2021 review found 'alignment' with OGCI; a progress update on OGCI was therefore not provided in our 2022 Industry Associations Climate Review Update.
Please also refer to the organisation’s own disclosures such as its website.
We have evaluated whether our organisation's engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned
Trade association

American Chemistry Council

Is your organization’s position on climate change consistent with theirs?
Consistent

Has your organization influenced, or is your organization attempting to influence their position?
We publicly promote their current position

State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)

Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review assessed ACC against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted that ACC had stated positions in support of:
- the goals of the Paris Agreement
- carbon pricing
- additional policies
- the role of gas in the energy transition
- carbon capture, utilisation and storage.

The 2021 review noted that ACC had not stated a position on the regulation of methane emissions or nature-based solutions.

The 2021 review found ‘alignment’ with ACC; a progress update on ACC was therefore not provided in our 2022 Industry Associations Climate Review Update.

Please also refer to the organisation’s own disclosures such as its website.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

**Trade association**

American Petroleum Institute

**Is your organization’s position on climate change consistent with theirs?**

Mixed

**Has your organization influenced, or is your organization attempting to influence their position?**

We are attempting to influence them to change their position

**State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)**

Our Industry Association Climate Reviews assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review (IACR) assessed API against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted API had stated support for: ambitions of the Paris Agreement; carbon pricing; development of cost-effective technologies to reduce emissions; support for the role of gas in the energy transition and direct regulation of methane emissions; and development and deployment of CCUS.

The 2021 review noted API had not stated a position on net-zero emissions or nature-based solutions and it found ‘some misalignment’ with API. API was included in our 2022 IACR Update which included:

- **Action taken by Shell (since 2021 review):** We urged API to engage in sustained and strong climate advocacy. We engaged with API on our updated global climate and energy transition policy positions.
- **Key changes in API’s climate positions (since 2021 review):** We believe that API engaged more positively on climate and energy transition policies. API stated its support for the direct regulation of methane emissions under the Clean Air Act. In 2021, API did not support the methane fee proposal in the US budget bill. API stated that the proposal duplicated the methane regulations of the Clean Air Act. Shell also has concerns about the proposed methane fee as written; we have signalled support for a well-designed methane fee.
- **Next steps:** Shell will remain a member of API at the current time. We will continue to engage with the association in areas where we have different
views. We will encourage API to support the positions that we support in our latest global climate and energy transition policy positions. We will continue to encourage API to engage in sustained and strong climate advocacy. We will continue to track alignment between API’s positions and our own and will be transparent about where we find differences.

Please also refer to the organisation’s own disclosures.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

**Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

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**Trade association**

Other, please specify: **Electric Power Supply Association (EPSA)**

**Is your organization’s position on climate change consistent with theirs?**

Mixed

**Has your organization influenced, or is your organization attempting to influence their position?**

We are attempting to influence them to change their position

**State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)**

Our Industry Association Climate Reviews assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review (IACR) assessed EPSA against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition, carbon sinks.

The 2021 review noted EPSA had stated support for efforts to combat climate change; carbon pricing; policies to increase electrification, to encourage low-cost emission reductions from all sectors; competitive markets that can deliver cleaner and more affordable power to consumers; it notes natural gas as the most cost-effective resource to support power grid reliability in a lower-carbon future.

The 2021 review noted EPSA had not stated a position on the Paris Agreement, net-zero emissions, carbon sinks and it found ‘some misalignment’
with EPSA.
EPSA was included in our 2022 IACR Update. It stated:
Action taken by Shell (since 2021 review): We urged EPSA to support the goal of the Paris Agreement and engaged with EPSA on our updated global climate and energy transition policy positions.
Key changes in the industry association’s climate positions since our 2021 review: EPSA’s advocacy focuses on power markets. Its policy principles state support for “efforts to combat climate change through transparent, open, and non-discriminatory competitive markets”. Although it has not stated support for the Paris Agreement’s goal, EPSA’s power market advocacy is based on the assumption that the energy transition is taking place; its advocacy includes explaining how power markets can contribute to achieving net-zero emissions.
Next steps: We will remain a member of EPSA at the current time and continue to engage with the association in areas where we have different views. We will encourage EPSA to support the positions that we support in our latest global climate and energy transition policy positions. We will continue to track alignment between EPSA’s positions and our own, and will be transparent about where we find differences.
Please also refer to the organisation’s own disclosures.
We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

**Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?**
Yes, we have evaluated, and it is aligned

**Trade association**

**National Association of Manufacturers**

**Is your organization’s position on climate change consistent with theirs?**
Mixed

**Has your organization influenced, or is your organization attempting to influence their position?**

We are attempting to influence them to change their position

**State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)**
Our Industry Association Climate Reviews assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review assessed NAM against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted that NAM had stated support for:
- the objectives of the Paris Agreement,
- market signals to be adopted to reduce greenhouse gas emissions,
- additional policies, including the need for policymakers to prioritise immediate investment in energy efficiency, climate and clean energy R&D programmes and the development of a smart power grid,
- support for the role of gas in the energy system,
- support for incentives for carbon capture, utilisation and storage, and
- policies that promote sustainable climate-smart land use and carbon offsets that achieve verifiable, permanent and effective emission reductions.

The 2021 review noted that NAM had not stated a position on net-zero emissions, carbon pricing or regulating methane emissions.

The 2021 review found ‘some misalignment’ with NAM.

NAM was included in our 2022 Industry Associations Climate Review Update. This stated that:

• Action taken by Shell (since 2021 review): We urged NAM to state support for carbon pricing. We engaged with NAM on our updated global climate and energy transition policy positions.

• Key changes in the industry association’s climate positions (since our 2021 review): NAM has not stated support for carbon pricing. NAM updates its policy positions on a four-year cycle (last updated in 2020).

• Next steps: Shell will remain a member of NAM at the current time. We will continue to engage the association in areas where we have different views. We will encourage NAM to support the positions that we support in our latest global climate and energy transition policy positions. We will continue to track alignment between NAM’s positions and our own, and will be transparent about where we find differences.

Please also refer to the organisation’s own disclosures such as its website.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned
Trade association

Solar Energy Industries Association (SEIA)

Is your organization’s position on climate change consistent with theirs?
Consistent

Has your organization influenced, or is your organization attempting to influence their position?
We publicly promote their current position

State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)

Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review assessed SEIA against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted that SEIA had stated support for:
- the goal of the Paris Agreement
- carbon pricing
- additional policies, including the development of energy storage, electric vehicle charging infrastructure, wind power and other technologies that will transform the energy system
- an electricity portfolio of clean energy sources and technologies.

The 2021 review noted that SEIA had not stated a position on net-zero emissions or carbon sinks.

The 2021 review found ‘alignment’ with SEIA; a progress update on SEIA was therefore not provided in our 2022 Industry Associations Climate Review Update.

Please also refer to the organisation’s own disclosures such as its website.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned
Trade association
Other, please specify: Texas Oil & Gas Association (TXOGA)

Is your organization’s position on climate change consistent with theirs?
Mixed

Has your organization influenced, or is your organization attempting to influence their position?
We are attempting to influence them to change their position

State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)

Our Industry Association Climate Reviews assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review (IACR) assessed TXOGA against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted that TXOGA had stated:
- action required on climate change
- support for the role of gas in the energy system, including as a lower-carbon partner for renewables. TXOGA promotes practices to minimise flaring and methane emissions in Texas
- support for CCS.

The 2021 review noted TXOGA had not stated a position on the Paris Agreement, net-zero emissions, carbon pricing, additional policies or nature-based solutions. The 2021 review found ‘some misalignment’ with TXOGA. TXOGA was included in our 2022 IACR Update. It stated:

Action taken by Shell (since 2021 review): We encouraged TXOGA to develop and publish a climate policy that includes support for the goal of the Paris Agreement and carbon pricing. We engaged with TXOGA on our updated global climate and energy transition policy positions.

Key changes in the association’s climate positions (since our 2021 review): TXOGA published a climate statement that states it “seeks to be part of the solution to climate change” and that it supports “public policy that recognizes oil and natural gas are indispensable, facilitates meaningful GHG emissions reductions, and balances economic, environmental, energy and national security needs while promoting innovation”.

Next steps: Shell will remain a member of TXOGA at the current time, with a particular focus on CCS. We will increase our engagement with TXOGA
to encourage it to support the goal of the Paris Agreement and net-zero emissions. We will also encourage TXOGA to support other positions that we support in our latest global climate and energy transition policy positions. We will continue to track alignment between TXOGA’s positions and our own and will be transparent about where we find differences. Please also refer to organisation’s own disclosures.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Trade association
US Chamber of Commerce

Is your organization’s position on climate change consistent with theirs?
Mixed

Has your organization influenced, or is your organization attempting to influence their position?
We are attempting to influence them to change their position

State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)
Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.
Our 2021 Industry Associations Climate Review assessed USC against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.
The 2021 review noted that USC had stated support for:
- US participation in the Paris Agreement
- market-based approach to accelerate GHG emission reductions across the US economy.
- additional policies
the role of natural gas in the energy system and the direct regulation of methane emissions
- carbon capture, utilisation and storage.
The 2021 review noted that USC had not stated a position on net-zero emissions, carbon pricing or nature-based solutions.
The 2021 review found ‘some misalignment’ with USC. USC was included in our 2022 Industry Associations Climate Review Update. This stated:
• Action taken by Shell (since 2021 review): We urged USC to state support for carbon pricing. We engaged with USC on our updated global climate and energy transition policy positions.
• Key changes in the industry association’s climate positions (since our 2021 review): USC has stated support for the direct regulation of methane emissions, under very strict conditions, in its climate position and advocacy. USC continues to support a market-based approach to accelerate the reduction of greenhouse gas emissions across the economy. It has not explicitly stated a position in support of carbon pricing.
• Next steps: Shell will remain a member of USC at the current time. We will continue to engage with the association in areas where we have different views. We will encourage USC to support the positions that we support in our latest global climate and energy transition policy positions. We will continue to track alignment between USC’s positions and our own and will be transparent about where we find differences.
Please also refer to the organisation’s own disclosures such as its website.
We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Trade association
Other, please specify: Western States Petroleum Association (WSPA)

Is your organization’s position on climate change consistent with theirs?
Consistent

Has your organization influenced, or is your organization attempting to influence their position?
State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)

Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review assessed WSPA against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted that WSPA had stated support for:
- the goals of the Paris Agreement
- carbon pricing
- additional technology-neutral policies that encourage a wide variety of low-carbon solutions
- role of natural gas in the energy system. It has highlighted the role of the industry in advancing renewable energy
- carbon capture and storage.

The 2021 review noted that WSPA had not stated a position on net-zero emissions or nature-based solutions.

The 2021 review found ‘alignment’ with WSPA; a progress update on WSPA was therefore not provided in our 2022 Industry Associations Climate Review Update.

Please also refer to the organisation’s own disclosures such as its website.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Canadian Association of Petroleum Producers

Is your organization’s position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?
We have already influenced them to change their position

**State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)**

Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review assessed CAPP against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted that CAPP had stated:
- support for the goal of the Paris Agreement
- support for the Canadian government’s target to achieve net-zero emissions by 2050
- that carbon pricing mechanisms, when implemented properly, can be an effective means to reduce emissions
- support for additional policies that lower greenhouse gas emissions and improve the efficiency of existing production facilities, including research and development and innovation
- support for the use of international and domestic carbon offsets, such as nature-based solutions and carbon capture, utilisation and storage.

The 2021 review found ‘alignment’ with CAPP; a progress update on CAPP was therefore not provided in our 2022 Industry Associations Climate Review Update.

Please also refer to the organisation’s own disclosures such as its website.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

**Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

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**Trade association**

*BusinessEurope*

**Is your organization’s position on climate change consistent with theirs?**

Consistent
Has your organization influenced, or is your organization attempting to influence their position?
We have already influenced them to change their position.

State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)

Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review assessed BusinessEurope against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted that BusinessEurope had stated support for:
- the goal of the Paris Agreement
- EU Green Deal target to achieve climate neutrality by 2050
- the EU Emissions Trading System as “a cornerstone of the EU’s climate policy”
- additional policies to achieve net-zero emissions
- role of gas and low-carbon gases in the energy transition
- carbon capture and storage.

The 2021 review noted that BusinessEurope had not stated a position on methane emissions regulation or nature-based solutions.

The 2021 review found ‘alignment’ with BusinessEurope; a progress update on BusinessEurope was therefore not provided in our 2022 Industry Associations Climate Review Update.

Please also refer to the organisation’s own disclosures such as its website.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association
European Chemical Industry Council (CEFIC)
Is your organization's position on climate change consistent with theirs?
Consistent

Has your organization influenced, or is your organization attempting to influence their position?
We have already influenced them to change their position

State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)

Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review assessed Cefic against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted that Cefic had stated support for:
- the goal of the Paris Agreement;
- EU Green Deal target to achieve climate neutrality by 2050;
- carbon pricing;
- electricity market reform and collaboration across industrial sectors, as well as a resource efficient, circular and low-carbon economy; it also stated support for policies on electrification, energy efficiency and low-carbon technologies;
- the use of natural gas to help the transition to renewable energies and low-carbon electrification; it has stated positions that advocate the use of lower-carbon gases, including hydrogen and biomethane; it has stated support for policies to reduce methane emissions to reach the EU’s climate targets and contribute to the EU’s zero-pollution ambition;
- recycling carbon from carbon dioxide and industrial waste gases as a means for the chemical industry to reduce the environmental footprint of chemicals and polymers; this is aligned with Shell’s position on the role of carbon capture, utilisation and storage. Cefic has also stated support for access to natural sinks as a way for the chemical industry to mitigate its emissions, accompanied by solid accounting systems.

The 2021 review found ‘alignment’ with Cefic; a progress update on Cefic was therefore not provided in our 2022 Industry Associations Climate Review Update.

Please also refer to the organisation’s own disclosures such as its website.
We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.
Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
   Yes, we have evaluated, and it is aligned

Trade association
   European Roundtable of Industrialists (ERT)

Is your organization’s position on climate change consistent with theirs?
   Consistent

Has your organization influenced, or is your organization attempting to influence their position?
   We have already influenced them to change their position

State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)
   Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.
   Our 2021 Industry Associations Climate Review assessed European Round Table for Industry (ERT) against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks. The 2021 review noted that ERT had stated support for:
   - the goal of the Paris Agreement
   - support for EU Green Deal target to achieve climate neutrality by 2050
   - carbon pricing
   - additional policies to achieve net-zero emissions, including energy efficiency, electrification, a sectoral approach and support for low-carbon technologies
   - low-carbon gases, including hydrogen and biomethane, and the role of natural gas as a transitional energy source, alongside renewables
   - carbon capture, utilisation and storage.
   The 2021 review noted that ERT had not stated a position on methane emissions regulation or nature-based solutions.
   The review found 'alignment' with ERT; a progress update on ERT was therefore not provided in our 2022 Industry Associations Climate Review.
Update.
Please also refer to the organisation's own disclosures such as its website.
We have evaluated whether our organisation's engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

**FuelsEurope**

Is your organization’s position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?

We have already influenced them to change their position

State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)

Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review assessed FuelsEurope against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted that FuelsEurope had stated support for:
- the goal of the Paris Agreement
- support for EU Green Deal target to achieve climate neutrality by 2050
- EU Emissions Trading System
- energy efficiency and targeted policy support for pre-commercial low-carbon fuels
- carbon sinks such as carbon capture, utilisation and storage.
The 2021 review noted that FuelsEurope had not stated a position on the role of natural gas in the energy transition or nature-based solutions. The 2021 review found ‘alignment’ with FuelsEurope; a progress update on FuelsEurope was therefore not provided in our 2022 Industry Associations Climate Review Update.
Please also refer to the organisation’s own disclosures such as its website.
We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

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**Trade association**

**WindEurope**

Is your organization’s position on climate change consistent with theirs?
Mixed

Has your organization influenced, or is your organization attempting to influence their position?
We are attempting to influence them to change their position

State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)

Our Industry Association Climate Reviews assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review (IACR) assessed WindEurope against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted that WindEurope had stated support for:
- the goal of the Paris Agreement
- EU Green Deal’s target to achieve climate neutrality by 2050
- EU Emissions Trading System
- policy frameworks that improve energy efficiency and increase electrification, including the harder-to-abate transport and industrial sectors.
- policies to foster renewable hydrogen in hard-to-abate sectors; a long-term goal of 100% renewable energy; direct use of renewable electricity whenever it is available and wherever possible across all sectors of the economy
- deployment of renewables and the expansion of power grid infrastructure and green hydrogen; in this context, WindEurope has stated that the transition to net-zero emissions should not be based on strong assumptions about the role of carbon capture and storage, land use, land use change and forestry or other carbon sinks.

The 2021 review found ‘some misalignment’ with WindEurope.

WindEurope was included in our 2022 IACR Update. It included:

• Action taken by Shell (since 2021 review): Shell engaged with WindEurope about the role of carbon sinks in the transition to net-zero emissions. We engaged with WindEurope on our updated global climate and energy transition policy positions.
• Key changes in WindEurope’s climate positions (since 2021 review): WindEurope has not updated its published statements on carbon sinks.
• Next steps: Shell will remain a member of WindEurope. We will encourage them to support the positions that we support in our latest global climate and energy transition policy positions. We will continue to track alignment between WindEurope's positions and our own, and will be transparent about where we find differences.

Please also refer to the organisation’s own disclosures such as its website.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

**Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

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**Trade association**

**Confederation of British Industry (CBI)**

**Is your organization’s position on climate change consistent with theirs?**

Consistent

**Has your organization influenced, or is your organization attempting to influence their position?**

We have already influenced them to change their position
State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)

Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review assessed CBI against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted that CBI had stated support for:
- the goal of the Paris Agreement
- the UK’s net-zero emissions target
- carbon pricing
- policy frameworks across a range of technologies to deliver the UK’s net-zero target
- carbon capture and storage to help achieve net-zero emissions.

The 2021 review noted that CBI has not taken a public position on the role of natural gas in the energy transition, methane emissions management or nature-based solutions.

The 2021 review found ‘alignment’ with CBI; a progress update on CBI was therefore not provided in our 2022 Industry Associations Climate Review Update.

Please also refer to the organisation’s own disclosures such as its website.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

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Trade association

Other, please specify: Vereniging Nederlandse Petroleum Industrie (VNPI)

Is your organization’s position on climate change consistent with theirs?

Consistent
Has your organization influenced, or is your organization attempting to influence their position?
We have already influenced them to change their position

State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)
Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.
Our 2021 Industry Associations Climate Review assessed VNPI against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.
The 2021 review noted that VNPI had stated support for:
- the goal of the Paris Agreement
- the EU Green Deal’s target of achieving climate neutrality by 2050
- the EU Emissions Trading System (EU ETS). It has also stated support for the Netherlands’ CO₂ pricing instrument, provided it does not undermine the EU ETS or lead to carbon leakage to other countries
- national industrial energy efficiency policy and facilitates industry consultation on innovation subsidies
- VNPI has stated support for biofuels development as an alternative for liquid energy carriers
- carbon capture and storage.
The 2021 review noted that VNPI has not taken a public position on the role of natural gas in the energy transition, methane emissions management or nature-based solutions.
The 2021 review found ‘alignment’ with VNPI; a progress update on VNPI was therefore not provided in our 2022 Industry Associations Climate Review Update.
Please also refer to the organisation’s own disclosures such as its website.
We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned
Trade association

**Business Council of Australia**

Is your organization’s position on climate change consistent with theirs?
Consistent

Has your organization influenced, or is your organization attempting to influence their position?
We publicly promote their current position

State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)

Our Industry Association Climate Reviews (www.shell.com/industryassociations) assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review assessed BCA against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted that BCA had stated support for:
- the Paris Agreement
- transitioning to net-zero by 2050
- a market-based carbon price to drive the transition and incentivise investment in low- and zero-emission technologies
- policies to enable deployment of energy efficiency technologies, technology-neutral approach to the energy mix
- natural gas to replace coal as part of the energy transition; also stated support for a role for renewables and low-carbon gases, including biomethane and hydrogen produced by electrolysis
- use of carbon sinks.

The 2021 review found ‘alignment’ with BCA; a progress update on BCA was therefore not provided in our 2022 Industry Associations Climate Review Update.

Please also refer to the organisation’s own disclosures such as its website.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

**Trade association**
Other, please specify: **Chamber of Minerals and Energy of Western Australia (CME)**

**Is your organization’s position on climate change consistent with theirs?**
Mixed

**Has your organization influenced, or is your organization attempting to influence their position?**
We are attempting to influence them to change their position

**State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)**

Our Industry Association Climate Reviews assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed report was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review (IACR) assessed CME against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted that CME had stated support for:
- the goal of the Paris Agreement
- market-based mechanisms across the whole economy to achieve abatement at the lowest cost, but does not explicitly advocate putting a price on carbon
- electrification of the energy system and development of Western Australia’s hydrogen economy
- Australia’s liquefied natural gas industry and for the Western Australia government’s Renewable Hydrogen Strategy
- CCS and the creation of internat. markets for trading certified and credible carbon offsets and initiatives

The 2021 review noted that CME had not stated a position on net-zero emissions or methane emissions management.

The 2021 review found ‘some misalignment’ with CME. CME was included in our 2022 IACR Update. It stated:

**Action taken by Shell (since 2021 review):** We urged CME to update its climate policy. We engaged with CME on our updated global climate and energy transition policy positions.

**Key changes in the industry association’s climate positions (since 2021 review):** CME published its updated climate policy, which includes a statement
of support for "reducing emissions to net zero as soon as possible and no later than 2050", and that CME will advocate "a transparent price signal across the whole economy and promotion of lowest cost abatement, leveraging existing mechanisms where possible, and appropriately considering the international competitiveness of trade exposed industries".

Next steps: Shell will remain a member of CME at the current time. We will engage with the association in areas where we have different views. We will encourage CME to support the positions that we support in our latest global climate and energy transition policy positions. Please also refer to the organisation’s own disclosures such as its website.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

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**Trade association**

**Queensland Resources Council (QRC)**

Is your organization’s position on climate change consistent with theirs?
Mixed

Has your organization influenced, or is your organization attempting to influence their position?
We are attempting to influence them to change their position

State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)

Our Industry Association Climate Reviews assess alignment between the positions that key industry associations support and those that Shell supports. Our last detailed review was in 2021. In 2022, we published a progress update about associations where we identified misalignment in the 2021 review.

Our 2021 Industry Associations Climate Review (IYCR) assessed QRC against Shell’s 2020 climate-related policy positions that included support for the Paris Agreement, net-zero emissions, carbon pricing, additional policies, energy transition and carbon sinks.

The 2021 review noted that QRC had stated support for:
- global action on climate change
- “an integrated national suite of stable market-based policies that prioritise least cost abatement of GHG emissions”
- QRC has stated support for a role for coal and gas in the energy mix, alongside renewable energy.
- QRC has stated support for a role for CCS in coal- and gas-fired power generation.

The 2021 review noted that QRC had not stated a position on net-zero emissions, carbon pricing, methane emissions or nature-based solutions.

The 2021 review found ‘material misalignment’ with QRC.

QRC was included in our 2022 IACR Update. It stated:

- Action taken by Shell (since 2021 review): Shell urged QRC to update its position on energy and climate change.
- Key changes in the industry association’s climate positions (since our 2021 review): QRC published its updated energy and climate policy. This includes stating support for the goal of the Paris Agreement and net-zero emissions by 2050; support for “market-based policies to meet emission-reduction goals” that “deliver a clear, predictable and long-term price signal to enable investment in new generation and also to research and deploy the full range of low and zero-emission technologies”; support for “investments in fuel switching to lower emissions energy sources”; confirmation that “QRC does not advocate investment in new domestic unabated coal-fired power generation”.
- Next steps: Shell will remain a member of QRC at the current time. We will continue to engage with the association in areas where we have different views. We will encourage QRC to support the positions that we support in our latest global climate and energy transition policy positions.

Please also refer to the organisation’s own disclosures such as its website.

We have evaluated whether our organisation’s engagement is aligned with the goals of the Paris Agreement, and we believe that it is.

**Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

(C12.3c) Provide details of the funding you provided to other organizations in the reporting year whose activities could influence policy, law, or regulation that may impact the climate.

**Type of organization**

**State the organization to which you provided funding**

**Funding figure your organization provided to this organization in the reporting year (currency as selected in C0.4)**
Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate

Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?

(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-2021.pdf

Page/Section reference
Across the document, e.g., in sections: OUR STRATEGY, p12ff; OUTLOOK FOR 2021 AND BEYOND, p15; RISK FACTORS, p22; PERFORMANCE INDICATORS - SAFETY AND ENVIRONMENT, p36; OUR CLIMATE TARGET, p89ff; CLIMATE CHANGE AND ENERGY TRANSITION, p75-98; GOVERNANCE FRAMEWORK, p135ff; DIRECTORS' REMUNERATION REPORT, 189ff.

Content elements
Governance, Strategy, Risks & opportunities, Emissions figures, Emission targets, Other metrics

Comment

Publication
In voluntary sustainability report

Status
Complete

**Attach the document**
- [shell-sustainability-report-2021.pdf](#)

**Page/Section reference**
Across the document, e.g., in sections: OUR CLIMATE TARGET, p21ff; PROVIDING ACCESS TO ENERGY, p49; OUR POWERING PROGRESS TARGETS, p67; OUR PERFORMANCE DATA, p89ff.

**Content elements**
- Governance, Strategy, Risks & opportunities, Emissions figures, Emission targets, Other metrics

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**Publication**
In voluntary communications

**Status**
Complete

**Attach the document**
- [shell-energy-transition-progress-report-2021.pdf](#)

**Page/Section reference**
Shell Energy Transition Progress Report 2021: [https://www.shell.com/investors/annual-general-meeting/_jcr_content/par/textimage_d70a_copy.stream/1618407326759/7c3d5b317351891d2383b3e9f1e511997e516639/shell-energy-transition-strategy-2021.pdf](https://www.shell.com/investors/annual-general-meeting/_jcr_content/par/textimage_d70a_copy.stream/1618407326759/7c3d5b317351891d2383b3e9f1e511997e516639/shell-energy-transition-strategy-2021.pdf)
- Whole document on energy transition strategy.

**Content elements**
- Governance, Strategy, Risks & opportunities
C15. Biodiversity

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?
<table>
<thead>
<tr>
<th>Board-level oversight and/or executive management-level responsibility for biodiversity-related issues</th>
<th>Description of oversight and objectives relating to biodiversity</th>
</tr>
</thead>
</table>
| Yes, both board-level oversight and executive management-level responsibility | Sustainability Governance  
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.  

(AR, p152) Safety, Environment and Sustainability Committee:  
The Committee supported and contributed to the announcement of Shell’s Powering Progress strategy in 2021. This included a series of targets and commitments under the goals of achieving net-zero emissions, respecting nature, and powering lives.

Powering Progress strategy’s element BIODIVERSITY comprises:  
- Our ambition is to have a positive impact on biodiversity  
- Our Respecting Nature commitments  
- Our nature-based solutions projects, which protect, transform or restore land, will have a net positive impact [2] on biodiversity, starting implementation in 2021.  
We will replant forests, achieving net-zero deforestation [3] from new activities, while maintaining biodiversity and conservation value, starting implementation in 2022.  

[1, 2, 3] explanations see at www.shell.com/sustainability/environment/biodiversity.html#  

Find more information on executive management-level responsibility in our Shell Sustainability Report 2021, chapter OUR |
### APPROACH TO RESPECTING NATURE.
Accountability for delivery of this goal lies with our Executive Committee.

<table>
<thead>
<tr>
<th>(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity</td>
</tr>
<tr>
<td>Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity</td>
</tr>
<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(C15.3) Does your organization assess the impact of its value chain on biodiversity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does your organization assess the impact of its value chain on biodiversity?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you taken any actions in the reporting period to progress your biodiversity-related commitments?</td>
</tr>
<tr>
<td>Yes, we are taking actions to progress our biodiversity-related commitments</td>
</tr>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>(C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does your organization use indicators to monitor biodiversity performance?</td>
</tr>
</tbody>
</table>
(C15.6) 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).

<table>
<thead>
<tr>
<th>Report type</th>
<th>Content elements</th>
<th>Attach the document and indicate where in the document the relevant biodiversity information is located</th>
</tr>
</thead>
<tbody>
<tr>
<td>In mainstream financial reports</td>
<td>Content of biodiversity-related policies or commitments Governance</td>
<td>Annual Report and Accounts 2021&lt;br&gt;Section Environment &amp; Society: Environment, p106&lt;br&gt;Environmental standards, p106&lt;br&gt;Biodiversity, p107&lt;br&gt;Respecting Nature / commitments, p108&lt;br&gt;Board oversight for sustainability, p100 and 135</td>
</tr>
<tr>
<td>In voluntary sustainability report or other voluntary communications</td>
<td>Content of biodiversity-related policies or commitments Biodiversity strategy</td>
<td>Sustainability Report 2021&lt;br&gt;Section Respecting Nature, p41&lt;br&gt;Protecting diversity, p42&lt;br&gt;Targets, p67</td>
</tr>
<tr>
<td>Other, please specify Shell.com website</td>
<td>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)</td>
<td><a href="http://www.shell.com/sustainability/environment">www.shell.com/sustainability/environment</a>: Respecting nature Biodiversity Biodiversity in action Environmentally sensitive areas Environmental and social partners Nature based solutions Impact assessment</td>
</tr>
</tbody>
</table>
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.

Cautionary note

The companies in which Shell plc directly and indirectly owns investments are separate legal entities. In this report “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 report 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.

FORWARD-LOOKING STATEMENTS

This report 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 report, including (without limitation): (a) price fluctuations in crude oil and natural gas; (b) changes in demand for Shell’s products; (c) currency fluctuations; (d) drilling and production results; (e) reserves estimates; (f) loss of market share and industry competition; (g) environmental and physical risks; (h) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation
and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, judicial, fiscal and regulatory developments including regulatory measures addressing climate change; (k) economic and financial market conditions in various countries and regions; (l) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; (m) risks associated with the impact of pandemics, such as the COVID-19 (coronavirus) outbreak; and (n) changes in trading conditions. No assurance is provided that future dividend payments will match or exceed previous dividend payments. The contents of websites referred to in this report do not form part of this report. All forward-looking statements contained in this report are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Additional risk factors that may affect future results are contained in Shell plc’s Form 20-F for the year ended December 31, 2021 (available at www.shell.com/investor and www.sec.gov). These risk factors also expressly qualify all forward-looking statements contained in this report and should be considered by the reader. Each forward-looking statement speaks only as of the date of this report, July 26, 2022. 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 report.

SHELL’S NET CARBON FOOTPRINT
Also, in this report we may refer to Shell’s “Net Carbon Footprint” or “Net Carbon Intensity”, which include Shell’s carbon emissions from the production of our energy products, our suppliers’ carbon emissions in supplying energy for that production and our customers’ carbon emissions associated with their use of the energy products we sell. Shell only controls its own emissions. The use of the term Shell’s “Net Carbon Footprint” or “Net Carbon Intensity” are for convenience only and not intended to suggest these emissions are those of Shell plc or its subsidiaries.

SHELL’S NET-ZERO EMISSIONS TARGET
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 Footprint (NCF) targets over the next ten years. However, Shell’s operating plans cannot reflect our 2050 net-zero emissions target and 2035 NCF 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.

FORWARD LOOKING NON-GAAP MEASURES
This report 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 report do not form part of this report. We may have used certain terms, such as resources, in this report 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.

ADDITIONAL INFORMATION

As used in this Report, "Accountable" is intended to mean: required or expected to justify actions or decisions. The Accountable person does not necessarily implement the action or decision (implementation is usually carried out by the person who is Responsible) but must organise the implementation and verify that the action has been carried out as required. This includes obtaining requisite assurance from Shell companies that the framework is operating effectively. "Responsible" is intended to mean: required or expected to implement actions or decisions. Each Shell company and Shell-operated venture is responsible for its operational performance and compliance with the Shell General Business Principles, Code of Conduct, Statement on Risk Management and Risk Manual, and Standards and Manuals. This includes responsibility for the operationalisation and implementation of Shell Group strategies and policies. CO₂ compensation does not imply that there is no environmental impact from the production and use of the product as associated emissions remain in the atmosphere. CO₂ compensation is not a substitute for switching to lower emission energy solutions or reducing the use of fossil fuels. Shell businesses focus first on emissions that can be avoided or reduced and only then, compensate the remaining emissions. "Carbon neutral" or "CO₂ compensated" indicates that Shell will engage in a transaction where an amount of CO₂ equivalent to the value of the remaining CO₂e emissions associated with the raw material extraction, transport, production, distribution and usage /end-of-life (if Lubricants or other non-energy product) of the product are compensated through the purchase and retirement of carbon credits generated from CO₂ compensation projects. Although these carbon credits have been generated in accordance with international carbon standards, the compensation may not be exact. CO₂e (CO₂ equivalent) refers to CO₂, CH4, N2O.

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

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<thead>
<tr>
<th>Job title</th>
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<td>Chief Executive Officer</td>
<td>Chief Executive Officer (CEO)</td>
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