RECOMMENDATIONS OF THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD)

"SHELL MAPPING IN EXTRACTS"

APRIL 2021
"SHELL MAPPING IN EXTRACTS"

What this is: This document maps extracts from a number of Shell’s disclosures such as the 2020 Annual Report, 2020 Sustainability Report, and others as listed below against the 11 high-level recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), launched in 2017.

The TCFD recommendations do not ask companies to provide separate “TCFD Reports” but to use the recommendations to shape their “mainstream” and other disclosures.

This mapping document aims to help readers to understand how our disclosures respond to the TCFD recommendations.

More information on the TCFD and its recommendations can be found on their webpage.

What this is not: This mapping document is not meant to be a comprehensive, stand alone “TCFD report”. It was not edited as a separate report but is focusing on mapping key messages against the 11 high-level TCFD recommendations.

All paragraphs of this document can be found in our existing disclosures as listed below.

Shell sources for the extracts in this document:

- 2020 Annual Report
- 2020 Sustainability Report
- How are Shell scenarios used?
- The Energy Transition Scenarios
- 2020 CDP Climate Change Submission

Please find DEFINITIONS AND CAUTIONARY NOTE at the end of this document.
GOVERNANCE: Disclose the organization’s governance around climate-related risks and opportunities

a) Describe the board’s oversight of climate-related risks and opportunities

Annual Report: [pages 96/97] “Our governance of climate change” (see b)], [pages 143/144] “Governance – Safety, Environment and Sustainability Committee” and [pages 186/187] “Risk management and controls” (see RISK MANAGEMENT c)

GOVERNANCE – SAFETY, ENVIRONMENT AND SUSTAINABILITY COMMITTEE

PURPOSE

The Safety, Environment and Sustainability Committee (SESCo) assists the Board in reviewing the practices 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 and responsible operation of Shell’s facilities, environmental protection and greenhouse gas emissions, significant incidents that impact safety and environmental performance, progress towards Shell’s climate targets, and energy transition. The Committee also endorses the Shell annual HSSE & SP assurance plan, reviewing 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 sustainable development and energy transition that apply to the Executive Committee annual scorecard and longterm incentive plan.

The Committee reviews and considers external stakeholder perspectives in relation to Shell’s business, as well as how Shell addresses issues of public concern that could affect its reputation and licence to operate. Examples include plastic waste, methane emissions, human rights, the UN Sustainable Development Goals, and access to energy in low-and middle-income countries. In line with the strategic importance of the Committee’s agenda, the Chair and the Chief Executive Officer regularly attend the Committee meetings for discussions on specific topics. Royal Dutch Shell plc’s Chief Executive Officer and the Executive Committee hold overall accountability for sustainability within Shell, supported by the Executive Vice President for Safety & Environment and other senior managers. ACTIVITIES

During 2020, the Committee focused on the areas of greatest strategic importance to Shell, in line with its updated Terms of Reference. This allowed the Committee to oversee effectively and thoroughly the practices and performance of the Company with respect to safety, environment including climate change, and broader sustainability. The Committee was pleased that there were no fatalities in 2020 at Shell-operated ventures, the first year this has been achieved and a testament to Shell’s relentless focus on safety.

The Committee welcomed Shell’s refreshed approach to safety announced in 2020, with its emphasis on the human dimension of safety performance. The topics discussed in particular depth by the Committee included personal and process safety, Shell’s climate targets and the energy transition, and remuneration metrics and targets. The Committee also reviewed Shell companies’ operations and the challenges faced in Nigeria and Brazil. Together with the Audit Committee and Chief Ethics and Compliance Officer, the Committee reviewed the controls and procedures for managing changes to Shell’s portfolio. The Committee Chair also held several meetings with senior leaders to discuss specific topics including new fuels, carbon emissions reduction and decommissioning.

b) Describe management’s role in assessing and managing climate-related risks and opportunities

Annual Report: [page 96/97] “Our governance of climate change”

OUR GOVERNANCE OF CLIMATE CHANGE

The Executive Vice President Safety & Environment, a senior manager who reports directly to the Projects & Technology Director, is

The CEO is the most senior individual with accountability for climate change risk. Shell has established specialist forums at different levels of the organisation where climate change and GHG-related matters are addressed, monitored and reviewed. Each Shell entity and each Shell-operated venture is responsible for implementing climate change policies and strategies.

The Executive Vice President (EVP) Safety and Environment, a senior manager who reports directly to the Projects & Technology Director, is accountable for the oversight of GHG issues. This manager’s department includes the Group Carbon team and the HSSE & SP Assurance and Reporting team.
Group Carbon is accountable for monitoring and examining the strategic implications of climate change for Shell. Group Carbon also reviews the effects of governmental policy and regulation. It proposes policy positions based on analysis by Shell and external organisations. The team also advises Shell companies to ensure that they are consistent in how they apply our core principles and policies when interacting with policymakers.

Group Carbon also has oversight of Shell’s GHG management programme. It helps our lines of business to adopt strategies for managing greenhouse gases. The team includes managers who advise projects on the risks and opportunities of GHG-related issues.

The HSSE & SP Assurance and Reporting team is accountable for the delivery of Shell’s nonfinancial reporting. It is also responsible for auditing the performance of Shell businesses with regards to our HSSE & SP Control Framework requirements, which include climate change risk management.

Remuneration targets

We have set specific carbon intensity targets for the following years:

- 2021 NCF reduced by 23% from 2016 NCF;
- 2022 NCF reduced by 46% from 2016 NCF; and
- 2023 NCF reduced by 68% from 2016 NCF.

See below, in this section, for more detail on:

- How we plan to deliver;
- Our climate target;
- Our net carbon intensity targets; and
- Our performance. See also the Directors’ Remuneration Report on page 153-156.
STRATEGY: Disclose the actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning where such information is material

a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term


CDP 2020 Climate Change submission: sections C3 Business Strategy

STRATEGY AND OUTLOOK

In February 2021, Shell launched Powering Progress which sets out our strategy to accelerate the transition of our business to net-zero emissions, in step with society, purposefully and profitably.

CONTEXT

Our strategy is founded on our outlook for the energy sector and the chance to grasp opportunities arising from the substantial changes in the world around us. We believe the rising standard of living of a growing global population will continue to drive demand for energy for years to come. The world will need to find a way to meet this growing demand, while transitioning to a net-zero emissions energy system to counter climate change.

POWERING PROGRESS

In February 2021, Shell launched Powering Progress, which sets out our strategy to accelerate the transition of our business to net-zero emissions, in step with society, purposefully and profitably. We will build a strong and resilient business by putting customers at the centre of our strategy, innovating the products and solutions customers need on their journey to net zero. This includes partnering with others to reduce carbon emissions, especially in sectors that are hard to decarbonise. 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 across the world. This is a strategy that combines our financial strength and discipline with a dynamic approach to our portfolio of assets and products, so that we are ready to seize the significant opportunities that exist for us in the energy transition.

Powering Progress generates value for our shareholders, customers and wider society. It has four main goals which integrate sustainability with our business strategy. These goals support Shell’s purpose, to power progress together by providing more and cleaner energy solutions. They are underpinned by our core values of honesty, integrity and respect for people, and our focus on safety.

Generating shareholder value: We aim to create the conditions for share price appreciation by preparing our business for the future and accessing the opportunities that the future of energy holds. We will do this while providing sustainable distributions today through our progressive dividend policy. The changing energy landscape means that Shell must take a dynamic approach to its portfolio of assets and products. That means continuing to provide the energy the world needs today, and increasing our investments in cleaner energy. We will keep a disciplined approach to capital investment, and a strong balance sheet, so that our organisation remains strong and resilient. In this way, we will achieve our aim of being a compelling investment case for our shareholders.

Achieving net-zero emissions: Tackling climate change is an urgent challenge. That is why we have set a target to become a net-zero emissions energy business by 2050, in step with society. We are transforming our business and finding new opportunities – selling more low-carbon products such as biofuels, electricity generated by solar and wind power, hydrogen and charging for electric vehicles. We are partnering with customers, businesses and governments to address the energy transition and reduce emissions sector by sector.

This includes in sectors that are harder to decarbonise, such as aviation, shipping, commercial road freight, power, heating and certain parts of industry. We also support government policies to reduce carbon emissions in the economy, sector by sector. Powering lives: Shell helps to power lives and livelihoods by providing vital energy for homes, businesses and transport. The supply of affordable, reliable and sustainable energy is also crucial for addressing global challenges, including those related to poverty and inequality. Our operations support livelihoods by providing employment and training in the communities where we operate. We are working to become one of the most diverse and inclusive companies in the world, a place where everyone feels valued and respected. We are focusing on four areas: gender, race and ethnicity, LGBT+ and disability. We respect human rights in all parts of our business.

Respecting nature: We are stepping up our environmental ambitions, shaping them to reflect the UN Sustainable Development Goals. Our environmental ambitions include protecting and enhancing biodiversity. We are also focusing on using water and other resources more efficiently across all our activities, reusing as much of them as we can. We are reducing waste from our operations and increasing recycling of plastics. We are helping to improve air quality by reducing emissions from our operations and providing cleaner ways to
power transport and industry. Working with our partners and suppliers and developing new collaborations is key. We will join with others across industry, governments, our customers and supply chains to protect nature.

**BUSINESS PILLARS**

**Powering Progress** generates value for our shareholders, customers and wider society. It has four main goals which integrate sustainability with our business strategy. These goals support Shell’s purpose, to power progress together by providing more and cleaner energy solutions. They are underpinned by our core values of honesty, integrity and respect for people, and our focus on safety. Generating shareholder value: We aim to create the conditions for share price appreciation by preparing our business for the future and accessing the opportunities that the future of energy holds. We will do this while providing sustainable distributions today through our progressive dividend policy. The changing energy landscape means that Shell must take a dynamic approach to its portfolio of assets and products. That means continuing to provide the energy the world needs today, and increasing our investments in cleaner energy. We will keep a disciplined approach to capital investment, and a strong balance sheet, so that our organisation remains strong and resilient. In this way, we will achieve our aim of being a compelling investment case for our shareholders.

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To support the delivery of our strategy, we are redesigning Shell to put customers at the centre. That means organising ourselves to help economic sectors to decarbonise, by providing integrated, lower-carbon energy solutions, sector by sector. We maintain business strategies and plans that focus on actions and capabilities to create and sustain competitive advantage. We maintain a risk management framework that regularly assesses our response to, and risk appetite for, identified risks.

See “Risk factors” on page 28 and “Governance” on page 112.

Our Executive Directors’ remuneration is linked to the successful delivery of our strategy, based on performance indicators that are aligned with shareholder interests. Long-term incentives form the majority of the Executive Directors’ remuneration for above-target performance. In 2020, the Long-term Incentive Plan (LTIP) included cash generation, capital discipline, value created for shareholders, and an energy transition condition. For 2021, the weighting of the energy transition condition in the LTIP has been increased to 20%.

See the “Directors’ Remuneration Report” on page 153.

For more details on how the strategic pillars are embedded into our businesses, see “Shell story” on pages 1017.

**OUTLOOK FOR 2021 AND BEYOND**

We believe that our integrated business model is key to driving our strategy. It means that our portfolio is greater than the sum of its parts. This competitive portfolio has a solid track record on cash generation, where Shell is leading its peer group. We intend to evolve our portfolio of assets and the mix of energy that we sell to meet the cleaner energy needs of our customers in the coming decades, while delivering value for our shareholders. Delivering our strategy will require clear and deliberate capital allocation choices. We approach capital allocation at three levels: enterprise, portfolio and project. The enterprise level is about how we make choices between increasing distributions to our shareholders, investing in our business and/or strengthening our balance sheet. The portfolio level is about how we allocate capital between our three business pillars – Growth, Transition and Upstream. The project level is about how we evaluate and prioritise investment opportunities.

At the enterprise level, we look to achieve the right balance between shareholder distributions today and investing for value-enhancing growth.
For cash capital expenditure, we plan to spend between $19 and 22 billion per annum in the near term. In addition, we expect operating costs to be no higher than $35 billion and to deliver a divestment programme totalling around $4 billion a year in this period. We remain committed to our progressive dividend policy and focused on targeting AA equivalent credit metrics through the cycle. Subject to Board approval, we aim to grow the dividend per share by around 4 percent every year. Once our net debt level has reached $65 billion, we will target the distribution of 20-30% of cash flow from operations to shareholders, and may choose to return cash to shareholders through a combination of dividends and share buybacks.

Once we have achieved this level of shareholder distributions, additional surplus cash will be allocated between further disciplined capital investments to deliver our strategy and further debt reduction to strengthen the balance sheet. We fully support the Paris Agreement’s goal to keep the rise in global average temperature this century to well below two degrees Celsius above preindustrial levels and to pursue efforts to limit temperature increase even further to 1.5 degrees Celsius.

We announced a long-term target to become a net-zero emissions energy business by 2050, in step with society. 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 68% by 2023, 20% by 2030, 45% by 2035 and 100% by 2050, in comparison with 2016. We expect that our total carbon emissions from energy sold will stay below 2018 levels. Further details are in the “Climate change and energy transition” section on page 94.

As a result of COVID-19, there continues to be significant uncertainty in the macroeconomic conditions with an expected negative impact on demand for oil, gas and related products. Demand or regulatory requirements and/or constraints in infrastructure may cause Shell to take measures to curtail or reduce oil and/or gas production, LNG liquefaction and utilisation of refining and chemicals plants. Sales volumes could be similarly affected. Such measures could impact our earnings, cash flow and financial condition.

The statements in this “Strategy and outlook” section, including those related to our growth strategies and our expected or potential future cash flow from operations, organic free cash flow, share buybacks, capital investment, divestments, production and Net Carbon Footprint, are based on management’s current expectations and certain material assumptions and, accordingly, involve risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied herein. See “About this Report” on page iii and “Risk factors” on page 2837.

CLIMATE-RELATED RISKS AND OPPORTUNITIES

Our approach for assessing and managing the risks and opportunities associated with climate change includes considering different time horizons. The time horizons and their relevance to risks, opportunities and business planning are as follows:

- Short term (up to three years): we develop detailed financial projections and use them to manage performance and expectations on a three-year cycle.
- Medium term (generally three to 10 years): most of our expected production and earnings in this period come from our existing assets.
Long term (generally beyond 10 years); for this period, it is expected that the current Shell portfolio will change and evolve with the energy transition. Decisionmaking and risk identification on the thematic structure of the future portfolio are guided by the pace of society’s progress and the aim of being in step with society as it moves towards the goals of the Paris Agreement. The overall climate change risk consists of four components, based on the nature of our exposure and the options for our mitigation responses.

The four components are regulatory risks, commercial risks, physical risks and societal risks:

- **Regulatory risks** (time horizon: short term) include increased compliance costs for assets and/or products such as carbon costs; restrictions on the use of fossil fuels; and lack of net-zero-aligned global and national policy and frameworks.

- **Commercial risks** (time horizon: medium to long term) include lower sales volumes and/or margins because of generally reduced or eliminated demand; the possibility of underutilised or stranded oil and gas assets; changing preferences of investors and financial institutions; and additional costs for decarbonisation of operations.

- **Physical risks** (time horizon ranging from short to long) include structural damage to assets and downtime caused by acute events; reduced efficiency because of changing ambient conditions; increased operations and maintenance costs; and value-chain disruptions.

- **Societal risks** (time horizon: continuous) include the potential for a deteriorating relationship with the public, other companies, and governments in countries where Shell operates; class action lawsuits or similar litigation; potential stakeholder criticism related to transparency and clarity around plans and actions to achieve climate targets; and decline in reputation, brand value and competitive advantage.

See “Risk Factors” on page 29.

**CDP CLIMATE CHANGE SUBMISSION 2020**

**CLICK HERE** to download Shell’s complete 2020 CDP Climate Change submission

**Section C3. Risks and Opportunities**

**Extract C3.1d: Describe where and how climate-related risks and opportunities have influenced your strategy**

<table>
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<th>Impact</th>
<th>Description</th>
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| **Products and services** Impacted | Influence on strategy for business area  
Our strategic ambition of thriving in the energy transition is directly related to this business area. This ambition is about remaining relevant and resilient in a changing global energy system. It is also about finding the business value in the energy transition. It influences our actions for our traditional businesses as well as for our ‘emerging’ energy transition opportunities such as power, biofuels, hydrogen, NBS etc. As indicated in our responses to C2.3a and C2.4a questions of this document, for thriving in the energy transition, our product mix needs to transform in the medium to long-term. As a company, we are adjusting our businesses to meet changing demand in different countries and adapting our products to match the needs of our local customers. We aim to grow our business in areas that will be essential in the energy transition, and where we see growth in demand over the next decade. It is likely to mean more renewable power, biofuels, EV charging points; more natural gas for power, industry and transport; helping further advance technology to capture and store carbon safely underground; and helping develop natural carbon sinks to help compensate for those emissions that society will find harder to avoid.  
For example, through our Shell Energy Retail business, we supply renewable electricity as well as natural gas and smart home technology. We blend biofuels with other fuels such as petrol and diesel. We are expanding our charging network worldwide. We are taking early steps to grow a network of hydrogen fuelling stations in Europe and North America, where we are part of several initiatives to encourage the adoption of hydrogen in transport.  
Influence on strategic decision  
One of our major strategic decisions that was influenced by climate-related risks and opportunities was the acquisition of First Utility in 2018. It helped us in extending the range of products we offer to our customers whereby renewable electricity is now offered as standard to all existing and new Shell customers in the UK, along with discounts at Shell service stations. The outcome of our Sky scenario analysis, which shows that electricity could exceed 50% of end-use energy consumption by 2070, has influenced our decision to grow the power business. |
| **Supply chain and/or value chain** Impacted | Influence on strategy for business area  
In November 2017, Shell announced its Net Carbon Footprint ambition (NCF) to reduce the carbon intensity of the energy products we sell by around 50% by 2050. NCF is a carbon intensity measure that takes into account the estimated full lifecycle emissions, including those related to imported energy and use of our products. Also included are emissions from elements of this lifecycle that are not owned by |
Shell. It was calibrated to the Paris Agreement’s goal of restricting global warming to well-below 2 °C. Shell stands within a section of society that needs to move faster. Furthermore, regulators in some advanced economies such as the EU and the UK have already started pushing for net-zero emissions. In order to maintain our societal licence to operate, we need to meet the expectations of our customers and society. Also, for thriving in the energy transition, our product mix needs to transform in the medium to long-term. Hence, in April 2020, we raised our long-term ambition to become a net-zero emissions energy business by 2050 or sooner, in step with society and together with our customers. Currently, our operating plans and budgets do not reflect the net-zero emissions ambition. One of the three elements of this new ambition is to work with our customers to decarbonise energy use, by helping them reduce emissions from their use of our energy products to net-zero by 2050 or sooner. We plan to work within sectors which use energy, to establish pathways for them to follow towards net zero emissions. And for those customers who still have emissions as they near 2050, we will work with those customers to find a way to mitigate those emissions.

### Influence on strategic decision
One of our major strategic decisions that was influenced by climate-related risks and opportunities was the acquisition of ERM Power in 2019. ERM Power is one of Australia’s leading commercial and industrial electricity retailers. This acquisition builds on Shell Energy Australia’s existing gas marketing and trading capability. Our focus on extending our presence within power value chain is influenced by the outcome of our Sky scenario analysis which shows that oil and gas would comprise a smaller share of the energy consumption in the long-term whereas electricity will emerge as a major source of energy for end-use.

<table>
<thead>
<tr>
<th>Investment in R&amp;D</th>
<th>Impacted</th>
<th>Influence on strategy for business area</th>
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<tr>
<td></td>
<td></td>
<td>Technology and innovation are essential to our efforts to meet the world’s energy demands in a competitive way. In order to thrive in the energy transition, we need to continue to develop or deploy technology and new products. We continue to invest in research and development (R&amp;D) to improve the efficiency of our products, processes and operations, and to commercialise technologies for the transition to a low-carbon energy future.</td>
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<td>In 2019, our R&amp;D expenses across all businesses (Upstream, Downstream, Integrated Gas/New Energies) were $962 million. We started work on over 220 R&amp;D projects with universities. Many of these projects focus on areas that are crucial for low-carbon energy systems, such as biomass, renewable power and electrochemical batteries. For example, we successfully completed a one-year pilot project to separate carbon dioxide (CO2) from the exhaust gases of a biomass power plant in Vienna, Austria. Also, we successfully produced chemicals using a liquid feedstock made from plastic waste. For Shell, measuring the level of CO2 absorbed by natural carbon sinks such as forests, grasslands and wetlands, is an essential tool that’ll help us in measuring the carbon uptake of our nature-based solutions so that we can offer carbon credits to our customers transparently. Together with the University of Exeter, UK, we are developing and field-testing advanced measuring equipment that continuously monitors the carbon uptake in a natural ecosystem.</td>
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<tr>
<td>Operations</td>
<td>Impacted</td>
<td>Influence on strategy for business area</td>
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|           |          | We need to meet the increasing expectations of our customers and society at large. Failure to do so exposes us to various legal, regulatory and reputational risks. In particular, the risk of evolving carbon pricing mechanisms can lead to a negative impact on our operational costs. Today, we operate in more than 70 countries. The energy system is expected to evolve differently in different countries and economic sectors, and the business risks and opportunities are expected to vary significantly. In April 2020, we significantly raised our long-term ambition to become a net-zero emissions energy business by 2050 or sooner, in step with society and together with our customers. Currently, our
operating plans and budgets do not reflect the net-zero emissions ambition. One of the three elements of this new ambition is to be net-zero on all the emissions from the manufacture of all our products (Scope 1 & 2) by 2050 at the latest. It includes the emissions created by our operations and also those associated with the energy we consume. We are monitoring our electricity use, making our equipment more efficient through regular and smart scheduling of maintenance and by seeking opportunities to use renewable energy sources. For example, in Upstream, we have reduced fuel consumption by about 40% and air emissions by around 20-25% at our Appomattox platform in the Gulf of Mexico, USA. We actively consider the use of CCS to reduce emissions from our projects.

We use our framework for GHG management in projects to evaluate options to drive our GHG intensity performance. Our planning process helps to guide our decisions on technology and whether to move ahead with a project. Projects and facilities that produce more than 50,000 tonnes of GHG emissions a year are required to have a GHG and energy management plan.

Influence on strategic decision
One of our major strategic decisions that was influenced by climate-related risks and opportunities was aiming to use more renewable power at our own sites. This includes offices, retail sites, distribution terminals, refineries and offshore platforms. For example, we opened one of the largest on-site solar parks (20 MW peak capacity) at our Moerdijk chemicals plant in Netherlands and installed solar panels at seven lubricant plants worldwide.

b) Describe the impact of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning

Annual Report: [pages 94/95] introduction of “Climate change and energy transition”, “Shell’s absolute emissions and carbon intensity targets”, “How we plan to deliver” and “Transparency and collaboration”

Annual Report: [pages 98/99] “Impact of climate related risks and opportunities on strategy, planning and business”

CDP 2020 Climate Change submission: section C3 Business Strategy

CLIMATE CHANGE AND ENERGY TRANSITION

Shell has long recognised that greenhouse gas (GHG) emissions from the use of hydrocarbon-based energy are contributing to the warming of the climate system. In December 2015, 195 nations adopted the Paris Agreement. We welcomed the efforts made to reach this global climate agreement, which came into force in November 2016. We fully support the Paris Agreement’s goal to keep the rise in global average temperature this century to well below two degrees Celsius above preindustrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. In pursuit of this goal, we also support the vision of a transition towards a netzero emissions energy system. Shell agrees with the statement of the Intergovernmental Panel on Climate Change (IPCC) special report, Global Warming of 1.5°C that says that in order to limit global warming to 1.5 degrees Celsius above pre-industrial levels, the world economy would need to transform in complex and interconnected ways. Meeting this challenge would require an even more rapid escalation in the scale and pace of change in the coming decades than was foreseen in the Paris Agreement.

Society faces a dual challenge: it must transition to a lowcarbon energy future to manage the risks of climate change, while also extending the economic and social benefits of energy to everyone on the planet. This requires, among other things, reducing emissions while also changing how energy is produced, stored, used and made accessible to more people.

Shell recognises that society’s attitude towards climate change is shifting rapidly and that it is different in different locations. Regulators in some advanced economies such as the EU and the UK have already started pushing for netzero emissions by 2050 in an effort to achieve the 1.5 degrees Celsius stretched goal of the Paris Agreement. Potential similar developments in other key locations might lead to similar or more stringent regulatory conditions on Shell’s operations and products.

On February 11, 2021, we announced Powering Progress, our new strategy. Powering Progress is our strategy to accelerate progress to netzero emissions, purposefully and profitably. One of the pillars of this strategy is for Shell to become a netzero emissions energy business by 2050, in step with society. We believe our netzero target supports the most ambitious goal of the UN Paris Agreement, to limit warming to 1.5 degrees Celsius above pre-industrial levels. This will require us to transform our business, working with our customers and others, in sectors that are difficult to decarbonise. This includes aviation, shipping, road freight and heavy industries. We also believe that our total oil production peaked in 2019 and our total emissions (Scope 1, 2 and 3) peaked in 2018 at around 1.73 gigatonnes per annum.
Shell’s target is to be a netzero emissions energy business by 2050, in step with society. This means netzero emissions from our operations – our Scope 1 and 2 emissions – and also net zero from the end use of our products that we sell – our Scope 3 emissions. Our Scope 3 emissions include our customers’ emissions from the energy products we produce and sell as well as the lifecycle 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.

But Shell cannot get to net zero without society also being net zero. While we aim to transition slightly ahead of society, where we expect to see higher margins for our low-carbon and renewable energy products, we cannot transition too quickly or we will be trying to sell products that our customers do not want. Accordingly, other than our short-term remuneration targets, all targets are conditional on being in step with society. If society is not on the path to net zero for 2050, it is unlikely that Shell will meet its emissions targets.

We believe it is important for the Board and the management to understand what our shareholders think. Accordingly, in 2021, Shell intends to submit its energy transition strategy to shareholders for an advisory vote at our Annual General Meeting. We will submit our energy transition strategy to such an advisory vote every three years. We will also seek an advisory vote on the progress we make each year, as disclosed in our Annual Report, starting in 2022.

Shell’s absolute emissions and carbon intensity targets

Our target is to be a netzero emissions energy business by 2050, in step with society.

Shell’s 2050 absolute emissions targets

We aim to achieve these targets in step with society. They are:

- netzero Scope 1 and Scope 2 emissions from our operations by 2050; and
- netzero Scope 3 emissions from the energy products we sell by 2050.

Shell’s net carbon intensity targets

We aim to achieve these targets in step with society. They are measured by our Net Carbon Footprint (NCF) metric, and are:

- 2030 NCF reduced by 20% from 2016 NCF;
- 2035 NCF reduced by 45% from 2016 NCF; and
- 2050 NCF reduced by 100% from 2016 NCF.

The updated 2035 and 2050 targets reflect that we will start to include all actions taken to reduce emissions when we calculate our net carbon intensity. This includes the actions we take ourselves and actions taken by the users of the energy products we sell.

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.

Remuneration targets

We have set specific carbon intensity targets for the following years:

- 2021 NCF reduced by 23% from 2016 NCF;
- 2022 NCF reduced by 34% from 2016 NCF; and
- 2023 NCF reduced by 68% from 2016 NCF.

See below, in this section, for more detail on:

Business milestones

We are taking steps to cut emissions from our existing oil and gas operations, and to avoid generating more in the future.

We believe our annual oil production peaked in 2019, and we expect our total oil production to decline by 12% a year until 2030.

We do not anticipate any new frontier exploration entries after 2025.

Natural gas is the least polluting hydrocarbon. We expect the percentage of total gas production in our portfolio to gradually rise to 55% or more by 2030.

By 2030, we will end routine flaring of gas, which generates carbon emissions, from the assets we operate.

By 2025, we expect to have kept the methane emissions intensity of Shell-operated assets to below 0.2%.

How we plan to deliver
Getting the energy system on a path to net zero will require coordinated action between energy providers, energy users and governments. They will need to work together over the coming decades to define rapid, realistic decarbonisation pathways, sector by sector.

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.

We are already taking steps to cut emissions from our existing oil and gas operations, and to avoid generating more in the future. We aim to reduce the GHG intensity of our portfolio and we continue to work on improving the energy efficiency of our existing operations. One element of our target is to achieve net-zero emissions from all our operations, as well as from the energy we need to power them.

Shell believes that society must accelerate and increase the scale of all forms of GHG reduction. We are increasing the proportion of low-carbon products such as natural gas, biofuels, electricity and hydrogen in the mix of products we sell. For example, Amazon Air has secured up to six million gallons of sustainable aviation fuel – made partly from biomass and waste – supplied by Shell Aviation and produced by World Energy. 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.

Our shift to energy and chemicals parks means we will reduce our production of traditional fuels by 55% by 2030, from around 100 mt/ya to 45 mt/ya. We plan to build on Shell’s leading position in hydrogen by developing integrated hydrogen hubs to serve industry and heavy-duty transport, aiming to achieve double-digit share of global clean hydrogen sales.

It is not enough for Shell to take action on its own. 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 develop the right pathways to transition each sector from carbon-based energy to low-carbon solutions.

Shell’s marketing business is being restructured on a sectoral basis. This in turn will help us to make progress in working with customers on a sector-by-sector basis.

Our mission is to help the millions of brand-loyal customers whom we serve every day – from individual energy consumers to large businesses – to decarbonise. We have the scale and the competitive advantage to generate profit from this shared ambition.

Our marketing platform is one of the best in the energy industry. Spanning 160 markets, every day we serve more than 30 million customers at our retail sites; and one million businesses.

Our customer access gives us first-hand insights, helping us to deliver what our customers want rather than offering what others think they need.

This will help us to grow our existing marketing platforms profitably, while also increasing the decarbonisation choices across sectors and countries.

Our global ambition is that by 2025 we are operating more than half a million electric vehicle charging points for businesses, fleets and customers, at our retail sites and people’s homes. This number is expected to rise to 2.5 million charging points operated by Shell by 2030. For drivers who are unable to switch to an electric vehicle immediately, we also offer carbon-neutral driving using nature-based carbon offsets, in seven countries including the UK.

We are positioning ourselves to profitably deliver integrated offers by crossselling to motorists and home energy customers. Our integrated solutions will help our business customers to navigate the challenges and opportunities of decarbonisation.

One such customer is Penske Corporation in the USA. We work closely with this customer across truck leasing, logistics and automotive retail. We provide Penske Corporation with products and services ranging from fuels and lubricants, to electric vehicle charging and renewable power.

Our approach to commercial road transport is similar to how we work with other hard-to-decarbonise sectors such as shipping and aviation. We are working with transport companies, truck manufacturers and policymakers to identify profitable pathways to decarbonisation.

We are already one of the world’s largest blenders and distributors of biofuels, and we will continue to invest in and increase the production of these low carbon fuels. Over the next decade, we will help customers in Europe, China and on the US West Coast to transition to liquefied natural gas (LNG) and biogas.

Hydrogen also offers a route to lowering emissions. We are part of the H2Accelerate consortium, which looks at ways to create infrastructure for generating and supplying hydrogen across Europe.

In Power, we are working with our customers in different markets, finding commercial ways to meet their specific needs. Our scale, reach, brand strength and trading capability set us up to succeed. An example is our deal to supply Amazon with renewable power, which is helping it to fulfill its climate pledges.
We are also supporting infrastructure development through our investments in Silicon Ranch and Cleantech Solar. Combined, these two companies have over 350 solar farms in the USA and Southeast Asia. In Australia and in Oman, Shell is building its first largescale solar farms.

Shell’s infrastructure, systems integration, experience and people put us in a strong position to profitably meet the current and future needs of our customers, helping them and society to decarbonise for a netzero emissions future.

We are restructuring so that we have marketing teams facing individual sectors. We are also developing a carbon management framework to guide decisionmaking on investments in assets and businesses that align with our climate target. We intend to have carbon budgets for customer-facing businesses to motivate them to find value growth by switching from highcarbon income to lowcarbon income.

Shell believes that the need to reduce GHG emissions will continue to be an important driver in transforming the energy system in this century. This transformation will generate both challenges and opportunities for our existing and future portfolio.

Transparency and collaboration

We support efforts to increase transparency and investors’ understanding of companies’ strategies for responding to the risks and opportunities of climate change. We do this through engagement with external stakeholders such as industry associations beyond the energy industry, standard setters, non-governmental organisations (NGOs), investors, and initiatives on different topics including climate change. With publications such as our 2020 Sustainability Report and our 2020 Industry Associations Climate Review update (both planned to be published in April 2021) we aim to provide additional information to that in this Report to address requests and recommendations from different reporting frameworks and standards. Some examples of those frameworks and engagements are described below.

We continue to support the Task Force on Climate-related Financial Disclosures (TCFD) recommendations and apply them to our reporting. We aim to address the recommendations with this Report and other Shell publications such as the 2020 Sustainability Report and 2020 Industry Associations Climate Review update (both due to be published in April 2021), and our latest scenarios Islands, Waves, and Sky 1.5.

As a member of the Oil and Gas Climate Initiative (OGCI) we are one of a group of 12 national and international energy companies that focus on action that has real impact now and delivers on decarbonisation in the coming decades (see Methane initiatives and collaborations).

In December 2020, eight leading energy companies including Shell announced that they had jointly developed and agreed to apply six Energy Transition Principles. These principles aim to support the collective industry acceleration to contribute to the Paris Agreement objectives by delivering progress on reducing GHG emissions, the role of carbon sinks, and the importance of transparency and alignment on climate change with trade associations. The companies are building further on this collaboration to drive more consistency and transparency in greenhouse gas reporting, and in measurement of the emissions which may occur at different points in the value chain.

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 the methodology for the oil, gas and integrated energy sector.

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. We expect more governments to follow. Shell is encouraging carbon pricing mechanisms so that businesses and consumers are further incentivised to improve energy efficiency, provide and switch to lowercarbon options, and reduce carbon emissions. Such mechanisms can also help encourage projects such as CCS facilities and naturebased solutions like the planting of forests. Shell continues to work with governments to produce effective transition plans and policies.

IMPACT OF CLIMATE-RELATED RISKS AND OPPORTUNITIES ON STRATEGY, PLANNING AND BUSINESS DECISIONS

For Powering Progress, we must evolve our portfolio of assets and the mix of energy that we sell, so we can meet the cleaner energy needs of our customers in the coming decades. We aim to achieve this by repositioning our traditional businesses for resilience and taking advantage of the growth opportunities created by emerging customer needs.

We assess our portfolio decisions, including investments and divestments, against the potential impacts of the energy transition to the use of lowcarbon energy. These include higher regulatory costs linked to carbon emissions and lower demand for oil and gas. We continue to transform our organisation, ensuring that our portfolio is well positioned for the future of energy. In February 2021, we announced our updated strategy (see Strategy and outlook).

We believe that our business strategy is resilient and adapted to the current implementation of the Paris Agreement, which is now progressing through the mechanism of countries developing their individual nationally determined contributions (NDCs). The Paris Agreement does not stipulate that emissions must fall in all sectors or countries simultaneously, or that all actors within the system will reduce their emissions at the same time or to the same degree. It acknowledges that emissions might even increase in some parts of the world. What is important is that overall emissions fall.

April 2021
The transition to lower carbon energy requires major changes to industrial, commercial and residential infrastructure. This takes time and substantial investment. Our annual planning cycle and periodic portfolio reviews aim to ensure that our levels of capital investment and operating expenses are appropriate in the context of an uncertain and changing external environment.

The annual business plan is our way of putting the strategy into effect. A business plan is created, which is then approved by the Board. The plan contains forecasts of Shell’s cash flows, and seeks to ensure that we can service financing requirements, pay dividends and fund investment activities.

Shell’s business plan includes assumptions about internal and external parameters. Some of the key assumptions relate to:

- commodity prices;
- production levels and product demand;
- exchange rates;
- future carbon costs;
- the schedules of growth programmes; and
- risks and opportunities that may have material impacts on free cash flow.

Shell’s strategy recognises that the world is transitioning to a lower carbon energy system, but acknowledges that the pace and specific path forward remain uncertain and may differ across regions and countries. This means that Shell will need to make agile business decisions in step with society.

Scenario planning is a well-established process for exploring possible future outcomes. Many factors and variables are considered in this exercise. These include the future size and cost of resource bases and macroeconomic, geopolitical, social, technological and regulatory developments. Our portfolio and strategy have been assessed against a wide range of outlooks. These include the potential impacts of various possible energy transition pathways, and changes in societal expectations around climate change. Our latest set of Shell scenarios was one of the many variables used in guiding the updated strategy which we announced in February 2021. One of the key aspects that underpin Shell’s financial statements are the oil and gas price and refining margin assumptions. These price assumptions are developed with input from our scenarios and other factors.

GHG elements in the business plans consist of a GHG emissions forecast, GHG abatement plan and GHG costs. 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 carbon costs which are reviewed and updated annually. By 2050, our real-term carbon cost estimates for all countries are expected to increase to at least $100 per tonne of GHG emissions.

The process for developing our cost of carbon estimates uses short-term policy outlooks and long-term scenario forecasts, both of which reflect the current nationally determined contributions (NDCs) submitted by countries as part of the Paris Agreement and evolving national policy developments. NDCs under the Paris Agreement are subject to revisions every five years. The United Nations estimate that the current NDCs are consistent with limiting the rise in global average temperature to around three degrees Celsius above pre-industrial levels. In the coming decades, we expect countries to tighten their NDCs to meet the goals of the Paris Agreement. We expect to update our estimates as countries update their NDCs and climate policies. Accordingly, we believe our estimates appropriately reflect society’s current implementation of the Paris Agreement. We continue to test the robustness of our projects with a material GHG footprint by using long-term carbon cost estimates that are consistent with limiting the rise in global average temperature to well below two degrees Celsius.

Shell’s annual carbon cost exposure is expected to increase over the next decade because of evolving carbon regulations. This expected increase is based on forecasts of Shell’s equity share of emissions from operated and non-operated assets, and real-term carbon cost estimates which range from $5 to $110 per tonne of GHG emissions in 2030. This exposure also takes into account the estimated impact of free allowances as relevant to assets based on their location. The regulatory carbon cost estimate is refreshed on an annual basis as part of the development of our business plan.

**CDP CLIMATE CHANGE SUBMISSION 2020**

**CLICK HERE** download Shell’s complete 2020 CDP Climate Change submission

Section C3. Business Strategy

Extract C3.1e: 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>
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April 2021

15
Revenues
- Direct costs
- Indirect costs
- Capital expenditures
- Capital allocation
- Acquisitions and divestments
- Access to capital
- Assets
- Liabilities

Capital expenditures and allocation
The transition to lower-carbon energy requires major changes to industrial, commercial and residential infrastructure. This takes time and substantial investment. Our annual planning cycle and periodic portfolio reviews aim to ensure that our levels of capital investment and operating expenses are appropriate in the context of a volatile price environment. Our capital discipline gives us greater flexibility for investments in the future. We assess opportunities against a breadth of strategic, financial and non-financial criteria, which drives consistency and discipline in our capital allocation. Out of the expected total cash capital expenditure during 2021-25, we plan to spend a significant portion in clean energy related strategic themes, i.e. Integrated Gas and Power. The scale-up of power investment during 2021-25 is subject to the conditions of being on track to be self-funded by 2030, investments hitting agreed financial milestones, and demonstrating 8-12% returns in the on-stream integrated power business.

Direct and indirect costs
As mentioned earlier, our annual planning cycle and periodic portfolio reviews aim to ensure that our levels of capital investment and operating expenses are appropriate in the context of a volatile price environment. To assess the resilience of new projects, we consider the potential costs associated with operational GHG emissions. We use short, medium and long-term estimates of country-specific future carbon costs which are reviewed and updated on an annual basis. By 2050, our carbon cost estimates for all countries increase to $100/tonne of GHG emissions (updated in 2020).

Acquisitions and divestments
We assess our portfolio decisions, including divestments and investments, against potential impacts from the transition to lower-carbon energy. The portfolio changes we are making reduce the risk of having assets that are uneconomic to operate, or oil and gas reserves that are uneconomic to produce because of changes in demand or CO2 regulations. Following the successful delivery of our $30 billion divestment programme during 2016-18, divestments are expected to amount to more than $10 billion over the 2019-2020 period. So far, we have high-graded our portfolio through divestment of oil sands in Canada, Martinez refinery in California, interest in refining JV SASREF in Saudi Arabia, onshore oil and gas interests in Gabon, and simplified our operations in many other countries. On the other hand, we have made several acquisitions in our Integrated Gas and New Energies businesses. This includes BG, electricity retailers like First Utility, Hudson Energy Supply UK Limited and ERM Power, renewable developers like Cleantech Solar, power storage company sonnen and EV charging players like NewMotion and Greenlots.

Assets and liabilities
We consider the resilience of our portfolio in the medium term by exploring potential ranges of oil prices and their implications for our cash flows. These ranges go beyond the prices implied by our three main scenarios – Mountains, Oceans and Sky. In addition, we rank the break-even prices of our assets in the Upstream and Integrated Gas businesses to assess their resilience against low oil and gas prices.

In our sector, it is essential to have a resilient balance sheet to manage volatility. When industry conditions are favourable, we plan to reduce gearing to build resilience, so we can use this flexibility during the trough of the business cycle to retain a resilient balance sheet or make counter-cyclical investments if the right opportunities surface. This way we remain competitive through the cycle and ensure strong sustainable shareholder distributions.

Case study
Post the acquisition of BG in 2016, we sought to reduce our cost base and achieve group synergies. At this point, we also sought to reduce internal complexity. This has had a number of effects. We reduced the number of people required to do the same work and we gave people larger roles and greater accountability. At the same time, we built more capability with our Business Operation Centres in Manila, Kuala Lumpur, Chennai, Bangalore and Krakow. Combined, our support functions, such as HR, IT and Finance, together with our Projects & Technology organisation, lowered their costs by almost $5.5 billion during 2016-19.
TCFD RECOMMENDATIONS
“SHELL MAPPING IN EXTRACTS”

Annual Report: (pages 98/99) “Impact of climate related risks and opportunities on strategy, planning and business” (see b))
Annual Report: (page 99) “Our climate target”
Scenarios: How are Shell scenarios used? and The Energy Transition Scenarios

OUR CLIMATE TARGET

As indicated at the beginning of this section, our long term climate target is to be a netzero emissions energy business by 2050, in step with society’s progress towards achieving the goal of the UN Paris Agreement on climate change. This target supports the most ambitious goal of the Paris Agreement on climate change to limit the global temperature rise to 1.5 degrees Celsius. We referred to the database developed for the IPCC special report Global Warming of 1.5°C while setting this target. We started with all the 1.5 degrees Celsius scenarios and then selected the scenarios which focused on earlier action and placed less reliance on the use of carbon sinks to produce the 1.5 degrees Celsius pathway we have used for target setting.

OUR NET CARBON INTENSITY TARGETS

Shell’s carbon intensity is the average intensity, weighted by sales volume, of the energy products sold by Shell. This is tracked, measured and reported using the Net Carbon Footprint (NCF) metric and methodology. Our NCF calculation includes the lifecycle greenhouse gas emissions associated with each unit of energy we sell that is used by our customers. This includes the emissions associated with the production, processing, transport and end use of these products. Also included are emissions from other elements of this life cycle not owned or controlled by Shell, such as oil and gas that we process but do not produce, or emissions from oil products and electricity marketed by Shell that have not been processed or generated at a Shell facility. The calculation also subtracts emissions for those that are stored by using carbon capture and storage (CCS) or are offset using natural carbon sinks, such as forests and wetlands. Chemicals and lubricants products, which are not used to produce energy, are excluded from the scope of this metric. The carbon intensity of the energy products we sell is expressed in grams of carbon dioxide equivalent (CO2e) per megajoule consumed.

HOW ARE SHELL SCENARIOS USED?

The sheer breadth and depth of perspective gained from our scenarios continues to inspire many successful partnerships and initiatives around the world, on individual country levels as well as regional and global.

We have been developing Scenarios within Shell for almost 50 years. They are plausible and challenging descriptions of the future landscape. They stretch our thinking and help us to make crucial choices in times of uncertainty and transitions as we grapple with tough energy and environmental issues.

SHELL SCENARIOS IN ACTION

Please refer to our webpage to read more about some of the projects that the Shell Scenarios team has been involved with recently:

Developing natural gas in China: China’s gas development strategies
Exploring Germany’s energy pathways: Shell Energy Scenarios Germany

THE ENERGY TRANSFORMATION SCENARIOS

The world remains turbulent and full of uncertainties, but the current crises may be a trigger for faster change. Choices today will shape the future global landscape and the energy system for decades to come. In all three of our new scenarios the energy system is transformed, the issue is speed.

Recovery, resilience and transformation

The COVID-19 pandemic has generated significant turning points, with shifts across almost all societies and economies. It has exposed tensions and weaknesses in the global systems – but also shifted policy and behaviour in ways that open new possibilities for the future.

There will be different recovery objectives at the front of people’s minds – the recovery of economic strength, the recovery of a sense of security and the recovery of a sense of wellbeing. These different objectives form the driving forces behind our new scenarios. People will be seeking all of these to some extent – wealth, security and health. But what they choose to prioritise may differ.

Over time, attention will turn from short-term recovery to long-term resilience, the capacity to survive, adapt and grow in the face of change and uncertainty. The current crisis may provide a window of opportunity for the deep changes distinct to transformative resilience – the ability to transition deeply to thrive in new circumstances.
Our new scenarios - Waves, Islands and Sky 1.5 - explore the consequences of near-term choices. To meet the goal of the Paris agreement, the required pace of change in energy use is hugely challenging but remains technically possible. Practical actions today can accelerate progress.

**RISK MANAGEMENT: Disclose how the organization identifies, assesses, and manages climate-related risks**

**a) Describe the organization’s processes for identifying and assessing climate-related risks**

- Annual Report: (page 92) “Climate change risk management process”, (page 101) “Impact of physical risks and adaptation measures” [note: overlap with “role of management”]
- Sustainability Report: (page 17): “About this report”

**CLIMATE CHANGE RISK MANAGEMENT PROCESS**

The framework for managing the climate change and GHG emissions risk is underpinned by Shell’s Control Framework and Statement on Risk Management, which are described in the “Other regulatory and statutory information” section of this Report.

For the climate change and GHG emissions risk, several global teams support our businesses in GHG and energy management, comprising a network of experts in subjects related to GHG and risk management. They work globally across our lines of business and assist in:

- identifying and assessing risks;
- planning and implementing responses;
- sharing best practices; and
- monitoring, improving and completing action that affects the objectives and performance of projects and assets.

These teams have created a set of mandatory manuals and complementary guidance documents that are updated periodically and are ultimately based on our HSSE & SP Control Framework (CF). These manuals and documents provide guidance on how to monitor, communicate and report changes in the risk environment, and how to review the effectiveness of actions taken to manage identified risks, including ways to:

- ensure consistent assessment of climate risk across Shell;
- clarify expectations for risk management and reporting, including roles and responsibilities of the risk owners;
- clarify types of assurance activities that may be applicable;
- strengthen decision-making by ensuring that businesses have better awareness and understanding of climate risks [including their likelihood and potential impact] and mitigation plans; and
- enable integration of Shell’s reporting.

For more detail on our definition of risk categories and their relationship to different time horizons, see “Climate change risk management at project level” below.

The GHG and Energy Management Manual is one of the mandatory manuals of our HSSE & SP Control Framework. It requires that effective steps are taken to track the GHG emissions from Shell’s operated and non-operated facilities and the life-cycle emissions of its energy products. The manual also focuses on the efficient operation of existing equipment. This means, for example, using monitoring systems to get real-time information that we can use to make energy-saving changes and identify opportunities for energy-saving investments in the medium term. Shell’s scorecard includes GHG measures that create additional incentives for our employees to reduce GHG emissions in our portfolio.

See “Directors’ Remuneration Report”.

The global teams mentioned above support the businesses in monitoring and addressing certain physical risks of climate change. This support includes the input of specialist teams who provide direct technical assistance to facilities, based on their analysis of the potential impacts of climate change in different operating environments. For example, the specialist teams support facilities on an ad-hoc basis to address potential operational issues such as flooding of a site that may affect its drainage system.
The teams also provide expertise on how to include considerations of certain potential physical climate change risks in the internal Design and Engineering Practice (DEP) requirements for new projects. The DEPs for new projects are reviewed periodically to take account of changes in the risk environment, including emerging weather and climate factors.

We review our portfolio annually to identify emerging risks from changes in GHG emissions regulations and changing physical conditions. Shell’s Group Carbon team provides management with strategic insights on Shell’s exposures, risks and opportunities, and recommends actions for Shell to take. Each of Shell’s businesses and functions has an assurance committee that considers this risk on a regular basis and coordinates the applicable assurance activities.

At the Group level, the climate change and GHG emissions risk has been identified as a significant risk factor for Shell – see “Risk factors”. The Executive Committee and Board regularly review this risk in the same way that they do for other significant Group risk factors. Potential impacts and likelihoods are considered and discussed biannually. Similarly, the effectiveness of risk responses is also considered and discussed on a regular basis. Where necessary, these reviews are further supplemented by additional in-depth reviews with the relevant management teams. These reviews help to guide operational decisions, maintenance schedules and response planning.

CLIMATE CHANGE RISK MANAGEMENT AT PROJECT LEVEL

Shell requires that the GHG emissions of certain assets and projects are addressed in specific ways. This is described in our internal, mandatory GHG and Energy Management Manual which is part of our HSSE & SP Control Framework (see Environment and society). This manual specifies the requirements for managing the risks associated with GHGs and energy use, and is owned and signed off by the Vice President Group Carbon. It states that projects with a material GHG footprint must get their targets approved by the Executive Vice President Safety and Environment at certain defined stages. The project’s GHG-abatement plan helps to determine the nature of these targets.

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.

The performance standards are used as our screening criteria for measuring projects’ average lifetime GHG intensity or energy efficiency per asset type. We are working to develop a complete set of standards for our businesses. Performance Standards for the Upstream and Transition pillars are in place, while those for the Growth pillar are under development. The complete set is expected to continue to evolve to incorporate new types of projects that support Shell’s portfolio in alignment with our NZE energy business target. Our current standards are reviewed and updated annually, based on changes to legislation and external and/or internal benchmarking. The latest update was in 2020. The performance standards were signed off by the Executive Vice President [EVP] accountable for implementation in the relevant businesses, and by the EVP Safety and Environment, who represented the view of a risk owner from outside the relevant business.

We estimate the GHG emissions of facilities in two ways. We apply the performance standards, and we consider the GHG emissions from the use of the products that are manufactured. We assess GHG emissions’ impacts alongside economic and technical design factors. These assessments can lead to projects being stopped or designs being changed.

During project development, we consider ways to reduce GHG emissions and whether to include them in the design. Measures considered and adopted have included:

- flaring reduction;
- carbon capture and storage (CCS) capabilities;
- exclusion of highintensity process equipment;
- using renewable energy; and
- electrification.

Our approach continues to evolve as we increase our understanding of the shifting policy landscape and the differing paces of energy transitions in different regions.

We continue to develop our project managers’ and practitioners’ competencies for effective GHG emissions management in projects. The Shell Project Academy has been set up to provide competence development programmes that include different ways of learning, such as courses on specific topics and on-the-job training. These courses also aim to ensure sharing of good practice and to encourage collaboration across businesses.

SUSTAINABILITY REPORT: ABOUT THIS REPORT – SELECTING THE TOPIC

The 2020 Sustainability Report, published on April 7, 2021, is our 24th such report. It focuses on the key sustainability challenges and opportunities we face and how we are responding. It details our social, safety and environmental performance in 2020.
The topic selection process identifies the sustainability subjects that were most relevant to Shell and our stakeholders or were prominent globally in 2020.

Each year we use a structured process to select the report’s content. We engage with various groups and individuals to understand specific concerns about our business and its impact, particularly relating to the environment and society. We consider the views of others such as nongovernmental organisations, customers, the media, academics, investors and employees.

We gather opinions and advice in various ways, including formal and informal meetings, surveys and research. Input from our Report Review Panel of independent experts helps to ensure that coverage is balanced, relevant and complete.

This report includes the topics that were a priority for Shell in 2020. Topics that consistently ranked of higher importance related to energy transition and climate change, business ethics, transparency and corporate governance.

The main steps involved in selecting topics were:

- identify and understand topics that are important to our stakeholders and our strategy;
- collate the topics identified as being of high importance;
- identify the topics that will be covered on www.shell.com;
- consider input from our Report Review Panel to ensure that coverage is balanced, relevant and complete; and
- inform Shell’s Executive Committee of the topics, for its endorsement.

b) Describe the organization’s processes for managing climate-related risks

Annual Report: [page 96/97] “Our governance of climate change”, “Reorganisation in line with updated strategy” [see GOVERNANCE a]

Annual Report: [page 98] “Climate change risk management at project level” [see RISK MANAGEMENT a]


Sustainability Report: [pages 3660] “Achieving net-zero emissions”

OUR PORTFOLIO AND CLIMATE CHANGE

We aim to grow our business in areas that will be essential in the energy transition, and where we see growth in demand over the next decade.

We are seeking cost-effective ways of managing GHG emissions in line with our NCF ambition. We also intend to help customers choose options with lower carbon intensity by bringing to market products with lower carbon intensity, in line with demand. We seek to help reduce global GHG emissions by:

- supplying more natural gas to replace coal for power generation;
- developing carbon capture and storage (CCS);
- implementing energy-efficiency measures in our operations where reasonably practicable;
- developing new fuels for transport such as advanced biofuels and hydrogen;
- maintaining a focus on using natural gas and renewable electricity to generate power, and
- working with nature-based solutions.

See further information on portfolio decisions in “Integrated Gas”, “Upstream”, “Oil Products”, and “Chemicals”

NATURAL GAS

Natural gas is the least polluting hydrocarbon. It produces less than onetenth of the air pollution that coal does when burned to generate electricity. Increasing the role that gas plays in the energy mix is one way countries can take action as the world moves to a net-zero emissions future.
Natural gas is an abundant, secure and readily available source of energy, one of the few that can be used across power generation, industry, the built environment and transport. Gas has significant advantages when used to generate power alongside renewables: it can quickly compensate for dips in supply from solar or wind generation, and can rapidly respond to surges in demand.

In 2020, gas accounted for around 47% of Shell’s total production. We are a leading producer, marketer and trader of liquefied natural gas (LNG) and gasto liquids (GTI) products. In our new strategy, launched in February 2021, one of the energy transition milestones by 2030 is that we expect the percentage of total gas production in our portfolio to gradually rise to around 55% or more.

See “Integrated Gas”.

METHANE EMISSIONS

Natural gas consists mainly of methane. Methane is a potent greenhouse gas and has a much higher global warming impact than CO2. Efforts to address climate change therefore require the industry to reduce both deliberate and unintended methane emissions.

The IEA estimates that natural gas operations have an average methane leakage rate of 1.7%. At this rate, natural gas emits between 45% and 55% less GHG than coal when burned at a power plant. Higher levels of methane emissions reduce this benefit.

In 2018, Shell announced an industry-leading target of keeping its methane emissions intensity below 0.2% by 2025. This target covers all the Shelloperated oil and gas facilities in our Upstream and Integrated Gas businesses. The baseline and target intensities are expressed as percentage figures, representing estimated methane emissions from Shell-operated oil and gas facilities as a percentage of the total amount of gas marketed, or the quantity of marketed oil and condensate where facilities have no marketed gas (for example, those that re-inject produced gas). Methane emissions include those from unintentional leaks, venting and incomplete combustion, for example, in flares and turbines.

The largest contributor to our reported methane emissions in 2020 was the flaring and venting of gas (including equipment venting) in our upstream oil and gas operations. We are working to reduce methane emissions from these sources by reducing the overall level of flaring and venting. We also continue to implement programmes across our sites to identify and stop unintended leaks and to replace or repair high-emission equipment, such as high-bleed pneumatic devices. We continue to work on confirming that we have identified all potential methane sources and reported our emissions from these sources in line with regulations and industry standards.

Since 2018, we have tested drone-based leak detection cameras and sensors in our Permian Basin shale assets, where we have more than 400 sites. In 2020, we signed a contract with Avitas, a GE Venture, to expand the use of drones to enhance our existing leak detection and repair programme in the Permian Basin. As a result, we started the drone programme on one of our shale businesses, across sites that have the potential to emit methane.

We played an active role in the advisory committee of The University of Texas at Austin’s Project Astra which plans to establish a proof-of-concept network of methane detection sensors in the Permian Basin for high-frequency monitoring.

We have also tested fixed-based methane detection sensors in our Rocky Mountain House (Canada) asset.

At our Shell ONEgas facilities in the North Sea, we have reduced methane emissions by around 55% (around 2,000 tonnes) since 2017. We have done this through improvements that reduce gas venting, such as minimising valve leakage and substituting nitrogen for natural gas when purging potentially explosive oxygen from equipment. ONEgas also continues efforts to improve the accuracy of its measurement of methane emissions. It is planning a trial of drone-mounted sensors in 2021, to see whether they provide a better way of quantifying emissions from platforms.

RENEWABLES AND ENERGY SOLUTIONS

Renewables and Energy Solutions, formerly New Energies, encompasses Shell’s low-carbon businesses. These include Shell’s activities in integrated power, hydrogen, nature-based solutions (NBS) and carbon capture and storage (CCS). We want to find ways of helping customers – be they households or businesses – to switch to low-carbon and renewable electricity. That is why we are also developing digitally-enabled platforms that will provide customers with services that make it easier for them to decarbonise and accelerate their progress in this area. We could invest on average $2-3 billion each year in our Renewables and Energy Solutions business.

See “Integrated Gas”.

POWER

Electricity is the fastest-growing part of the energy system and when generated from renewable sources has a major role to play in reducing GHG emissions. Shell is building an interconnected power business that is designed to be sustainable and offer long-term opportunities. We aim to sell some 360 terawatt hours of electricity a year by 2030, which is twice as much electricity as we sell today.

Our integrated power strategy will help Shell in its broader aim to accelerate its transformation into a provider of net-zero emissions energy products and services.

April 2021
LOW-CARBON FUELS

Shell believes that lowcarbon fuels will play a valuable role in reducing carbon dioxide (CO2) emissions from the transport sector in the coming decades. Lowcarbon fuels projects and operations around the world form part of a wider commitment to provide a range of energy choices for customers.

In 2020, around 9.5 billion litres of biofuels went into Shell’s petrol and diesel worldwide. This helped us to make progress towards achieving our climate ambition while complying with applicable mandates and targets in the markets where we operate. Through our own long-established sustainability clauses in supply contracts, we request that all biofuels we buy are produced in ways that are environmentally and socially responsible throughout the production chain. Currently, most available biofuels are produced from cereals, vegetable oils and sugar cane. From cultivation to use, biofuels can emit significantly less CO2 compared with conventional gasoline. This depends on several factors, such as how the feedstock is cultivated and the way the biofuels are produced. Other challenges include concerns over labour rights, the amount of water used in the production process, and competition for land use between biofuels and food crops.

Over three-quarters of the biofuels we buy are from North American or European feedstock producers. Both regions have regulations for agricultural practices including in relation to sustainability.

We continue to support the adoption of international sustainability standards, including those of the Round Table on Responsible Soy (RTSR), the Roundtable on Sustainable Palm Oil (RSPO) and Bonsucro, an organisation for the certification of sugar cane. We also support the Roundtable on Sustainable Biomaterials (RSB) and the International Sustainability and Carbon Certification (ISCC) scheme for feedstocks. We aim to increase the percentage of volumes that are certified according to these robust multistakeholder standards.

Currently, more than 97% of our purchased volumes of biofuels are either covered by our suppliers’ agreed contract sustainability clauses or certified as sustainable by an independent auditor. We aim to increase the percentage of volumes that are certified according to robust multistakeholder standards.

The Raizen joint venture [Shell interest 50%, not operated by Shell] in Brazil has produced lowcarbon biofuel from sugar cane since 2011. Through Raizen, Shell is a significant biofuels producer. Raizen hosts the first commercial advanced bioethanol facility and the fourth largest renewable natural gas (RNG) facility in the world.

As part of our target to be a netzero energy business by 2050, in step with society, we seek to reduce the carbon intensity of the products we sell. This means transforming our refining footprint, keeping sites in key locations but manufacturing lowcarbon fuels suitable for use as aviation, road transport and shipping fuels or as a chemical feedstock (for liquid crackers). In 2020, our Rheinland refinery in Germany produced nearly 100 million litres of renewable diesel, produced from sustainably sourced vegetable fats and oils. Our production strategy is anchored around access to competitive feedstock, commercialisation of advanced technology, supportive government policy, and building internal capability.

We are also investing in new facilities that are able to produce sustainable lowcarbon fuel suitable for use as aviation, road transport and shipping fuels or chemical feedstock for liquid crackers. Shell’s hydroprocessed esters and fatty acids (HEFA) technology yields up to 65% lowcarbon fuels compared to fossil diesel and aviation equivalent. If HEFA technology is used with green hydrogen – produced by using renewable electricity to split water into hydrogen and oxygen through electrolysis – it can increase the energy content and further reduce the carbon content of the fuels produced.

We are working on a project to add a HEFA facility at our Pernis refinery in the Netherlands. If this project went ahead, production would start in around three to four years. The proposed facility could convert waste fats and oils and other sources into sustainable low carbon vehicle and aviation fuels. A final investment decision has not yet been taken.

In January 2021, Shell announced the signing of commercial agreements to invest in Varennes Carbon Recycling, a plant in Quebec, Canada, that will turn waste into chemicals and biofuels. This plant, a joint venture with Enerkem, Proman, Suncor and Invest Quebec [Shell interest 40%], will produce biofuels and renewable chemical products using nonrecyclable waste from the industrial, commercial and institutional sectors, from construction, renovation and demolition debris and from residual forest biomass.

In line with our strategy of developing more sustainable feedstocks for transport, we are investing in renewable natural gas (RNG) for use in natural gasfuelled vehicles in the USA and Europe. RNG is produced from biogas collected from landfill sites, or via anaerobic digestion of food waste or manure. It is then processed until it is fully interchangeable with conventional natural gas. The use of RNG in naturalgas vehicles, either in the form of compressed natural gas (CNG) or LNG, offers customers a way to lower their carbon footprint.

The heavyduty road transport sector is starting to use RNG in its efforts to decarbonise. Shell recently won tenders to supply RNG to fuel around 300 of the Los Angeles (LA) bus fleet and vehicles of the West LA waste haulers fleet.
Shell has taken a final investment decision (FID) to construct, own and operate its first renewable compressed natural gas (RCNG) fuelling site in the USA. This will be at Shell’s products distribution complex in Carson, California. The RCNG will be sourced from Shell’s renewable natural gas projects in the USA, which are currently Shell Junction City in Oregon and Shell Galloway in Plains, Kansas. These convert wastes, such as dairy cow manure and agricultural residues, into pipeline quality natural gas. Shell will be able to substantially decarbonise the transport of its products from the Carson complex by providing 100% RCNG to its haulage partners, who are equipped with ultralow nitrogen oxide natural gas vehicles.

**CARBON CAPTURE, UTILISATION AND STORAGE**

CCS is a technology used for capturing carbon dioxide (CO₂) before it is emitted into the atmosphere, then transporting it, and injecting it into a deep geological formation for permanent storage. The majority of climate change scenarios produced by organisations such as IEA, IPCC and Shell require a large component of CCS in order to achieve the goals of the Paris Agreement. We recognise the scale of the challenge in developing CCS globally as quickly as is required.

In 2020, we refreshed our CCS strategy. We placed greater emphasis on how CCS could enable the energy transition for lowcarbon fuels and power, and for industrial hub developments where CO₂ from different industrial sources is routed to a single storage location. We seek to have access to an additional 2.5 million tonnes a year CCS capacity by 2035.

In 2020, Shell invested around $70 million in CCS. This included progressing opportunities and operating costs for CCS assets in which Shell has an interest.

By the end of 2020, our Quest CCS project in Canada (Shell interest 10%) had captured and safely stored more than 5.5 million tonnes of CO₂ since it began operating in 2015. Quest CCS was designed to capture about 1 million tonnes of CO₂ each year. The storage reservoir proved to have a significant capacity for CO₂ injection and strong capture reliability with less than 1% downtime annually. This means the facility could exceed its target and reduce estimated costs.

The Gorgon CCS project in Australia (Shell interest 25%, operated by Chevron) started operating in August 2019. It had stored more than 4 million tonnes of CO₂ by the end of 2020.

In Norway, Shell, our project partners and the Norwegian government took the final investment decision (FID) on the Northern Lights CCS project in 2020. This project aims to become the first carbon storage facility with capacity to transport and store CO₂ from industrial facilities in Norway and potentially from across Europe.

Shell is also involved in the Technology Centre Mongstad (TCM), in Norway. TCM is a centre for testing and improving carbon capture technology.

In the Netherlands, we have signed a joint development agreement to assess the potential to export CO₂ from our Pernis refinery to a Rotterdambased CO₂ transport and storage provider.

In the UK, we are collaborating with other companies to further understand the potential of CCS. Projects include how to decarbonise our own facilities, to deliver gas power and lowcarbon hydrogen.

In other regions, we are pursuing opportunities which are currently in early development phases.

Shell recognises the role of policy as a key enabler for implementing CCS. We are a member of several industry organisations that actively advocate CCS, such as the Zero Emissions Platform in the EU, the American Petroleum Institute in the USA, and the Carbon Capture and Storage Association in the UK. Shell makes representations and contributes to technical and policy papers through these organisations. In 2020, Shell submitted responses to a number of consultations on aspects of CCS, individually and through industry associations, in the EU, USA, UK and other jurisdictions.

Shell is participating in the OGCI’s KickStarter initiative to unlock largescale investment in CCS. The initiative is designed to help decarbonise industrial hubs around the world and started with hubs including North America, Northwest Europe and China.

**NATURE-BASED SOLUTIONS**

We believe that nature will play an important role in the transition to a lowcarbon world. Using nature to absorb carbon dioxide helps to limit the overall stock of greenhouse gases in the atmosphere. This can serve as a temporary solution until other lowcarbon alternatives are deployed at scale, or it can compensate for emissions that are unavoidable.

As customers’ and society’s demand for the use of lowcarbon products and services grows, nature-based solutions are becoming an increasingly attractive option for emissions offsetting for a range of industries and operators.
Nature-based projects typically involve protecting or redeveloping natural ecosystems such as forests and wetlands, so they can capture and store more carbon. These projects generate carbon emission rights that can be bought by energy consumers around the world. They also support conservation of biodiversity and offer alternative sources of income to local communities.

Nature-based solutions are expected to contribute to meeting our target to be a net-zero emissions energy business by 2050, in step with society.

We have been running a nature-based solutions programme to invest in natural ecosystems since 2019. As well as investing directly in projects that protect or restore nature, we are also working with projects that already generate carbon credits for our customers. In 2020, Shell invested around $90 million in nature-based projects that reduce or avoid emissions and can also benefit ecosystems by improving biodiversity, water quality and flood protection. This in turn can improve the livelihoods of people in local communities.

Our ambition is to invest around $100 million per year in nature-based projects that reduce or avoid CO2 emissions and offer other valuable ecosystem benefits. We aim to use nature-based solutions, in line with the philosophy of avoid, reduce and only then mitigate, to offset emissions of around 120 million tonnes a year by 2030, through projects of the highest independently verified quality.

In 2020, we developed a screening process with clear criteria to help ensure that we invest in nature-based solutions projects that are of high quality and integrity. The criteria include but are not limited to:

- selecting only projects that are certified under credible, high-quality and independent carbon-credit standards;
- selecting projects that deliver wider environmental and social benefits;
- working to ensure project developers maintain appropriate health, safety, security and social governance standards; and
- having an independent third party audit our internal nature-based project screening review and management processes.

In 2019, we started offering what we called “carbon-neutral driving” to our retail customers. We offered service station customers in the Netherlands and the UK nature-based carbon credits to offset the CO2 emissions generated by the extraction, refining, distribution and use of the Shell fuel they buy. By the end of 2020, around 18% of Shell’s retail customers in the Netherlands and around 15% of our UK service station customers were driving carbon neutral. So too were more than 200 fleet customers in 12 countries who took advantage of similar offers for businesses.

In 2020, we continued to roll out our carbon-neutral retail offer in Germany, Austria, Switzerland, and Canada, and via a third-party reseller agreement in Denmark. We also offer a growing range of products with nature-based carbon credits, including home energy in the UK, LNG in Asia, bitumen in Europe, and selected lubricants.

In 2020, we took another step to scale up our activities in natural ecosystems by acquiring Select Carbon, a specialist company that partners with farmers, pastoralists and other landowners in Australia to develop carbon farming projects, where plants are grown and soil managed to absorb carbon dioxide from the atmosphere.

For more information, see the Shell Sustainability Report, “Achieving net-zero emissions” (pages 36-60)

c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization’s overall risk management

<table>
<thead>
<tr>
<th>Sustainability Report:</th>
<th>(page 7/8) “Our approach to sustainability”</th>
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<tbody>
<tr>
<td>Annual Report:</td>
<td>(pages 186/187) “Risk management and controls”</td>
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</table>

**OUR APPROACH TO SUSTAINABILITY**

Powering Progress is our strategy to accelerate the transition of our business to net-zero emissions, in step with society, purposefully and profitably. It delivers value for our shareholders, customers and wider society, and integrates our longstanding commitment to contribute to sustainable development with our business strategy.

This commitment has been part of the Shell General Business Principles since 1997. These principles, together with our Code of Conduct, apply to the way we do business and to our conduct with the communities where we operate.

We aim to provide more and cleaner energy solutions in a responsible manner – in a way that balances short and long term interests, and that integrates economic, environmental and social considerations.
Today, we continue to build on these foundations while driving change across the organisation to help society meet its most pressing challenges, including those related to climate change, the environment, diversity and inclusion, and human rights. We seek the views of various groups and individuals about the role of an organisation like Shell in addressing these challenges.

Powering Progress, announced in February 2021, has four main goals in support of our purpose – to power progress together by providing more and cleaner energy solutions:

- Generating shareholder value: growing value through a dynamic portfolio and disciplined capital allocation;
- Achieving net-zero emissions in step with society: working with our customers and other sectors to accelerate the transition to net-zero emissions;
- Powering lives: powering lives through our products and activities, and by supporting an inclusive society; and
- Respecting nature: protecting the environment, reducing waste and making a positive contribution to biodiversity.

Powering Progress is underpinned by our core values of honesty, integrity and respect for people and our focus on safety. These include our commitment to doing business in an ethical and transparent way.

We will also continue to work in close partnership with, and consider the views of, others, including nongovernmental organisations, industry bodies, national oil and gas companies, our customers and wider society. Read more at [www.shell.com/poweringprogress](http://www.shell.com/poweringprogress).

**EMBEDDING SUSTAINABILITY INTO PROJECTS**

Safety, the environment and communities are vital considerations when we plan, design and operate our projects and facilities.

The mandatory requirements in our Health, Safety, Security, Environment and Social Performance (HSSE & SP) Control Framework help to ensure projects and facilities are managed safely, responsibly and in a consistent way.

We conduct impact assessments for every major project and consider the economic, social, environmental and health opportunities and risks.

We engage with communities and other stakeholders, such as customers and contractors, to discuss projects. We listen to concerns they might have as well as ideas so these can be addressed in the planning and design of our projects. This input helps us comply with relevant social and environmental regulations and align with international standards, such as those set by the World Bank and the International Finance Corporation.

We train our project teams to embed sustainability into projects and aim to balance short- and long-term business interests. Specialists support our project teams in areas such as biodiversity, waste, air, energy and water management, and human rights, including indigenous peoples’ rights, cultural heritage and resettlement. This approach has meant, for example, that since construction started at the Shell-operated QGC natural gas project in Australia, only 34% of disturbance to endangered ecosystems, ecosystems of concern and essential habitats has occurred compared with what was initially predicted (see Biodiversity). Shell has a majority interest in QGC as a result of the BG acquisition in 2016.

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. Our HSSE & SP Control Framework requires projects and facilities that produce more than 50,000 tonnes of GHG emissions a year to have a GHG and energy management plan. To assess the long-term financial viability of proposed projects or potential alternatives, we also consider potential costs associated with operational GHG emissions (see Greenhouse gas emissions).

We work continually to improve the energy efficiency of our facilities. This includes monitoring electricity use, making equipment more efficient through regular and smart scheduling of maintenance, and using more renewable energy sources. For example, in 2020, we invested in new furnaces for our Moerdijk petrochemicals complex in the Netherlands to reduce energy consumption and GHG emissions by around 10% compared with 2019 (see Energy efficiency in our operations).

We have also started to collaborate with communities on district heating, which involves distributing heated water from a central plant around a region via insulated pipes. We also use cogeneration power plants at our projects.

We aim to work with contractors and suppliers that are economically, environmentally and socially responsible. We seek to contribute to the development of local economies in the regions where we operate by creating jobs, boosting skills and sourcing from local suppliers (see Supply chain and Local content).
# A Guide to Sustainability Across the Life of a Project

<table>
<thead>
<tr>
<th>Identify and assess</th>
<th>Select</th>
<th>Define</th>
<th>Execute</th>
<th>Operate</th>
<th>Decommission and restore</th>
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<tr>
<td>Identify people who may be interested in or affected by the project</td>
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<td>✔️</td>
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<tr>
<td>Engage with stakeholders (e.g., communities, host governments and NGOs) and feed responses into our risk analyses and decision-making process</td>
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<tr>
<td>Conduct baseline studies of the local environment (e.g., water, biodiversity and social livelihoods) and consider how the project may affect it</td>
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<tr>
<td>Based on assessment of potential impacts and stakeholder engagement, identify mitigation and enhancement measures</td>
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<tr>
<td>Implement a mitigation plan for project development, construction, operation, decommissioning and restoration</td>
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## Risk Management and Controls

The Board is responsible for maintaining a sound system of risk management and internal control, and for regularly reviewing its effectiveness.

A single overall control framework is in place for the Company and its subsidiaries that is designed to manage rather than eliminate the risk of failure to achieve business objectives. It therefore only provides reasonable and not absolute assurance against material misstatement or loss.

The Control Framework diagram illustrates the key components – “Foundations”, “Management processes” and “Structural” – that make up the Control Framework. “Foundations” comprises the objectives, principles and rules that underpin and establish boundaries for Shell activities. “Management processes” refers to the more significant management processes, including how strategy, planning and appraisal are used to improve performance and how risks are to be managed through effective controls and assurance. The “Structural” component defines how Businesses and Functions facilitate achievement of the Shell group’s overall business objectives.

![Control Framework Diagram]

### Risk Management

- **The Foundation** elements of the Shell Control Framework define the principles that underpin the Shell Group’s activities.
- **The Management processes** defines activities critical to an effective control framework.
- **The Structural** component defines how Businesses and Functions facilitate achievement of the Shell group’s overall business objectives, while respecting the separate legal identity of the Individual Shell companies that implement them.
The "Statement on Risk Management" is a foundation element of Shell’s Control Framework and a key enabler of many of its management processes. We assess risks across the Shell Group in terms of three distinct categories:

Strategic risks: we consider current and future portfolio considerations, examining parameters such as country concentration or exposure to high-risk countries. We also consider long-range developments in order to test key assumptions or beliefs in relation to energy markets.

Operational risks: we consider material operational exposures across Shell’s entire value chain, and promote a more granular assessment of key risks facing the organisation.

Conduct and culture risks: we consider alignment of our policies, practices and behaviours against our purpose and core values.

To support risk assessment across each category, Shell has developed a risk appetite framework, which helps management establish and articulate the level of risk that they are willing to accept in pursuit of Shell’s strategy and objectives, noting that there are also risks that Shell accepts or does not seek to fully mitigate. The financial framework sets an overarching boundary condition in the consideration of risk appetite, as the financial resilience of Shell should logically inform the aggregate level of risk appetite that could be sustained.

Shell’s principal risks and the broad array of measures used to manage each risk are described in section “Risk factors”. During the year, management regularly reviews these principal risks and associated risk responses and implements further remedial actions as appropriate.

The Executive Committee and the Board regularly consider Group-level risks, framed across the three categories above, together with the associated control mechanisms and risk responses. In 2020, specific attention was given to our response to the COVID-19 pandemic (see “Responding to the COVID-19 Pandemic” section below).

Management and the Board also consider emerging risks, defined as risks where the scope, impact and likelihood are still uncertain, but which could have a material effect on achieving Shell’s strategy and objectives in the future. These risks are identified through, among other procedures, the monitoring of external developments, scenario planning, the status of risk indicators, learnings from incidents and assurance findings, and the appraisal of Shell’s forward-looking plans. Once identified, we undertake activities to monitor, prepare for and/or reduce the future impact, where possible, should such emerging risks materialise.

The system of risk management and internal control over financial reporting is an integral part of the Control Framework. Regular reviews are performed to identify the significant risks to financial reporting and the key controls designed to address them. These controls are documented, responsibility is assigned, and they are monitored for design and operating effectiveness. Controls found to be ineffective are remediated.

Shell has a climate change risk management structure which is supported by standards, policies and controls (see “Risk factors” and “Climate change and energy transition”). Climate change and risks resulting from greenhouse gas emissions have been identified as significant risk factors for Shell and are managed in accordance with other significant risks through the Board and Executive Committee.

Many of our major projects and operations are conducted in joint arrangements or associates, which may reduce the degree of control and ability to identify and manage risks (see “Risk factors”). In each case, Shell appoints a representative to manage its interests who seeks to ensure that such projects operate under equivalent Shell standards to Shell.

We operate in more than 70 countries that have differing degrees of political, legal and fiscal stability. This exposes us to a wide range of political developments that could result in changes to contractual terms, laws and regulations. In addition, we and our joint arrangements and associates face the risk of litigation and disputes worldwide (see “Risk Factors”). We continuously monitor geopolitical developments and societal issues relevant to our interests. Employees who engage with government officials are subject to specific training programmes, procedures and regular communications, in addition to Shell General Business Principles and Shell Code of Conduct compliance. We are prepared to exit a country if we believe we can no longer operate in that country in accordance with our standards and applicable law, and we have done so in the past.

The Board confirms it has carried out a robust assessment of Shell’s principal risks, including a robust process for identifying, evaluating and managing Shell’s principal risks. The Board confirms it has carried out a robust assessment of Shell’s emerging risks, the procedures in place to identify the emerging risks, and how risks are being managed or mitigated to help Shell achieve its strategy and objectives. This has been in place throughout 2020 and up to the date of this Report; is regularly reviewed by the Board; and accords with the FRC Guidance on risk management, internal control and related financial and business reporting.

REVIEW OF THE EFFECTIVENESS OF RISK MANAGEMENT AND INTERNAL CONTROL

The Board has delegated authority to the Audit Committee to assist it in fulfilling its responsibilities in relation to the effectiveness of the risk management framework and internal control system, the integrity of financial reporting as well as consideration of compliance matters. (see “Audit Committee Report”).

The Audit Committee met six times this year and received regular reports from the Chief Internal Auditor on notable internal audits and those with a significant impact on control effectiveness. The Audit Committee also reviewed significant financial, business and compliance
control incidents and received regular reports on business integrity issues. The Audit Committee also requested updates on specific financial, operational and compliance control issues throughout the year. The Audit Committee Chair provided an update to the Board after every Audit Committee meeting.

During and after such reports, the Board has an opportunity to request further information and/or ask clarifying questions, which it does to varying degrees depending on the issue. Similarly, the Chairs of the Safety, Environment and Sustainability Committee (SESCo) and the Nigeria Special Litigation Committee, an ad hoc Board committee, also provide regular updates after each of their respective meetings covering, among other matters, the respective aspects of controls that they monitor pursuant to their Terms of Reference. The Audit Committee and SESCo minutes, once approved, are further provided to the Board and incorporated into Board minutes to ensure full access to and review by all Directors. These aspects, together with the 2020 Reports respectively produced by the Executive Vice President Taxation and Controller and Chief Internal Auditor, the External Auditors, the Chairs of the Disclosure Committee and the Financial Reporting Control Committee and the Chief Ethics & Compliance Officer, as well as summaries of the Annual Proved Reserves Disclosure and the Full Year HSSE & Social Performance Assurance Report, enable the Board’s ongoing monitoring and annual review of material controls.

An annual review of the effectiveness of risk management and internal control was carried out by both the Executive Committee and the Audit Committee. This was based on their own insights and experience throughout the year as well as outcomes from the Group-level risk reviews and the Group Assurance Letter process, a structured internal assessment of compliance with legal and ethical requirements and the Shell Control Framework carried out by each Executive Director. As part of their annual review, the Executive Committee and Audit Committee also considered input from the Chief Internal Auditor, Chief Ethics & Compliance Officer and the External Auditor. The insights and conclusions from this annual assessment were reviewed and discussed by the Board.

The Board confirms that it has conducted its annual review of the effectiveness of Shell’s system of risk management and internal control in respect of 2020, such review covering all material controls, including financial, operational and compliance controls.
METRICS AND TARGETS: Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material

a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process

Sustainability Report: (page 13/14) “Executive remuneration”
Sustainability Report: (page 98/103) “Greenhouse gas and energy data”
Annual Report: (page 100) “Our net carbon intensity targets” (see GOVERNANCE b)), (page 164/165) “Annual Report on Remuneration”

EXECUTIVE REMUNERATION: ANNUAL BONUS

The Royal Dutch Shell plc Board’s Remuneration Committee approved a 2020 annual bonus scorecard that had a 20% weighting on Sustainable Development (safety and environment each weighted at 10%) based on Shell’s operating plan. This was based on recommendations from the Board’s Safety, Environment and Sustainability Committee. This scorecard was not communicated to participants as within a few weeks it became clear that the operating plan was no longer appropriate. In April 2020, the Board’s Remuneration Committee determined that there should be no 2020 annual bonuses.

LONG-TERM INCENTIVE PLAN

In December 2018, Shell announced plans to link executive remuneration to short-term targets to reduce the Net Carbon Footprint of the energy products we sell, including our customers’ emissions from their use of our energy products.

Following discussions with major shareholders and based on recommendations from the Board’s Safety, Environment and Sustainability Committee, the Board’s Remuneration Committee added an energy transition condition to the 2019 long-term incentive plan award. This condition included our first three-year target aligned with the trajectory of our long-term Net Carbon Footprint ambition at the time. It also featured other measures linked to our strategic ambitions, including the growth of Shell’s power business, the commercialisation of advanced biofuel technology, and the development of sinks to capture and store carbon (see Business strategy).

LONG-TERM INCENTIVE PLAN – 2021 PERFORMANCE CONDITIONS

- Absolute measures 40%
- Relative measures 60%

The energy transition condition was included again in the 2020 long-term incentive plan awards for Executive Directors and senior executives and was also incorporated into the performance share plan awards made to around 16,500 employees globally.

For 2021 share awards, the weighting of the energy transition condition has doubled, and for the long-term incentive plan it has been increased from 10% to 20%. The target range for the 20212023 long-term incentive plan grant is a 68% reduction in net carbon intensity against the 2016 baseline of 79 grams of CO2 equivalent per megajoule. The other targets linked to our strategic ambitions will also evolve, with the metric connected to commercialising advanced biofuel technology broadening to a measure of growing new cleaner...
energy product offerings. The targets for the leading energy transition measures are commercially sensitive and will be disclosed retrospectively.


Greenhouse gas and energy data

<table>
<thead>
<tr>
<th>NET CARBON FOOTPRINT (NCF)</th>
<th>Unit</th>
<th>2020</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
<th>2016</th>
<th>IPIECA</th>
<th>SASB</th>
<th>GRI</th>
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<tr>
<td><strong>NET CARBON FOOTPRINT [A]</strong></td>
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<tr>
<td>Net Carbon Footprint</td>
<td>g CO2e/ Mj</td>
<td>75</td>
<td>78</td>
<td>79</td>
<td>79</td>
<td>79</td>
<td></td>
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<tr>
<td><strong>Share of energy delivered per energy product type [C]</strong></td>
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<tr>
<td>Oil products and GTL</td>
<td>%</td>
<td>47</td>
<td>56</td>
<td>55</td>
<td>54</td>
<td>54</td>
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<tr>
<td>Gas</td>
<td>%</td>
<td>21</td>
<td>17</td>
<td>21</td>
<td>23</td>
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<tr>
<td>LNG</td>
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<td>16</td>
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<tr>
<td>Power</td>
<td>%</td>
<td>12</td>
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<td>7</td>
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<tr>
<td><strong>Total estimated greenhouse gas emissions covered by the Net Carbon Footprint calculation [D]</strong></td>
<td>million tonnes CO2e</td>
<td>1,384</td>
<td>1,646</td>
<td>1,731</td>
<td>1,688</td>
<td>1,645</td>
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<td><strong>Carbon intensity of energy products type</strong></td>
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<tr>
<td>Oil products and GTL</td>
<td>g CO2e/Mj</td>
<td>89</td>
<td>89</td>
<td>88</td>
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<tr>
<td>Gas</td>
<td>g CO2e/Mj</td>
<td>67</td>
<td>66</td>
<td>67</td>
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<tr>
<td>LNG</td>
<td>g CO2e/Mj</td>
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<td>71</td>
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<td>Biofuels</td>
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<tr>
<td>Power</td>
<td>g CO2e/Mj</td>
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<td>59</td>
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</table>

(A) Total sales volumes from markets where Shell operates under trademark licensing agreements are excluded from the scope of the Net Carbon footprint.
(B) Total volume of energy products sold by Shell aggregated on an energy basis, with electricity represented as fossil equivalents. This value is derived from energy product sales figures disclosed by Shell in the Annual Report, form 20F and the Sustainability Report.
(C) Percentage of delivered energy may not add up to 100% because of rounding.
(D) Total CO2 emissions estimated using Shell’s Net Carbon footprint value and the estimate of total delivered energy. Note that this estimated value is calculated from the portfolio average intensity value, which is determined by Shell’s Net Carbon footprint calculation. It is only intended to give an indication of the scope of the emissions included within Shell’s Net Carbon footprint; it does not represent an inventory of emissions. Carbon offsets for 2019 and 2020 were included in the total estimated GHG emissions covered by the Net Carbon footprint calculation.

<table>
<thead>
<tr>
<th>SALES OF GAS AND POWER PRODUCED BY THIRD PARTIES</th>
<th>Unit</th>
<th>2020</th>
<th>2019 [A]</th>
<th>2018</th>
<th>2017</th>
<th>2016</th>
<th>IPIECA</th>
<th>SASB</th>
<th>GRI</th>
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<tr>
<td>Gas (Btu)</td>
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<td>Power (TWh)</td>
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In certain cases, prior to 2019, it was not possible to disaggregate sales of Shell and third-party gas volumes. To avoid double counting, these sales volumes were not included in the above figures.

(A) Sales volumes reported exclude those related to pure trading activities.
### SCOPE 1 GHG EMISSIONS (OPERATIONAL CONTROL)

<table>
<thead>
<tr>
<th>Unit</th>
<th>2020</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
<th>2016</th>
<th>IPECA</th>
<th>SASB</th>
<th>GRI</th>
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<tbody>
<tr>
<td>Direct GHG emissions (Scope 1) [A] [B] [C] [D] million tonnes CO₂e</td>
<td>63</td>
<td>70</td>
<td>71</td>
<td>73</td>
<td>72</td>
<td>CCE-4</td>
<td>EM-BP-10a-1</td>
<td>2031</td>
</tr>
<tr>
<td>Carbon dioxide (CO₂) million tonnes</td>
<td>61</td>
<td>67</td>
<td>69</td>
<td>70</td>
<td>68</td>
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<td>EM-BP-10a-1</td>
<td>2031</td>
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<tr>
<td>Methane (CH₄) thousand tonnes</td>
<td>67</td>
<td>91</td>
<td>92</td>
<td>123</td>
<td>138</td>
<td>CCE-4</td>
<td>EM-BP-10a-1</td>
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<tr>
<td>Nitrous oxide (N₂O) thousand tonnes</td>
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<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Hydrofluorocarbons (HFCs) tonnes</td>
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<td>29</td>
<td>31</td>
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<td>Sulphur hexafluoride (SF₆) tonnes</td>
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<td>Pentafluorobutanes (PFC) tonnes</td>
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<td>0</td>
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<td>2031</td>
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<tr>
<td>Nitrogen trifluoride (NF₃) tonnes</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>EM-BP-10a-1</td>
<td>2031</td>
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**Scope 1 emissions by business**

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<tbody>
<tr>
<td>Upstream</td>
<td>12.8</td>
<td>12.9</td>
<td>14.8</td>
<td>19.6</td>
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<tr>
<td>Integrated Gas</td>
<td>14.1</td>
<td>16.3</td>
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<td>12.0</td>
<td>13.7</td>
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<tr>
<td>Downstream</td>
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<td>40.3</td>
<td>42.7</td>
<td>41.1</td>
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<td>EM-BP-10a-1</td>
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<tr>
<td>Other</td>
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<td>0.8</td>
<td>0.2</td>
<td>0.1</td>
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**Scope 1 emissions by country**

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<td>USA</td>
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<td>19</td>
<td>20</td>
<td>18</td>
<td>16</td>
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<td>EM-BP-10a-1</td>
<td>2031</td>
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<td>Middle East</td>
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<td>9</td>
<td>11</td>
<td>12</td>
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<td>EM-BP-10a-1</td>
<td>2031</td>
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<td>Netherlands</td>
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<td>7</td>
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<td>Singapore</td>
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<td>International waters</td>
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<td>6</td>
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<td>EM-BP-10a-1</td>
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**Scope 1 emissions by source**

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<th>2017</th>
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<th>GRI</th>
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<td>CO₂ emissions</td>
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<td>70</td>
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<td>EM-BP-10a-2</td>
<td>2031</td>
</tr>
<tr>
<td>Combustion</td>
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<td>53</td>
<td>54</td>
<td>53</td>
<td>53</td>
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<td>EM-BP-10a-2</td>
<td>2031</td>
</tr>
<tr>
<td>Faring</td>
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<td>7</td>
<td>6</td>
<td>9</td>
<td>8</td>
<td>CCE-4</td>
<td>EM-BP-10a-2</td>
<td>2031</td>
</tr>
<tr>
<td>Venting and process</td>
<td>6</td>
<td>8</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>CCE-4</td>
<td>EM-BP-10a-2</td>
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<tr>
<td>Fugitives</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
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<td>CH₄ emissions</td>
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<td>Combustion</td>
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<td>13</td>
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<td>Faring</td>
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<td>Venting and process</td>
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<td>Fugitives</td>
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<td>EM-BP-10a-2</td>
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<td>Other greenhouse gases</td>
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**Methane (CH₄) emissions**

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<th>2016</th>
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<th>SASB</th>
<th>GRI</th>
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<tr>
<td>Methane emissions in CO₂ equivalent [E] million tonnes CO₂e</td>
<td>1.7</td>
<td>2.3</td>
<td>2.3</td>
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<td>EM-BP-10a-1</td>
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<td>Methane emissions intensity - assets with marketed gas %</td>
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<tr>
<td>Methane emissions intensity - assets without marketed gas %</td>
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April 2021
### SCOPE 1 GHG EMISSIONS (OPERATIONAL CONTROL) CONTINUED

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<th>2018</th>
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<th>2016</th>
<th>IEPECA</th>
<th>SASB</th>
<th>GRI</th>
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<tr>
<td>Upstream flaring [F]</td>
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<tr>
<td>GHG emissions from flaring (million tonnes CO₂e)</td>
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<td>Total hydrocarbons flared (million tonnes)</td>
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<td>Nigeria (million tonnes)</td>
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<td>Rest of the world (million tonnes)</td>
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<td>GHG emissions from exported energy [G]</td>
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<tr>
<td>(million tonnes CO₂e)</td>
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<td>3</td>
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<td>CCE-4</td>
<td>EMES-56932</td>
<td>3082</td>
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</tbody>
</table>

[A] Greenhouse gas emissions (GHG) comprise carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and nitrogen trifluoride. The data are calculated using locally regulated method where they exist. Where there is a locally regulated method, the data are calculated using the 2009 AP Compendium, which is the recognised industry standard under the OHS Protocol Corporate Accounting and Reporting Standard. There are inherent limitations in the accuracy of such data. Oil and gas industry guidelines (IPCC/GWP/GHG) indicate that several sources of uncertainty can contribute to the overall uncertainty of a corporate emissions inventory. We have estimated the overall uncertainty for our direct (Scope 1) emissions to be around 3%.

[B] GHG emissions are calculated using Global Warming Potential factors from the IPCC’s Fourth Assessment Report. For comparison, our Scope 2 emissions would have been 63 million tonnes in 2020 if we were to use Global Warming Potentials from the IPCC’s Fifth Assessment Report.

[C] We have updated some of our historical figures following a review of the data.

[D] GHG emissions in this table do not include carbon offsets.

[E] Methane emissions were converted to CO₂ equivalents using global warming potentials (GWP100) from the IPCC’s Fourth Assessment Report. For comparison, our methane emissions would have been 1.5 million tonnes in CO₂e equivalents in 2020 if we were to use global warming potentials from the IPCC’s Fifth Assessment Report.

[F] Includes Upstream and Integrated Gas businesses.

### SCOPE 2 GHG EMISSIONS (OPERATIONAL CONTROL)

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<td>12</td>
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<td>CCE-4</td>
<td>-</td>
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<tr>
<td>Integrated Gas</td>
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<td>-</td>
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<td>0.6</td>
<td>1.1</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>CCE-4</td>
<td>-</td>
<td>3082</td>
</tr>
</tbody>
</table>

| Scope 2 emissions - location-based method (million tonnes CO₂e) | | | | | | | | |
| Upstream | 3 | 3 | 3 | 3 | 3 | CCE-4 | - | 3082 |
| Integrated Gas | | | | | | | | |
| Other | | | | | | | | |

| Scope 2 emissions by business (market-based method) (million tonnes CO₂e) | | | | | | | | |
| USA | 31 | 31 | 32 | 31 | 27 | CCE-4 | - | 3082 |
| Netherlands | 18 | 18 | 18 | 19 | 18 | CCE-4 | - | 3082 |
| Canada | 18 | 23 | 20 | 27 | 32 | CCE-4 | - | 3082 |
| Australia | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | CCE-4 | - | 3082 |
| Singapore | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | CCE-4 | - | 3082 |
| Germany | 0.3 | 0.3 | 0.4 | 0.7 | 0.6 | CCE-4 | - | 3082 |
| Rest of world | 0.3 | 0.3 | 0.4 | 0.3 | 0.5 | CCE-4 | - | 3082 |

| Scope 2 emissions by business (location-based method) (million tonnes CO₂e) | | | | | | | | |
| Upstream | 2.6 | 2.7 | 2.4 | 2.3 | 2.0 | CCE-4 | - | 3082 |
| Integrated Gas | 7.2 | 7.5 | 6.8 | 7.4 | 7.3 | CCE-4 | - | 3082 |
| Other | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | CCE-4 | - | 3082 |

| Scope 2 emissions by country (location-based method) (million tonnes CO₂e) | | | | | | | | |
| USA | 3.1 | 3.4 | 3.4 | 3.1 | 2.7 | CCE-4 | - | 3082 |
| Netherlands | 1.8 | 1.8 | 1.7 | 1.9 | 1.8 | CCE-4 | - | 3082 |
| Canada | 1.9 | 2.3 | 2.0 | 2.7 | 3.2 | CCE-4 | - | 3082 |
| Australia | 2.6 | 2.6 | 2.4 | 2.3 | 1.9 | CCE-4 | - | 3082 |
| Singapore | 0.3 | 0.5 | 0.5 | 0.6 | 0.6 | CCE-4 | - | 3082 |
| Germany | 0.3 | 0.4 | 0.3 | 0.4 | 0.3 | CCE-4 | - | 3082 |
| Rest of world | 0.4 | 0.4 | 0.4 | 0.3 | 0.5 | CCE-4 | - | 3082 |
### GHG Intensities (Operational Control)

<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th>2020</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
<th>2016</th>
<th>IPECA</th>
<th>SASB</th>
<th>GRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upstream and Integrated Gas GHG intensity [A]</td>
<td>tonne CO₂ per tonne production</td>
<td>0.159</td>
<td>0.168</td>
<td>0.158</td>
<td>0.166</td>
<td>0.166</td>
<td>COE-4</td>
<td>-</td>
<td>2054</td>
</tr>
<tr>
<td>Upstream and Integrated Gas GHG intensity [B]</td>
<td>kg CO₂ per boe</td>
<td>21</td>
<td>22</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>COE-4</td>
<td>-</td>
<td>2054</td>
</tr>
<tr>
<td>Refinery GHG intensity [C]</td>
<td>tonne CO₂/UEC^TM</td>
<td>1.05</td>
<td>1.06</td>
<td>1.05</td>
<td>1.14</td>
<td>1.18</td>
<td>COE-4</td>
<td>-</td>
<td>3054</td>
</tr>
<tr>
<td>Chemical GHG intensity [D]</td>
<td>tonne CO₂ per tonne production</td>
<td>0.98</td>
<td>1.04</td>
<td>0.96</td>
<td>0.95</td>
<td>0.99</td>
<td>COE-4</td>
<td>-</td>
<td>3054</td>
</tr>
</tbody>
</table>

[A] In tonnes of Scope 1 and Scope 2 GHG emissions per tonne of all liquid and gas available for sale, liquefied natural gas and gas-to-liquids production in Integrated Gas and Upstream.

[B] In kilograms of Scope 1 and Scope 2 GHG emissions per barrel of all liquid and gas available for sale, liquefied natural gas and gas-to-liquids production in Integrated Gas and Upstream.

[C] UEC^TM (Utilized Equivalent Capacity) is a proprietary metric of Salomon Associates. It is a capacity-weighted normalization parameter that reflects the operating asset intensity of a refinery, based on size and configuration of its particular mix of process and non-process facilities.

[D] High-value chemicals include ethylene, propylene, and propylene plus the contained benzene, toluene, xylene, and high-purity hydrogen production.

### SCOPE 1 AND 2 GHG Emissions (Equity Boundary)

<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th>2020 (A)</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
<th>2016</th>
<th>IPECA</th>
<th>SASB</th>
<th>GRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct GHG emissions (Scope 1)</td>
<td>million tonnes CO₂</td>
<td>105</td>
<td>102</td>
<td>97</td>
<td>100</td>
<td>COE-4</td>
<td>EMPIBA</td>
<td>3041</td>
<td></td>
</tr>
<tr>
<td>Upstream</td>
<td>million tonnes CO₂</td>
<td>21.7</td>
<td>22.2</td>
<td>25.4</td>
<td>25.1</td>
<td>COE-4</td>
<td>EMPIBA</td>
<td>3041</td>
<td></td>
</tr>
<tr>
<td>Integrated Gas</td>
<td>million tonnes CO₂</td>
<td>25.9</td>
<td>25.2</td>
<td>24.1</td>
<td>24.6</td>
<td>COE-4</td>
<td>EMPIBA</td>
<td>3041</td>
<td></td>
</tr>
<tr>
<td>Downstream</td>
<td>million tonnes CO₂</td>
<td>57.3</td>
<td>53.8</td>
<td>47.1</td>
<td>47.8</td>
<td>COE-4</td>
<td>EMPIBA</td>
<td>3041</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>million tonnes CO₂</td>
<td>0.2</td>
<td>0.8</td>
<td>0.3</td>
<td>2.4</td>
<td>COE-4</td>
<td>EMPIBA</td>
<td>3041</td>
<td></td>
</tr>
<tr>
<td>Scope 2 emissions (market-based method)</td>
<td>million tonnes CO₂</td>
<td>11</td>
<td>11</td>
<td>13</td>
<td>13</td>
<td>COE-4</td>
<td>-</td>
<td>3054</td>
<td></td>
</tr>
<tr>
<td>Upstream</td>
<td>million tonnes CO₂</td>
<td>1.2</td>
<td>1.3</td>
<td>1.3</td>
<td>1.5</td>
<td>COE-4</td>
<td>-</td>
<td>3054</td>
<td></td>
</tr>
<tr>
<td>Integrated Gas</td>
<td>million tonnes CO₂</td>
<td>1.1</td>
<td>1.8</td>
<td>2.0</td>
<td>1.6</td>
<td>COE-4</td>
<td>-</td>
<td>3054</td>
<td></td>
</tr>
<tr>
<td>Downstream</td>
<td>million tonnes CO₂</td>
<td>8.0</td>
<td>7.7</td>
<td>9.2</td>
<td>8.4</td>
<td>COE-4</td>
<td>-</td>
<td>3054</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>million tonnes CO₂</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>1.3</td>
<td>COE-4</td>
<td>-</td>
<td>3054</td>
<td></td>
</tr>
<tr>
<td>Scope 2 emissions (location-based method)</td>
<td>million tonnes CO₂</td>
<td>12</td>
<td>11</td>
<td>13</td>
<td>n/c</td>
<td>COE-4</td>
<td>-</td>
<td>3054</td>
<td></td>
</tr>
<tr>
<td>Upstream</td>
<td>million tonnes CO₂</td>
<td>1.2</td>
<td>1.2</td>
<td>1.3</td>
<td>n/c</td>
<td>COE-4</td>
<td>-</td>
<td>3054</td>
<td></td>
</tr>
<tr>
<td>Integrated Gas</td>
<td>million tonnes CO₂</td>
<td>1.8</td>
<td>1.8</td>
<td>2.0</td>
<td>n/c</td>
<td>COE-4</td>
<td>-</td>
<td>3054</td>
<td></td>
</tr>
<tr>
<td>Downstream</td>
<td>million tonnes CO₂</td>
<td>8.3</td>
<td>7.6</td>
<td>9.5</td>
<td>n/c</td>
<td>COE-4</td>
<td>-</td>
<td>3054</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>million tonnes CO₂</td>
<td>0.2</td>
<td>0.3</td>
<td>0.2</td>
<td>n/c</td>
<td>COE-4</td>
<td>-</td>
<td>3054</td>
<td></td>
</tr>
</tbody>
</table>

n/c: not collected

(A) 2020 data will be available in June 2021.

### SCOPE 3 GHG Emissions

<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th>2020</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
<th>2016</th>
<th>IPECA</th>
<th>SASB</th>
<th>GRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchased goods and services (Category 1)</td>
<td>million tonnes CO₂</td>
<td>147</td>
<td>178</td>
<td>190</td>
<td>186</td>
<td>172</td>
<td>COE-4</td>
<td>-</td>
<td>3054</td>
</tr>
<tr>
<td>Third-party products [C]</td>
<td>million tonnes CO₂</td>
<td>1,054</td>
<td>1,271</td>
<td>1,351</td>
<td>1,318</td>
<td>1,284</td>
<td>COE-4</td>
<td>-</td>
<td>3054</td>
</tr>
<tr>
<td>Fuel and energy-related activities (not included in Scope 1 or Scope 2) (Category 3)</td>
<td>million tonnes CO₂</td>
<td>103</td>
<td>102</td>
<td>96</td>
<td>87</td>
<td>89</td>
<td>COE-4</td>
<td>-</td>
<td>3053</td>
</tr>
<tr>
<td>Third-party power [D]</td>
<td>million tonnes CO₂</td>
<td>602</td>
<td>708</td>
<td>757</td>
<td>736</td>
<td>681</td>
<td>COE-4</td>
<td>-</td>
<td>3053</td>
</tr>
</tbody>
</table>

[A] The values in this table reflect estimated Scope 3 emissions included in our Net Carbon Footprint. Emissions from fuel sales volumes from markets where Shell operates under trademark licensing agreements are excluded.

[B] The emissions from other Scope 3 categories are published on www.shell.com/gas. 2020 data will be available in June 2021.

[C] This category includes estimated well-to-tank emissions from purchased third-party refined oil products, natural gas, LNG, crude oil and biofuels.

[D] This category includes estimated well-to-tank emissions from generation of purchased power included in our Net Carbon Footprint.

[A] This category reflects estimated emissions from use phase of our products.

[F] This category includes estimated emissions from fuel sales volumes of all products, natural gas, LNG and biofuels.

[O] This category includes estimated emissions from our refinery production, natural gas, LNG and biofuels.

[O] This reflects the difference between own production and total sold products.

April 2021
OTHER GREENHOUSE GAS DATA (OPERATIONAL CONTROL)

<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>Carbon capture and storage and CO2 transfer out</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CO2 captured and stored</td>
<td>0.94</td>
<td>1.13</td>
<td>1.07</td>
<td>1.14</td>
<td>1.11</td>
</tr>
<tr>
<td>CO2 transferred out (A)</td>
<td>0.30</td>
<td>0.43</td>
<td>0.46</td>
<td>0.45</td>
<td>0.58</td>
</tr>
</tbody>
</table>

(A) CO2 captured and transferred to another organisation (for example, sold or given for free) as product or feedback. It is not included in our Scope 1 emissions.

CARBON OFFSETS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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<tr>
<td>Total carbon offsets retired</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Included in Neti Carbon Footprint</td>
<td>3.9</td>
<td>2.2</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other carbon offsets</td>
<td>0.4</td>
<td>0.5</td>
<td>n/c</td>
<td>n/c</td>
<td>n/c</td>
</tr>
</tbody>
</table>

n/c - not collected

ENERGY USE (OPERATIONAL CONTROL)

<table>
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<tr>
<th></th>
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<th></th>
<th></th>
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<tr>
<td>Total energy use</td>
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<tr>
<td>Own energy generated</td>
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<tr>
<td>Imported electricity</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Imported steam and heat</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exported electricity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exported steam and heat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumption of energy from renewable sources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renewable sources - onsite energy generation consumed</td>
<td>0.01</td>
<td>n/c</td>
<td>n/c</td>
<td>n/c</td>
<td>n/c</td>
</tr>
<tr>
<td>Renewable sources - purchased electricity</td>
<td>1.8</td>
<td>1.5</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>Renewable sources - purchased steam</td>
<td>0.0</td>
<td>n/c</td>
<td>n/c</td>
<td>n/c</td>
<td>n/c</td>
</tr>
<tr>
<td>Renewable sources - electricity exported to grid</td>
<td>0.4</td>
<td>0.4</td>
<td>n/c</td>
<td>n/c</td>
<td>n/c</td>
</tr>
</tbody>
</table>

Energy intensity

- Upstream excl. oilsands, LNG and GTL GJ/tonne production: 1.14, 1.07, 1.06, 1.05, 1.02
- Refineries: Refinery Energy Index [A] Index: 96.1, 94.4, 94.3, 94.8, 95.4
- Chemical plants: chemicals energy intensity GJ/tonne production: 18.7, 19.7, 18.3, 17.6, 18.9

n/c - not collected

[A] Data are indexed to 2005, based on Solomon Associates Energy intensity Index methodology.

METHANE EMISSIONS PERFORMANCE

Our target is to maintain methane emissions intensity below 0.2% by 2025. This target covers all Upstream and Integrated Gas oil and gas assets for which Shell is the operator. In 2020, 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 2020 ranged from below 0.01% to 0.6%.
In 2020, our total methane emissions were 67 thousand tonnes compared with 91 thousand tonnes in 2019, in part driven by divestments (for example, in Canada and the USA) and decreased flaring. Methane emissions were less than 5% of Shell’s GHG emissions on a CO2-equivalent basis. More than 60% of our reported methane emissions in 2020 came from flaring and venting in our upstream and midstream (for example, storage and processing) operations.

ANNUAL REPORT ON REMUNERATION

Absolute measures: Energy transition

The energy transition condition supports delivery of Shell’s Net Carbon Footprint (NCF) target. The condition consists of a mix of leading and lagging measures that set the foundations to contribute to Shell’s strategic ambitions in the longer term. They are as follows:

Lagging measure - a measure of our progress in meeting our ambition:

- Net Carbon Footprint: a target for reducing the NCF of the energy products Shell sells (a carbon intensity measure that takes into account their full lifecycle emissions, including customers’ emissions associated with using them).

Leading measures - the levers we will use to drive future NCF reduction:

- The growth of our power business: all decarbonisation scenarios recognise that a key way to cut greenhouse gas emissions is to increase electricity use and decarbonise electricity by shifting to renewables and gas-fired power generation. Our ambition to grow our power business is based on selective investments in generation, and in business models based on reselling power generated by others.

- Advanced biofuels and alternative fuels technology: biofuels are expected to play a valuable role in the changing energy mix and are likely to be one of the key decarbonisation levers for sectors that need to continue to use liquid fuels in the foreseeable future, such as some segments of transport and industry. For society and for Shell, commercialisation of advanced biofuel technology is one of the most important steps in energy transition.

- The development of systems to capture and absorb carbon: carbon capture and storage (CCS) and carbon sinks, such as nature-based solutions, are required as part of the global response to climate change.

Targets have been set for each element. Progress in the energy transition is not expected to be linear, because it will reflect the pace of change of society as a whole and the speed at which Shell progresses its strategic business objectives. As a result, targets have been set as ranges. These targets are commercially sensitive, so they will not be disclosed until the end of the performance period (or until they are no longer considered to be commercially sensitive). An update on our progress in relation to the measures is provided on page 165. [2020 Annual Report]
b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

Corporate webpage: Performance data on Scope 1, 2, and 3 [see a]  
Annual Report: (page 29) “Risk Factors”

RISK FACTORS

Rising climate change concerns and the effects of the energy transition have led and could lead to a decrease in demand and potentially affect prices for fossil fuels. This may also lead to additional legal and/or regulatory measures which could result in project delays or cancellations, potential litigation, operational restrictions and additional compliance obligations.

RISK DESCRIPTION

Societal demand for urgent action has increased especially after the Intergovernmental Panel on Climate Change (IPCC) 1.5°C special report of 2018 and the Paris Agreement’s goal to keep the rise in global average temperature this century to well below two degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Society’s increasing focus on climate change and the effects of the energy transition has created a risk landscape that is changing rapidly in response to a wide range of stakeholder actions at global, local and business levels. The potential impact and likelihood of climate change effects on Shell could vary across different time horizons, depending on the specific components of the risk.

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 fossil fuel projects or make it more difficult to obtain required permits. Achieving our target to become net zero on all emissions from our operations will result in additional cost. We also expect that actions by customers to reduce their emissions will continue to lower demand and potentially affect prices for fossil fuels, as will GHG emissions regulation through taxes, fees and/or other incentives. This could be a factor contributing to additional provisions for our assets and result in lower earnings, cancelled projects and potential impairment of certain assets.

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

Some groups are putting pressure on certain investors 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. Groups are also putting pressure on
commercial and investment banks to stop financing fossil fuel companies. According to press reports, some financial institutions have started to limit their exposure to certain fossil fuel projects. Accordingly, our ability to use financing for these types of future projects may be adversely affected. This could also adversely affect our potential partners’ ability to finance their portion of costs, either through equity or debt.

In some countries, governments, regulators, organisations and individuals have filed lawsuits seeking to hold fossil fuel companies liable for costs associated with climate change. While we believe these lawsuits to be without merit, losing any of them could have a material adverse effect on our earnings, cash flows and financial condition.

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

HOW THIS RISK IS MITIGATED:

Our response to the evolving risk landscape requires transparency and clarity around our plans and actions to achieve our climate target. We have a climate change risk management structure which is supported by standards, policies and controls, as part of our health, safety, security and environment and social performance (HSSE & SP) control framework. Climate change and risks resulting from GHG emissions are reviewed and managed in accordance with other significant risks through the Board and Executive Committee. We have established several dedicated climate change and GHG-related forums at different levels of the organisation. These forums seek to address, monitor and review climate change issues. Our strategy to assess and manage risks and opportunities resulting from climate change includes considering different time horizons and their relevance to risk identification and business planning.

Overall, mitigation of the risk is addressed through our strategy to accelerate the transition to netzero emissions, purposefully and profitably. This approach has three components:

- reducing the GHG emissions intensity of our operations. We expect to reduce our carbon intensity primarily through altering our product mix as customer (Scope 3) emissions represent the largest component of our carbon intensity. Our aim is to achieve this by shifting the focus of our portfolio as we build our power, hydrogen, biofuels, carbon capture and storage and nature-based solutions businesses and activities;
- demonstrating resilience by adopting the guidance on disclosure by the Task Force on Climate-related Financial Disclosures;
- working towards our target to become a netzero emissions energy business by 2050, in step with society.

For further explanations of our climate change governance, risk management, climate ambition and strategy, our portfolio and performance, please refer to the section “Climate change and energy transition”.

For further explanations of how we manage the risk of the physical effects of climate change affecting our operations and supply chains, please refer to the risk factor “The nature of our operations exposes us, and the communities in which we work, to a wide range of health, safety, security and environment risks”.

c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

Annual Report: (page 99) “Shell’s absolute emissions and carbon intensity targets”, (page 105-107) “Our performance”

Annual Report: (page 45) “Performance indicators: safety and environment”

Sustainability Report: (page 10/11) “Performance highlights”; (page 36-60) “Achieving netzero emissions” [not included here], (page 95/96) “Our Powering Progress targets”

Annual Report: (page 156) “Evolving remuneration in line with strategy”

Corporate webpage: Our climate target: frequently asked questions [not included here]

SHELL’S ABSOLUTE EMISSIONS AND CARBON INTENSITY TARGETS

Shell’s absolute emissions and carbon intensity targets
Our target is to be a netzero emissions energy business by 2050, in step with society.

Shell’s 2050 absolute emissions targets

We aim to achieve these targets in step with society. They are:
- netzero Scope 1 and Scope 2 emissions from our operations by 2050; and
- netzero Scope 3 emissions from the energy products we sell by 2050.

Shell’s net carbon intensity targets

We aim to achieve these targets in step with society. They are measured by our Net Carbon Footprint (NCF) metric, and are:
- 2030 NCF reduced by 20% from 2016 NCF;
- 2035 NCF reduced by 45% from 2016 NCF; and
- 2050 NCF reduced by 100% from 2016 NCF.

The updated 2035 and 2050 targets reflect that we will start to include all actions taken to reduce emissions when we calculate our net carbon intensity. This includes the actions we take ourselves and actions taken by the users of the energy products we sell.

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.

[see also GOVERNANCE]

OUR PERFORMANCE: SHELL’S CARBON INTENSITY

Shell’s carbon intensity provides an annual measure of the lifecycle emissions intensity of the portfolio of energy products sold. Specifically, we calculate the carbon intensity (gCO2e/MJ) in terms of the grams of carbon dioxide equivalent (gCO2e) per unit of energy (MJ) sold. This is measured, tracked and reported using the Net Carbon Footprint (NCF) metric and methodology.

Shell’s NCF is not calculated by simply dividing total emissions by total energy, nor is it an inventory of absolute emissions. Instead, Shell calculates the lifecycle carbon intensity of each of the different energy products it sells. Once we have calculated the carbon intensity for each individual energy product, we then calculate the overall carbon intensity by taking a weighted average of the individual product intensities, with the weighting based on their sales volumes. This approach enables like-for-like comparisons across a range of energy products and allows us to establish the average carbon intensity for all the energy products we sell, including renewables.

Finally, we deduct, or “net off”, any emissions that are stored in carbon sinks. For example, we subtract emissions that are stored using carbon capture and storage in our own operations. We also subtract any carbon dioxide emissions that are removed from the atmosphere and stored using natural carbon sinks created using nature-based solutions, such as reforestation.

While Shell’s NCF is an intensity measure and not an inventory of absolute emissions, a notional estimate of the amount of CO2e emissions covered by the scope of the Net Carbon Footprint calculation can be derived from the final Net Carbon Footprint value for any year.

NET CARBON INTENSITY PERFORMANCE

Our NCF performance

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCF in the reference year (2016) = 70 gCO2e/MJ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NCF</td>
<td>79 gCO2e/MJ</td>
<td>79 gCO2e/MJ</td>
<td>75 gCO2e/MJ</td>
</tr>
<tr>
<td>Estimated total energy delivered by Shell [A] (trillion (10^12) MJ)</td>
<td>22</td>
<td>21.05</td>
<td>18.4</td>
</tr>
<tr>
<td>Estimated total GHG emissions included in NCF [B] &amp; [C] (million tonnes CO2e)</td>
<td>1,731</td>
<td>1,646</td>
<td>1,384</td>
</tr>
</tbody>
</table>

[A] Retail sales volumes from markets where Shell operates under trademark licensing agreements are excluded from the scope of Shell’s carbon intensity metric.
[B] The 2.2 million tonnes of carbon offsets used in 2019, and 3.9 million tonnes of carbon offsets used in 2020 have been subtracted from the estimated total GHG emissions.
[C] These numbers include well-to-wheel emissions associated with energy products sold by Shell, they also include the well-to-tank emissions associated with the manufacturing of energy products by others that are sold by Shell. Emissions associated with the manufacturing and use of non-energy products are excluded.

We have received third-party limited assurance on our carbon intensity, measured and reported using the Net Carbon Footprint, for the years from 2016 to 2020. Shell’s NCF in 2020 was 75 gCO2e/MJ, a 4% reduction from the previous year and a 5% reduction from the 2016 reference year. One of the major causes of this larger than expected reduction in 2020 was lower demand for energy, especially for oil and gas. Demand for oil products experienced the most significant reduction, followed by natural gas and LNG.
factor contributing to the reduction of the NCF was the increase in our power sales in absolute terms as well as their share of the energy mix sold by Shell. The power we sold also had a lower average emissions intensity than in previous years, which further contributed to the overall NCF reduction.

Carbon intensity of Shell’s energy product types The graph below illustrates the carbon intensity of our delivered energy per product type from 2016 to 2020. Our NCF is calculated by taking a weighted average of these individual carbon intensities, with the weighting based on their sales volumes.

For hydrocarbon fuels, emissions from end use by customers are by far the biggest contributors to the carbon intensity of the product. As a result, the emissions intensity of hydrocarbon fuels is expected to stay relatively unchanged over time. This contrasts with the emissions intensity of power, which can be highly variable depending on how it has been generated. To a lesser extent, there is also a contrast between hydrocarbon fuels and biofuels, which can vary significantly in intensity depending on the feedstock and production process used.

The proportion of our renewable power sales and countries where we sell power to the market both affect Shell’s overall power mix and its resulting emissions intensity. The carbon intensity of biofuels provided in the graph “Carbon intensity of Shell’s energy product types” reflects the global average for biofuels sold by Shell. Our strategy is to reduce our Net Carbon Footprint, mainly by increasing the proportion of lower-carbon products such as natural gas, biofuels, electricity and hydrogen in the mix of products that we sell to our customers.

GREENHOUSE GAS EMISSIONS

Data in this section are reported on a 100% basis in respect of activities where we are the operator. Reporting on this operational control basis differs from that applied for financial reporting purposes in the “Consolidated Financial Statements” on pages 216-264. Detailed data and information on our 2020 environmental and social performance are expected to be published in the Shell Sustainability Report in April 2021. GHG Performance Our direct GHG emissions (Scope 1) decreased from 70 million tonnes of CO₂ equivalent in 2019 to 63 million tonnes of CO₂ equivalent in 2020. The main contributors to this decrease were divestments, for example, in Canada and the USA, and reduced utilisation at a number of assets caused by lower demand driven by COVID-19. The level of flaring in our Upstream and Integrated Gas businesses combined decreased by around 35% compared with 2019. In 2019, our Prelude floating LNG facility in Australia had experienced an unexpected spike in flaring during its startup. In February 2020, we had to shut down Prelude which resulted in a decrease of its GHG emissions by around 80% compared with 2019. 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. Flaring, or burning off, of gas in our Upstream and Integrated Gas businesses contributed around 6% of our overall direct GHG emissions in 2020. Around 35% of this flaring occurred at facilities where there was no infrastructure to capture the gas produced with oil, known as associated gas. Around 45% of flaring in our Upstream and Integrated Gas facilities in 2020 occurred in assets operated by the Shell Petroleum Development Company of Nigeria limited (SPDC). Flaring from SPDCoperated facilities decreased by around 15% in 2020 compared with 2019. SPDC, in close collaboration with its jointventure partners and the Federal Government of Nigeria, continues to make progress towards the objective of ending the continuous flaring of associated gas. Two new
Greenhouse gas intensity In 2020, the three GHG intensity metrics included in the Performance Indicators on page 45 covered over 80% of our total Scope 1 and 2 GHG emissions from assets and activities under our operational control. The Upstream and Integrated Gas GHG intensity – measured in tonnes of CO₂ equivalent per tonne of hydrocarbons available for sale – decreased from 0.17 in 2019 to 0.16 in 2020. This was partly because of our Prelude FLNG asset being shut down in February 2020. The Refining GHG intensity – measured in tonnes of CO₂ equivalent per Solomon’s Utilised Equivalent Distillation Capacity (UEDC™) – decreased from 1.06 in 2019 to 1.05 in 2020. This was mainly driven by divestment of our Martinez refinery in the USA. The Chemicals GHG intensity – measured in tonnes of CO₂ equivalent per tonne of high value chemicals – decreased from 1.04 in 2019 to 0.98 in 2020. This was mainly because of increased utilisation following turnarounds on three of our sites in 2019. GHG emissions and energy consumption data and information in accordance with UK regulations. GHG emissions comprise CO₂, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and nitrogen trifluoride. The data are calculated using locally regulated methods where they exist. Where there is no locally regulated method, the data are calculated using the 2009 American Petroleum Institute (API) Compendium of Greenhouse Gas Emissions Methodologies, which is the recognised industry standard under the GHG Protocol Corporate Accounting and Reporting Standard. There are inherent limitations to the accuracy of such data. Oil and gas industry guidelines (API/International Association of Oil & Gas Producers (IOGP)/IPIECA, the global oil and gas industry association for advancing environmental and social performance) indicate that a number of sources of uncertainty can contribute to the overall uncertainty of a corporate emissions inventory.

The energy consumption data provided below comprise own energy, generated and consumed by our facilities, and supplied energy (electricity, steam and heat) purchased by our facilities for our own use.

Energy consumption data reflect primary (thermal) energy [e.g. the energy content of fuels used to generate electricity, steam, heat, mechanical energy etc.]. This includes energy from renewable and nonrenewable sources. Own energy generated was calculated by multiplying the volumes of fuels consumed for energy purposes by their respective lower heating values. Own energy generated that was exported to thirdparty assets or to the power grid is excluded. Thermal energy for purchased and consumed electricity was calculated using actual electricity purchased multiplied by country-specific electricity generation efficiency factors [from IEA statistics]. Thermal energy for purchased and consumed steam and heat was calculated from actual steam/heat purchased multiplied by a suppliers-specific conversion efficiency, or generic efficiency factor where suppliers-specific data were not available.

In 2020, 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 are listed below:

- At our Clipper facility in the UK, we completed a project to optimise the use of compressors.
At our Bukom facility in Singapore, we completed two projects to minimise energy loss from steam.

At our Scotford upgrader facility in Canada, we completed several projects to minimise energy use and improve efficiency, for example by removing equipment from service or replacing it with more efficient equipment.

At our Geismar facility in the USA, we improved flare staging and temperature control which resulted in lower levels of natural gas consumption.

At our Mobile facility in the USA, we installed new equipment to increase heat transfer between heat exchangers in order to improve the energy efficiency of the units.

At our GTL facility in Qatar, we completed several projects to reduce energy use and improve efficiency, for example by minimising the generation of excess steam and converting excess energy into electricity for export to the public grid.

In Brazil, we reduced fuel usage of vessels by optimising how they operate in dynamic position, standby and navigation modes.

Detailed information on our 2020 GHG emissions and energy use is expected to be published in the Shell Sustainability Report in April 2021 and on our website. The statements in this “Climate change and energy transition” section, including those relating to the Net Carbon Footprint targets, are forward-looking statements based on management’s current expectations and certain material assumptions and, accordingly, involve risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied herein.

**PERFORMANCE INDICATORS**

**Upstream and Integrated Gas GHG intensity (tonnes of CO₂ equivalent/tonne of hydrocarbon production available for sale)**

| 0.16 | 2019: 0.17 |

Upstream/midstream GHG intensity is a measure of GHG emissions (direct and indirect GHG emissions associated with imported energy, excluding emissions from exported energy), expressed in metric tonnes of CO₂ equivalent, emitted into the atmosphere per metric tonne of hydrocarbon production available for sale.

See “Climate change and energy transition” on pages 94-107.

**Refining GHG intensity (tonnes of CO₂ equivalent/UEDC™)**

| 1.05 | 2019: 1.06 |

Refining GHG intensity is a measure of GHG emissions (direct and indirect GHG emissions associated with imported energy, excluding emissions from exported energy), expressed in metric tonnes of CO₂ equivalent, emitted into the atmosphere per unit of Utilised Equivalent Distillation Capacity (UEDC™). UEDC™ 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 the size and configuration of its particular mix of process and non-process facilities.

See “Climate change and energy transition” on pages 94-107.

**Chemicals GHG intensity (tonnes of CO₂ equivalent/tonne petrochemicals produced)**

| 0.98 | 2019: 1.04 |

Chemicals GHG intensity is a measure of GHG emissions (direct and indirect GHG emissions associated with imported energy, excluding emissions from exported energy), expressed in metric tonnes of CO₂ equivalent, emitted into the atmosphere per metric tonne of steam cracker, high-value petrochemicals production.

See “Climate change and energy transition” on pages 94-107.

**Direct GHG emissions (million tonnes of CO₂ equivalent)**

| 63  | 2019: 70 |

Direct GHG emissions from facilities operated by Shell, expressed in million tonnes of CO₂ equivalent.

See “Climate change and energy transition” on pages 94-107.

**Net Carbon Footprint (grams of CO₂ equivalent per megajoule)**

| 75 | 2019: 78 |

Net Carbon Footprint is a comprehensive measure of the life-cycle carbon intensity of the energy products we sell. It is a weighted average of the life-cycle CO₂ intensities of different energy products, normalised to the same point relative to their final end use. It includes emissions from the extraction, transportation and processing of crude oil or gas or other feedstocks, transport of products, and our customers’ emissions from the use of products we sell. Also included are emissions from elements of this life cycle not owned by Shell, such as oil and gas processed by Shell but not produced by Shell, or from oil products and electricity marketed by Shell that have not been processed or generated at a Shell facility. Emissions compensated through various measures are also included, such as emissions mitigated by nature-based solutions and carbon capture and storage technology.

See “Climate change and energy transition” on pages 94-107.
PERFORMANCE HIGHLIGHTS

This table represents a selection of global metrics that we track within Shell. These metrics have been selected because they reflect the direct impact of Shell companies’ operations on people and the environment. We used them to set our goals and measure progress in 2020 and to define priorities for 2021.

We review our metrics regularly to ensure we capture the information needed to improve our performance. We introduced Goal Zero for personal safety at Shell in 2007. Since then, we have broadened the goal to aim for no harm to people and the environment. More information on our performance, definitions of the indicators and the referenced goals is provided in the environmental, social and safety data sections.

**GOAL 2020**

Reduce the carbon intensity of the energy products we sell, in step with society.

We have a short-term target to reduce our Net Carbon Footprint by 2-3% by 2021, compared with 2016.

This target is measured using the Net Carbon Footprint metric and methodology. For more on how we calculate our Net Carbon Footprint, visit www.shell.com/ncf.

**PROGRESS IN 2020**

Net Carbon Footprint: g CO₂e/MJ

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>79</td>
<td>79</td>
<td>78</td>
<td>75</td>
<td></td>
</tr>
</tbody>
</table>

Shell’s Net Carbon Footprint in 2020 was 75 grams of CO₂ equivalent per megajoule, a 4% reduction from the previous year and a 5% reduction from the 2016 reference year.

**PERSISTENT IN 2021**

- Continue taking steps to cut greenhouse gas (GHG) emissions from our existing oil and gas operations, and to avoid generating more in the future.
- Increase the proportion of lower-carbon products such as natural gas, biofuels, electricity and hydrogen in the mix of products we sell.
- Work with our customers to help them address the GHG emissions they produce when they use products sold by us.

**Reduce flaring in our Upstream business.**

Our policy is to reduce flaring and venting to as low a level as reasonably practicable.

We are a signatory of the World Bank’s Zero Routine Flaring by 2030 initiative.

**Upstream flaring:** million tonnes CO₂ equivalent [A]

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>10</td>
<td>7.6</td>
<td>8.2</td>
<td>5.9</td>
<td>3.8</td>
</tr>
</tbody>
</table>

[20] Includes Upstream and Integrated Gas

Our upstream flaring decreased to 3.8 million tonnes of CO₂ equivalent in 2020 from 5.9 million tonnes in 2019 (see Flaring).

**Upstream and Integrated Gas GHG intensity 2 0.162**

For our Upstream and Integrated Gas facilities, achieve a GHG intensity of 0.162 tonnes or below of CO₂ equivalent per tonne of hydrocarbon production available for sale.

**Upstream and Integrated Gas CO₂e per tonne of hydrocarbon production available for sale**

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.3</td>
<td>0.166</td>
<td>0.158</td>
<td>0.168</td>
<td>0.159</td>
</tr>
</tbody>
</table>

Our Upstream and Integrated Gas GHG intensity was 0.159 tonnes CO₂ equivalent per tonne of hydrocarbon production available for sale in 2020 compared with 0.168 in 2019.
GOAL 2020

Refinery GHG intensity ≤ 1.02

For our refineries, reduce GHG intensity to 1.02 tonnes or below of CO₂ equivalent per Solomon’s Utilised Equivalent Distillation Capacity (UEDC).

PROGRESS IN 2020

Refineries: tonnes CO₂e per Solomon’s UEDC

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.18</td>
<td>1.14</td>
<td>1.05</td>
<td>1.06</td>
<td>1.05</td>
</tr>
</tbody>
</table>

Refinery GHG intensity in 2020 was 1.05 tonnes CO₂e per UEDC compared with 1.06 in 2019.

Chemicals GHG intensity ≤ 0.96

For our chemical plants, reduce GHG intensity to 0.96 tonnes or below of CO₂ equivalent per tonne of high-value petrochemicals produced.

Chemicals: tonnes CO₂e per tonne of petrochemicals produced

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.99</td>
<td>0.95</td>
<td>0.96</td>
<td>1.04</td>
<td>0.98</td>
</tr>
</tbody>
</table>

Chemical GHG intensity was 0.98 tonnes CO₂ equivalent per tonne of high-value chemicals produced in 2020 compared with 1.04 in 2019.

PRIORITIES IN 2021

- Continue to link staff bonuses to the management of greenhouse gas emissions.
- Continue to focus on maintenance measures to enhance the reliability of our equipment and reduce emissions through leaks.

OUR POWERING PROGRESS TARGETS

In February 2021, Shell launched Powering Progress, which sets out our strategy to accelerate the transition of our business to net-zero emissions, in step with society, purposefully and profitably. It is designed to integrate sustainability with our business strategy, in support of our purpose – to power progress together by providing more and cleaner energy solutions. New targets and commitments under Powering Progress include:

ACHIEVING NET-ZERO EMISSIONS

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

Our climate target is to become a net-zero emissions energy business by 2050, in step with society’s progress in achieving the goal of the UN Paris Agreement on climate change.

We have set targets to reduce the carbon intensity [Net Carbon Footprint] of the energy products we sell, in step with society. This includes short-term targets of 23% by 2021, 34% by 2022, and 68% by 2023 [compared with 2016]. It also includes medium and long-term targets of 20% by 2030, 45% by 2035, and 100% by 2050 [compared with 2016].

We have linked the pay of more than 16,500 staff to our target to reduce the carbon intensity of our energy products by 68% by 2023, compared with 2016.

We believe our annual oil production peaked in 2019, and we expect our total oil production to decline by 12% a year until 2030.

We will invest $2.3 billion on average each year in our Renewables and Energy Solutions business.

In 2021, we expect to invest around $100 million in nature-based solutions such as forests and wetlands that store carbon.
We seek to have access to an additional 25 million tonnes a year of carbon capture and storage (CCS) capacity by 2035 – equal to 2.5 CCS facilities the size of our Quest site in Canada.

By 2030, we will end routine flaring of gas, which generates carbon emissions, from the assets we operate.

By 2025, we expect to have kept the methane emissions intensity of Shell-operated assets to below 0.2%.

**RESPECTING NATURE**

**Biodiversity**

Our ambition is to have a positive impact on biodiversity.

Our new projects in areas rich in biodiversity – critical habitats – will have a net positive impact on biodiversity, starting implementation in 2021.

Our nature-based solutions projects, which protect, transform or restore land, will have a net positive impact on biodiversity, starting implementation in 2021.

We will replant forests, achieving netzero deforestation from new activities, while maintaining biodiversity and conservation value, starting implementation in 2022.

**Water**

Our ambition is to conserve fresh water by reducing consumption and increasing reuse and recycling.

We will reduce the amount of fresh water consumed in our facilities, starting by reducing freshwater consumption by 15% by 2025 compared with 2018 levels in areas where there is high pressure on freshwater resources.

We will assess options for further reduction goals by the end of 2022.

**Circular economy and waste**

Our ambition is to use resources and materials efficiently and to increase reuse and recycling.

We are aiming for zero waste by reducing waste generated and increasing reuse and recycling in our businesses and supply chains. We will set goals for waste reduction, reuse and recycling by the end of 2022.

We will work with our suppliers and contractors to help end plastic waste in the environment:

By 2030, we will increase the amount of recycled plastic in our packaging to 30% and ensure that the packaging we use for our products is reusable or recyclable.

We will increase the amount of recycled materials used to make our products, starting with plastics. Our ambition is to use one million tonnes of plastic waste a year in our global chemicals plants by 2025.

**Air quality**

We are helping to improve air quality by reducing emissions from our operations and providing cleaner ways to power transport and industry.

**POWERING LIVES**

Our ambition, by 2030, is to provide reliable electricity to 100 million people in emerging markets who do not yet have it.

We will aim to increase racial and ethnic representation across our workforce so that we better reflect the communities in which we work and live, starting in the UK and the USA and followed by the Netherlands.

We will work to achieve 30% representation of women in our top 1,400 leaders at Shell by the end of 2021, 35% by 2025 and 40% by 2030, compared with 27.8% at the end of 2020.

By 2030, we will make our global network of service stations more inclusive and accessible to customers with physical disabilities.

We will provide a safe, caring and inclusive environment for LGBT+ staff so that they can be themselves and reach their full potential.

**EVOLVING REMUNERATION IN LINE WITH STRATEGY**

Turning now to the future, I would like to provide further detail on how we intend to link pay to Shell’s evolving strategic ambitions.

Powering Progress sets out a strategy to accelerate the transition of our business to netzero emissions. Reflecting our evolving priorities, in
future we will place greater focus on measures connected to succeeding in the energy transition, balanced with the fundamental requirements to deliver financial success, while operating our assets safely, effectively and to plan.

Safety

Safety remains Shell’s number one priority, and as part of a refresh of Shell’s safety framework, a new Serious Injury and Fatality Frequency (SIFF) metric will replace Total Recordable Case Frequency (TRCF) as the personal safety metric on the annual bonus scorecard from 2021. This adjustment is intended to increase attention on the most serious outcomes, to ensure the focus is on identifying and preventing incidents with the potential to cause lifealtering injuries. The number of Tier 1 and 2 process safety incidents will be retained as the measure of process safety, with weighting for safety increasing from 10% to 15% (equally split between personal and process safety).

Energy transition

Shell has been at the forefront of linking executive pay to progress towards a lower-carbon future. We set a Net Carbon Footprint (NCF) target that covers emissions from our customers’ use of our products as well as our own operational emissions, and have directly linked employee and management pay to three-year targets aligned with the NCF target. The LTIP energy transition performance metric includes the short-term targets relating to the NCF target and a number of other strategic business transformation targets that measure Shell’s progress towards achieving our longer-term ambitions. These measures extend the link between pay and the energy transition well beyond the linkage provided by short-term sustainability metrics that focus on operations. When we introduced these measures, Shell was the only major energy company to link long-term incentive pay in this way. We believe we are still among the frontrunners in terms of the breadth and detail of our energy transition pay metrics.

Our original targets were calibrated to keep Shell in step with a society working to meet the goals of the 2015 Paris Agreement and to restrict the rise in global average temperature this century to well below two degrees Celsius above preindustrial levels. But societal views have evolved rapidly and large parts of society have now set their sights on the most ambitious goal in the Paris Agreement: to limit the global temperature rise to 1.5 degrees Celsius. Shell recognised this, and in 2020 announced an updated target to be a netzero emissions energy business by 2050, in step with society. The connection to remuneration will strengthen with the updated strategy.

We intend to reflect them in the following ways:

- As an energy user. Shell has a target to achieve netzero operational emissions (Scope 1 and 2) by 2050, in step with society. In the annual bonus, progress will be linked to performance assessment based on the greenhouse gas (GHG) intensity of our main business lines and, from 2021, a new GHGabatement target.

- As an energy provider. We have significantly raised our net carbon intensity target in step with achieving a 1.5 degrees Celsius future. We will measure this using our NCF metric. Meaningful carbon intensity reductions will require significant business transformations with longer timescales and are therefore bestreflected in the LTIP. We are increasing the weighting of the energy transition condition to account for 20% of the LTIP (up from 10%), putting it on the same level as the financial measures [TSR, CFFO, FCF and ROACE], which will each account for 20% of the LTIP.

- As an energy partner. In our role as an energy supplier, we will work with sectors which use energy to help them identify and implement ways to decarbonise and make progress towards a netzero emissions future. New performance measures will need to be developed in this area before it can be linked to remuneration. The REMCO will assess such performance measures, as is appropriate, in the future. The connections between remuneration and progress in the energy transition received good support from shareholders during our engagements. These measures will continue to mature as we implement the updated strategy. I also know that many of you are keen to know how we are progressing on the existing energy transition condition and further information is provided on pages 164-165.

Other changes to 2021 remuneration

To ensure that Shell’s remuneration structures evolve in line with the recent strategy developments, the following changes will also take place for the 2021 annual bonus scorecard:

- The weighting of the CFFO metric will increase from 30% to 35%, reflecting our commitment to the updated financial framework.

- The strength of Shell is as an integrated energy business and our updated strategy and portfolio choices emphasise operational excellence and the delivery of value rather than volume. To reflect this, we will retire the existing production and LNG liquefaction volume measures. We will introduce a new asset management excellence measure, based on Upstream controllable availability, midstream availability and downstream availability. This is designed to encourage an ongoing focus on running our assets effectively and to schedule. Operational excellence will always be fundamental to our success, but its weighting will decrease from 50% of the scorecard to 35% to allow for increased weightings on CFFO, progress in the energy transition and safety.
DEFINITIONS AND CAUTIONARY NOTE

Divestments is a measure used to monitor the progress of our divestment programme. This measure comprises proceeds from sale of property, plant and equipment and businesses, joint ventures and associates, and other Investments. Upstream and Downstream investments in equity securities, adjusted on an accrual basis and for any share consideration received or contingent consideration initially recognised upon the related divestment, as well as proceeds from sale of interests in ventures while retaining control (for example, proceeds from a sale at lower than book value). This includes any divestment of Shell Midstream Partners, L.P. The companies in which Royal Dutch 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 Royal Dutch Shell plc and its subsidiaries in general. Likewise, the words "we", "us" and "our" are also used to refer to Royal Dutch 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 enterprises which Royal Dutch 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. Entities over which Shell has significant influence but neither control nor joint control are referred to as "associates". The term "Shell interest" is used to denote the direct and/or indirect ownership interest held by Shell in an entity or incorporated joint arrangement, after exclusion of all third-party interests. 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 operationalization and implementation of Shell Group strategies and policies.

In this report, we refer to Shell’s "Net Carbon Footprint", which includes Shell’s carbon emissions from the production of our energy products, our suppliers’ carbon emissions in supplying energy for that production, and our customers’ carbon emissions associated with the use of the energy products we sell. Shell will only control its own emissions. But to support society in achieving the Paris Agreement goals, we aim to help supply and consumers to likewise lower their emissions. The use of the term Shell’s "Net Carbon Footprint" is for convenience only and is not intended to suggest these emissions are those of Shell or its subsidiaries.

Shell's operating plan, outlook and budgets are forecasted for a ten-year period and are updated every year. They reflect the current economic environment and what we can reasonably expect to see over the next ten years. Accordingly, Shell's operating plans, outlooks, budgets and pricing assumptions do not reflect our net-zero emissions target. In the future, as society moves toward net-zero emissions, we expect Shell's operating plans, outlooks, budgets and pricing assumptions to reflect this movement. 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", "objective", "outlook", "plan", "probable", "project", "risk", "schedule", "seek", "should", "target", "will" and similar terms and phrases. There are a number of factors that could cause the actual results of Shell and its companies and any forward-looking statement in this report to differ materially from those expressed or implied in these statements. Such factors include, but are not limited to, the following:

(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 with the identification of suitable new applications of a potential use and targets of performance, and successfully managing and completing such transactions; (j) the risk of doing business in developing countries and countries subject to international sanctions; (k) legislative, fiscal and regulatory developments; (l) regulatory measures addressing climate change; (m) economic and financial market conditions in various countries and regions; (n) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in approvals of projects and delays in the reimbursement for shared costs; and (o) risks associated with the impact of pandemics, such as the COVID-19 (coronavirus) outbreak; and (p) general trading conditions. No assurance is provided that future dividend payments will match or exceed previous dividend payments. All forward-looking statements contained in this report are expressly qualified by these statements. In addition to these statements, Shell has or may have other forward-looking statements in the Annual Report, in Shell's Form 20F, in other reports or in other places. The forward-looking statements are based on assumptions made by Shell, which are believed to be reasonable at the time the statements are made. However, these assumptions may prove to be incorrect and, therefore, there is no assurance that these statements will prove to be accurate. Actual results could differ markedly from those stated, implied or inferred from the forward-looking statements contained in 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. U.S. investors are urged to consider closely the disclosure in our Form 20F, File No. 125575, available on the SEC website www.sec.gov.

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This mapping of Shell disclosures reflects the recommendations of the Task Force on Climate-related Financial Disclosures contains data and analysis from Shell’s Sky 1.5 scenario. Shell’s recommendations are not intended to be projections or forecasts of future Shell scenario. The scenario contains the scenarios contained in the mapping of Shell disclosures according to the recommendations of the Task Force on Climate-related Financial Disclosures that Shell’s strategy or business plan. When developing Shell’s strategy, our scenarios are one of many variables that we consider. Ultimately, whether society meets its goals to decarbonize is not within Shell’s control. While we intend to travel this journey in steps with society, only governments can create the framework for success. The Sky 1.5 scenario starts with data from Shell’s Sky scenario, but there are important updates. First, the outlooks are the most recent for the mapping and recovery from COVID19 consistent with a Sky 1.5 scenario narrative. Second, it blends the forecast of evolving Sky (2018) energy system data by around 2030. Third, the extensive scale of.iot-based systems is brought into the core scenario, which benefits from extensive new modeling of that scale. In 2018, nation-based solutions required to achieve 1.5°C above preindustrial levels by the end of this century were analyzed as a sensitivity to the Sky. This analysis was retrieved and required in the PCC Special Report on Global Warming of 1.5°C (SR15). Fourth, our new oil and natural gas supply modeling, with an outlook consistent with the Sky narrative and demand, is presented for the first time. Fifth, the Sky scenario draws on the latest data and estimates to 2020 from various sources, particularly the extensive International Energy Agency energy statistics. As with Sky, this scenario assumes that society achieves the 1.5°C target of the Paris Agreement. It is nested in stretching but realistic development dynamics today but explores a predictable way to achieve that ambition. We worked back in designing how this could occur, considering the realities of the situation today and taking into account realistic timescales for change. Of course, there is a range of possible paths in detail that society could take to achieve this goal. Although achieving the goal of the Paris Agreement and the future depicted in Sky 1.5 while maintaining a growing global economy will be extremely challenging, today it is still technically possible path.

Documents on display

The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. All of the SEC filings made electronically by Shell are available to the public on the SEC website at www.sec.gov (Commission File number: 0-125575). This Report is also available, free of charge, at www.shell.com/annualreport or at the offices of Shell in The Hague, the Netherlands and London, United Kingdom. Copies of this Report also may be obtained, free of charge, by mail.