



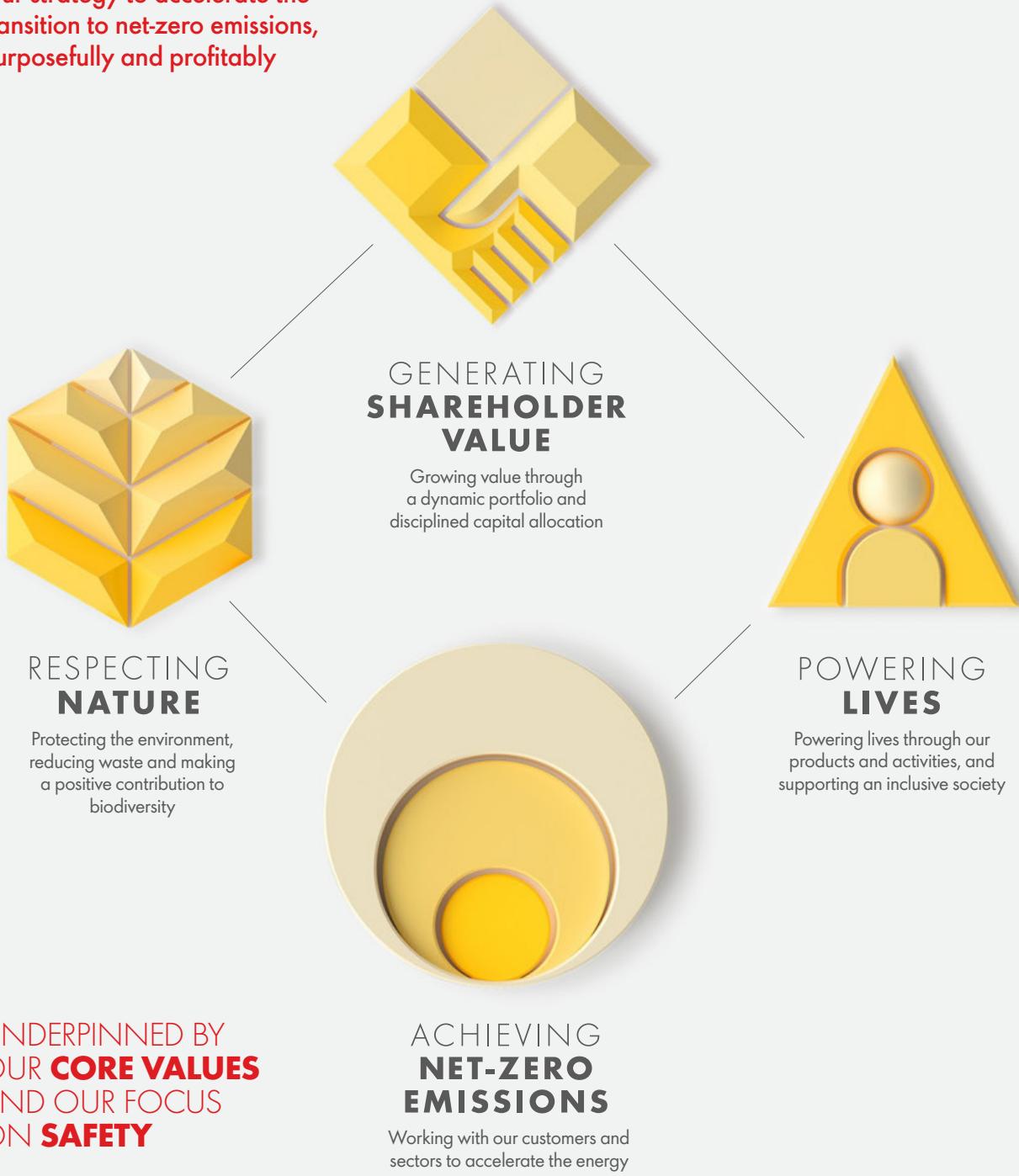
# RESPONSIBLE ENERGY

SUSTAINABILITY REPORT 2020  
ROYAL DUTCH SHELL PLC



# POWERING PROGRESS

Our strategy to accelerate the transition to net-zero emissions, purposefully and profitably



## COVER IMAGES

The images on the front cover represent the four goals of Shell's Powering Progress strategy: achieving net-zero emissions; powering lives; respecting nature; and generating shareholder value.

Powering Progress is designed to create value for shareholders, customers and wider society. The strategy seeks to accelerate Shell's transformation into a provider of net-zero emissions energy products and services, powered by growth in its customer-facing businesses.

# CONTENTS

<b>01</b>	<b>SUSTAINABILITY AT SHELL</b>	<b>54</b>	<b>RESPECTING NATURE</b>	<b>81</b>	<b>GENERATING SHAREHOLDER VALUE</b>
<b>02</b>	Letter from the CEO	<b>55</b>	Our approach to the environment	<b>82</b>	Our business activities
<b>04</b>	Our approach to sustainability	<b>55</b>	Protecting biodiversity	<b>84</b>	Non-operated ventures
<b>12</b>	Shell's response to COVID-19	<b>58</b>	Conserving water resources	<b>84</b>	Divesting responsibly
<b>14</b>	About this report	<b>60</b>	Decommissioning and restoration		
<b>17</b>	<b>LIVING BY OUR CORE VALUES</b>	<b>61</b>	Managing waste	<b>85</b>	<b>OUR PERFORMANCE DATA</b>
<b>18</b>	Business ethics and transparency	<b>61</b>	Plastics	<b>86</b>	About our data
<b>23</b>	Safety	<b>62</b>	Air emissions	<b>87</b>	Our standards and policies
<b>31</b>	<b>ACHIEVING NET-ZERO EMISSIONS</b>	<b>63</b>	The Arctic	<b>88</b>	Our Powering Progress targets
<b>32</b>	Our climate target	<b>64</b>	<b>POWERING LIVES</b>	<b>89</b>	Safety performance data
<b>37</b>	Managing greenhouse gas emissions	<b>65</b>	Providing access to energy	<b>90</b>	Greenhouse gas and energy data
<b>45</b>	Producing natural gas responsibly	<b>66</b>	Working with our suppliers	<b>95</b>	Other environmental data
<b>47</b>	Providing lower-carbon electricity	<b>69</b>	Contributing to communities	<b>97</b>	Social performance data
<b>50</b>	Fuelling mobility	<b>74</b>	Advancing diversity and inclusion		
<b>53</b>	Driving innovation	<b>76</b>	Respecting human rights		
		<b>78</b>	Managing our impact on people		

## Digital

The Sustainability Report is published in an online version at [reports.shell.com](http://reports.shell.com). The online version includes additional information, such as an interactive GRI index to enhance usability for the reader. In the event of any discrepancy between the online and hardcopy versions, the information contained in the online report prevails. This hardcopy version is provided for the reader's convenience only.

## Scenarios

This report contains data and analysis from Shell's Sky 1.5 scenario. Shell scenarios are not intended to be projections or forecasts of the future. Shell scenarios, including the scenarios contained in the report, are not 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 decarbonise is not within Shell's control. While we intend to travel this journey in step 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 outlook uses the most recent modelling for the impact of and recovery from COVID-19 consistent with a Sky 1.5 scenario narrative. Second, it blends this projection into existing Sky (2018) energy system data by around 2030. Third, the extensive scale-up of nature-based solutions is brought into the core scenario, which benefits from extensive new modelling of that scale-up. In 2018, nature-based solutions required to achieve 1.5 degrees Celsius (1.5°C) above pre-industrial levels by the end of this century were analysed as a sensitivity to Sky. This analysis was also reviewed and included in the IPCC Special Report on Global Warming of 1.5°C. Fourth, our new oil and natural gas supply modelling, with an outlook consistent with the Sky 1.5 narrative and demand, is presented for the first time. Fifth, the Sky 1.5 scenario draws on the latest historical data and estimates up 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 stretch goal of the Paris Agreement. It is rooted in stretching but realistic development dynamics today but explores a goal-oriented 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 a technically possible path.

## Imagery

Photos used may have been taken prior to imposition of restrictions related to the COVID-19 pandemic and/or reflect the restrictions of the location where the photo was taken.

Ben van Beurden photographed by David van Dam.

Design: Friend [www.friendstudio.com](http://www.friendstudio.com)

Production: nexxar [www.nexxar.com](http://www.nexxar.com)

Print: Opmeer papier pixels projecten [www.opmeerbv.nl](http://www.opmeerbv.nl)

Read the Shell Sustainability Report online at  
[www.shell.com/sustainabilityreport](http://www.shell.com/sustainabilityreport) or download our app:





# SUSTAINABILITY AT SHELL

Welcome to the Shell Sustainability Report, which covers our social, safety and environmental performance in 2020 and significant events for Shell during the year.

It also sets out our strategy to accelerate the transition of our business to net-zero emissions.

**02** Letter from the CEO

**04** Our approach to sustainability

**12** Shell's response to COVID-19

**14** About this report



# LETTER FROM THE CEO



**BEN VAN BEURDEN**  
CEO

The COVID-19 pandemic made 2020 a deeply challenging year. Tragically, it led to the deaths of 20 of our Shell colleagues, painful evidence of the gravity of the situation in many parts of the world.

It was a time to pause and reflect on a new reality, and quickly adapt. We saw inspiring action in health care and science. There has been widespread collaboration focused on well-being between medical communities, businesses and governments.

We, at Shell, have been playing our part. We took additional steps to make workplaces safe for staff and contractors, and to maintain energy supplies. We increased production of isopropyl alcohol and donated it for hand-sanitising liquid and used our global supply network to source masks and ventilators to address shortages in some communities where we work. We offered free fuel for ambulances and free food and drink in certain countries for emergency workers. We also donated to relief efforts, including \$10 million to COVAX, the programme working for equitable access to COVID-19 vaccines.

The pandemic caused severe disruption to the global economy and people's livelihoods, and along with this came a fall in energy demand and carbon dioxide emissions. It led to a renewed focus on the way society interacts with the natural world.

In 2020, Shell spent a lot of time looking at what we do in society and how we contribute. We refreshed our business strategy and, when we announced it in February 2021, we called it Powering Progress.

Powering Progress sets out our goals for powering lives and livelihoods, and respecting nature by protecting the environment. It lays out how we believe Shell can and must play a role as the world accelerates towards a future of zero- and lower-carbon energy. It is designed to integrate sustainability with our business strategy.

## NET-ZERO EMISSIONS ENERGY BUSINESS

We have set a target to transform into a net-zero emissions energy business by 2050, in step with society. This supports the more ambitious goal to tackle climate change in the UN Paris Agreement: to limit the rise in average global temperature to 1.5 degrees Celsius.

Becoming a net-zero emissions energy business means that we are reducing emissions from our operations, and from the fuels and other energy products we sell to our customers. It also means capturing and storing emissions safely underground using technology or balancing them with natural carbon sinks such as forests.

We have set short-, medium- and long-term targets to reduce the carbon intensity of the energy products we sell, and have tied the short-term targets to our staff incentive structure. This includes lowering emissions from our operations, including the energy consumed in running them. It also includes the emissions from oil and gas that others produce and we then sell in our energy products – an industry-leading approach.

And in another first for the industry, we will offer shareholders an advisory vote on our energy transition strategy at our Annual General Meeting. We will do this every three years, starting in 2021.

More than 90% of Shell's emissions come from the use of the energy products we sell, so we will help our customers cut their emissions by selling products that have the lowest environmental impact.

In 2020, we continued to invest in low- and lower-carbon products that customers are going to need increasingly: biofuels, electric-vehicle charging networks, hydrogen and renewable power.

We will work with customers and sectors to develop cleaner energy alternatives. It will require technologies and fuel solutions as well as government policies and regulations to help customers make lower-carbon choices.

Some sectors will be very hard to decarbonise. Aviation is one. Shell has an extensive aircraft refuelling network. We can work with customers and suppliers to develop a profitable market for sustainable aviation fuel. In 2020, we signed a deal with Amazon Air to supply up to six million gallons of sustainable aviation fuel.

## RESPECTING NATURE

For many years we have followed guiding principles and standards that seek to protect the environment. Now we are stepping up our environmental ambitions and shaping them to contribute to the UN Sustainable Development Goals.

For example, we are working to keep waste from our operations to a minimum and run our operations and supply chains so they can contribute to a circular economy. This means designing materials and products that can be more easily reused and recycled.

We cannot lose focus for a second when trying to protect the environment. We must continue to take action to prevent and deal with oil spills, including work to reduce operational spills. In Nigeria,



## 1. SUSTAINABILITY AT SHELL

## 2. OUR CORE VALUES

## 3. ACHIEVING NET-ZERO EMISSIONS

## 4. RESPECTING NATURE

## 5. POWERING LIVES

## 6. GENERATING SHAREHOLDER VALUE

## 7. OUR PERFORMANCE DATA

we also continue to tackle environmental challenges related to spills caused by oil theft and sabotage of pipelines.

### POWERING LIVES

We power millions of lives by providing energy for homes, businesses and transport, for cooking, heating and lighting. We power lives by paying taxes, boosting local economies and developing people. We also do this by helping achieve universal access to clean, affordable energy. Our ambition, by 2030, is to provide reliable electricity to 100 million consumers in emerging markets who do not yet have it.

In 2020, the death of George Floyd and its aftermath underscored society's problem with racism. Shell is part of society, and while we may have made advances in diversity and inclusion over the years, we have to acknowledge that we can do much better. For Shell, for me and the Executive Committee, these events have led us to seek a deeper personal exposure to racial injustice in Shell. We cannot take a stand in society, nor be a force for good, if we do not first fix ourselves.

In 2020, we launched a global Diversity and Inclusion Council for Race, which I sponsor. The council aims to build on our actions to advance diversity in our workforce so it better reflects communities where we work and from which we draw talent. We will report publicly on our progress.

We are making advances in gender equality. At the end of 2020, the proportion of women in senior leadership positions at Shell was 27.8%, an increase from 26.4% in 2019. We aim to achieve 30% representation of women in these positions by the end of 2021, 35% by 2025 and 40% by 2030.

### OUR CORE VALUES

We must live by our core values of honesty, integrity and respect for people and maintain our focus on safety. This includes our commitment to doing business in an ethical and transparent way.

In 2020, we began what will be a multi-year refresh of our safety approach. It places greater emphasis on increasing the chances of people emerging unhurt even if there is an incident.

It requires people to be open to learn, both from things that went well and from their mistakes, and to confidently share ideas and concerns with colleagues. We are also adopting a simpler set of industry-standard life-saving rules.

In 2020, there were zero fatal accidents in Shell-operated facilities for the first time in our history. Staff demonstrated an extra level of vigilance in a very difficult year. I want this achievement to spur us on so that we keep working hard on safety.

Our employees must show absolute integrity every day. They must meet the ethical standards that Shell, and society, expects.

We continue to work hard to raise standards in this area, learning from our own experiences and from others. In March 2021, we were pleased that Shell and four former employees were acquitted in a long-running trial in Milan related to a Nigerian oil block called OPL 245. But the case has been a difficult learning experience for us.

In 2020, we developed a new decision-making framework to ensure that everyone at Shell continues to make ethical decisions in line with our code of conduct. The framework, which has been externally reviewed, will help staff to think through, in a structured way, the legal, ethical and external consequences of the decisions they face in their daily work. We are launching the framework in 2021.

And we are being more transparent about what we do and why we do it. In 2019, we were one of the first companies to conduct a review of industry associations to check alignment with our climate policies. In April 2021, we published our third report on this subject. In late 2020, we published our second annual Tax Contribution Report, which sets out the corporate income tax that Shell companies paid in countries and locations around the world.

So we are taking action and we are making progress. This Sustainability Report shows how we are achieving this progress. Once again, I would like to thank the members of the independent Report Review Panel, who help us provide balanced, relevant and responsive reporting. We are a founding member of the UN Global Compact and we continue to support its corporate governance principles on human rights, environmental protection, anti-corruption and better labour practices.

In 2020, the COVID-19 pandemic changed the world and people's lives in ways we could never have imagined. It was a tough year for everyone. It was a tough year for Shell, but also a year when we set a clear path for our future.

We will take firm and transformative steps to address the carbon dioxide emissions from our operations and from the energy products we sell so that we can become a net-zero emissions energy business. We will work with our customers to develop the low-carbon markets of the future. A major reorganisation, which we announced in 2020 and which takes effect from August 2021, will make us more responsive to customers. We shall be a nimbler organisation with lower costs.

We will continue to step up in other areas, to respect nature, power lives and livelihoods through our products and activities, and by supporting a more inclusive society. We must remain true to our core values and sustain a relentless focus on safety.

By doing all this, we can deliver positive change for our customers, our communities, our investors and for society.

**Ben van Beurden**  
Chief Executive Officer



## 1. SUSTAINABILITY AT SHELL

## 2. OUR CORE VALUES

## 3. ACHIEVING NET-ZERO EMISSIONS

## 4. RESPECTING NATURE

## 5. POWERING LIVES

## 6. GENERATING SHAREHOLDER VALUE

## 7. OUR PERFORMANCE DATA

# OUR APPROACH TO SUSTAINABILITY

## SUSTAINABILITY AT SHELL

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 long-standing 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.



We believe the rising standard of living of a growing global population will continue to drive demand for energy for years to come.

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 FRAMEWORK



GENERATING  
SHAREHOLDER  
VALUE



ACHIEVING  
NET-ZERO  
EMISSIONS



POWERING  
LIVES



RESPECTING  
NATURE

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 non-governmental organisations, industry bodies, national oil and gas companies, our customers and wider society. Read more at [www.shell.com/powering-progress](http://www.shell.com/powering-progress)

## UN Sustainable Development Goals

We will play our part in helping governments and societies achieve the UN Sustainable Development Goals (SDGs).

The goals were one of the considerations in the development of our Powering Progress strategy.

The actions we take as part of our Powering Progress strategy can help directly contribute to 13 of the SDGs, while indirectly contributing to others.

Information on how we are contributing to these SDGs can be found throughout this Sustainability Report and on [www.shell.com/sdgs](http://www.shell.com/sdgs)

## 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.



## 1. SUSTAINABILITY AT SHELL

## 2. OUR CORE VALUES

## 3. ACHIEVING NET-ZERO EMISSIONS

## 4. RESPECTING NATURE

## 5. POWERING LIVES

## 6. GENERATING SHAREHOLDER VALUE

## 7. OUR PERFORMANCE DATA



The Shell-operated QGC natural gas wells in Queensland, Australia, where sustainability considerations include endangered ecosystems and essential habitats.

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 co-generation 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

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



## 1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

## 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.

## GOALS, PERFORMANCE AND PLANS

### GOAL 2020



PERSONAL  
SAFETY

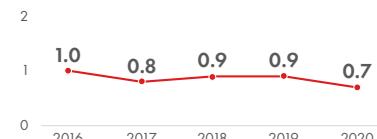
#### TRCF ≤ 0.8

**Achieve total recordable case frequency (TRCF) – the number of injuries per million working hours – of 0.8 or below for employees and contractors.**

Goal Zero has been our ambition for personal safety since 2007.

### PROGRESS IN 2020

Total recordable case frequency (TRCF)



The TRCF was 0.7 in 2020 compared with 0.9 in 2019 (see [Safety performance](#)).

### PRIORITIES IN 2021

- Continue deploying our refreshed approach to safety, with a more consistent focus on the way people, culture, equipment, work systems and processes interact.
- Move from using our 12 Life-Saving Rules to the simplified set of nine Life-Saving Rules of the International Association of Oil & Gas Producers (IOGP).
- In road safety, continue to focus on effectively implementing proven practices across all our businesses, with an emphasis on improving the management of fuel transport in high-risk countries. Work with road transport contractors to increase the use of advanced technology to support safe driving.
- Improve our capabilities to learn from audit findings and investigations into incidents which have the potential to cause harm.

### Leaks ≤ 115



PROCESS  
SAFETY

**Reduce the number of operational leaks to 115 or below (classified as "operational Tier 1 and 2 process safety events").**

Since 2011, we have extended our ambition of Goal Zero to process safety. From 2017, we combined operational Tier 1 and 2 safety events when setting the target. Previously, we only used Tier 1 events.

Number of operational process safety Tier 1 and 2 events



The number of Tier 1 and 2 operational process safety events decreased from 130 in 2019 to 103 in 2020 (see [Safety performance](#)).

- Continue to focus on asset integrity and quality of operational execution by, among other things, shifting attention to leading indicators to understand and measure success, embedding our Process Safety Fundamentals, and rolling out a group-wide asset management system.

- Continue to improve learning from process safety events with high potential impact.



## GOAL 2020



GHG AND ENERGY

### 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](http://www.shell.com/ncf)

## PROGRESS IN 2020

### Net Carbon Footprint: g CO<sub>2</sub>e/MJ



Shell's Net Carbon Footprint in 2020 was 75 grams of CO<sub>2</sub> equivalent per megajoule, a 4% reduction from the previous year and a 5% reduction from the 2016 reference year.

## PRIORITIES 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 CO<sub>2</sub> equivalent [A]



[A] Includes Upstream and Integrated Gas

Our upstream flaring decreased to 3.8 million tonnes of CO<sub>2</sub> equivalent in 2020 from 5.9 million tonnes in 2019 (see [Flaring](#)).

### Continue to link staff bonuses to the management of greenhouse gas emissions.

### Further embed the guiding principles for reducing methane emissions across the natural gas value chain, which Shell and seven other energy companies signed in November 2017.

### Continue to focus on maintenance measures to enhance the reliability of our equipment and reduce emissions through leaks.

### Upstream and Integrated Gas GHG intensity ≤ 0.162

For our Upstream and Integrated Gas facilities, achieve a GHG intensity of 0.162 tonnes or below of CO<sub>2</sub> equivalent per tonne of hydrocarbon production available for sale.

### Upstream and Integrated Gas: tonnes CO<sub>2</sub>e per tonne of hydrocarbon production available for sale



Our Upstream and Integrated Gas GHG intensity was 0.159 tonnes CO<sub>2</sub> equivalent per tonne of hydrocarbon production available for sale in 2020 compared with 0.168 in 2019.



## 1. SUSTAINABILITY AT SHELL

## 2. OUR CORE VALUES

## 3. ACHIEVING NET-ZERO EMISSIONS

## 4. RESPECTING NATURE

## 5. POWERING LIVES

## 6. GENERATING SHAREHOLDER VALUE

## 7. OUR PERFORMANCE DATA

### GOAL 2020

#### Refinery GHG intensity ≤ 1.02

For our refineries, reduce GHG intensity to 1.02 tonnes or below of CO<sub>2</sub> equivalent per Solomon's Utilised Equivalent Distillation Capacity (UEDC)

### PROGRESS IN 2020

#### Refineries: tonnes CO<sub>2</sub>e per Solomon's UEDC



Refinery GHG intensity in 2020 was 1.05 tonnes CO<sub>2</sub>e per UEDC compared with 1.06 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.

#### Chemicals GHG intensity ≤ 0.96

For our chemical plants, reduce GHG intensity to 0.96 tonnes or below of CO<sub>2</sub> equivalent per tonne of high-value petrochemicals produced.

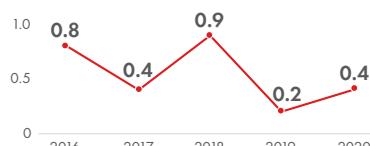
#### Chemicals: tonnes CO<sub>2</sub>e per tonne of petrochemicals produced



Chemical GHG intensity was 0.98 tonnes CO<sub>2</sub> equivalent per tonne of high-value chemicals produced in 2020 compared with 1.04 in 2019.

#### Goal Zero extends to the environment with our goal of no operational spills.

#### Volume of operational spills in thousand tonnes



There were 69 operational hydrocarbon spills in 2020 compared with 67 in 2019. The volume of operational spills of oil and oil products in 2020 was 0.4 thousand tonnes, an increase from 0.2 thousand tonnes in 2019 (see Environmental performance).

- Continue to learn from incidents with spills to improve the reliability of our facilities and further reduce the number and volume of operational spills.

- Continue to work with the oil and gas industry to further develop effective oil-spill response capacities.



ENVIRONMENT



## 1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

## GOAL 2020



SOCIAL  
PERFORMANCE

### Effective community feedback

- Introduce our new online community feedback tool to help us manage the reporting and tracking of feedback more efficiently.
- Implement action plans related to community feedback mechanisms (CFM) at priority sites, to enable a proactive approach to managing feedback.

## PROGRESS IN 2020

- The roll-out of our new community feedback tool enabled a 66% increase in reported feedback. We received a wide range of comments, including complaints, questions, requests and positive feedback.
- We supported the implementation of CFM improvement plans at 14 sites. This was based on an assessment informed by the UN Guiding Principles for Business and Human Rights.
- We also developed a guide to help sites to make their CFMs effective and to address the needs of local communities.

## PRIORITIES IN 2021

- Train new staff with community-facing roles to implement effective CFMs.
- Continue to support the implementation of CFM improvement plans of priority sites.



## 1. SUSTAINABILITY AT SHELL

## 2. OUR CORE VALUES

## 3. ACHIEVING NET-ZERO EMISSIONS

## 4. RESPECTING NATURE

## 5. POWERING LIVES

## 6. GENERATING SHAREHOLDER VALUE

## 7. OUR PERFORMANCE DATA

### SUSTAINABILITY GOVERNANCE

We have clear and effective governance structures throughout Shell, along with performance standards and other controls. These include the Shell General Business Principles, our Code of Conduct, and our Health, Safety, Security, Environment and Social Performance (HSSE & SP) standards. They influence the decisions made and actions taken across Shell.

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 and Environment and other senior managers.

### Safety, Environment and Sustainability Committee

The Safety, Environment and Sustainability Committee (SESCo) is one of four standing committees of the Board of Directors of Royal Dutch Shell plc. The overall role of SESCo is to review the practices and performance of Shell, primarily with respect to safety, environment including climate change, and broader sustainability.

SESCo meets regularly to review and discuss a wide range of 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 Shell's annual HSSE & SP assurance plan and reviews 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. SESCo also advises the Remuneration Committee on metrics relating to sustainable development and energy transition that apply to the Executive Committee scorecard and incentive programme.

SESCo 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 2020, the committee held five meetings, two in person and three by videoconference, due to COVID-19 restrictions. The topics discussed in greater depth included personal and process safety, Shell's climate targets and the energy transition, and remuneration metrics and targets. SESCo reviewed Shell companies' operations and the challenges faced in Nigeria and Brazil.

Together with the Audit Committee and Chief Ethics and Compliance Officer, SESCo reviewed the controls and procedures for managing changes to Shell's portfolio. The SESCo Chair also held several meetings with senior leaders to discuss specific topics including new fuels, carbon emissions reduction and decommissioning.

### COMMITTEE VOICE



**SIR NIGEL SHEINWALD**  
SESCo Chair

"In 2020, we focused on the areas of most strategic importance to Shell, in line with our updated terms of reference. This allowed the committee to oversee effectively and thoroughly Shell's practices and performance related to safety, environment including climate change, and broader sustainability.

"We are 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. We welcomed Shell's refreshed approach to safety announced in 2020, with its emphasis on the human dimension of safety performance.

"The committee supported and contributed to Shell's announcement in 2020 that it aims to become a net-zero emissions energy business by 2050, in step with society. We believe this again demonstrates Shell's determination to play its full role in the energy transition. The committee has discussed in depth with management how Shell's climate targets are being put into action through portfolio changes, the use of nature-based solutions, the development of carbon capture utilisation and storage, and through carbon reduction programmes at Shell-operated facilities.

"Following our review of remuneration with management, new safety and environment metrics will be introduced for 2021 along with increased weighting for these metrics and energy transition metrics, which should drive further performance improvements.

"The committee closely monitored and strongly supported Shell's response to the COVID-19 pandemic in terms of care for staff and communities, and the safe management of operations. The committee appreciated Shell's rapid deployment of virtual working technology from the start of the pandemic to enable business continuity and to support continued HSSE & SP assurance activities across Shell.

"The committee continued to review wider questions of public concern such as plastic waste, methane emissions and human rights. We look forward to resuming direct engagement with stakeholders once the COVID-19 restrictions come to an end."



## 1. SUSTAINABILITY AT SHELL

## 2. OUR CORE VALUES

## 3. ACHIEVING NET-ZERO EMISSIONS

## 4. RESPECTING NATURE

## 5. POWERING LIVES

## 6. GENERATING SHAREHOLDER VALUE

## 7. OUR PERFORMANCE DATA



SESCO discussed the new hydrogen electrolyser project at Shell's Rheinland refinery in Germany as part of a virtual site visit.

SESCO postponed its site visits to the Rheinland refinery in Germany and the LNG Canada project in British Columbia due to the COVID-19 pandemic. The committee instead conducted a virtual site visit to Rheinland via videoconference. The visit focused on safety and environmental performance and the planned transformation of the Rheinland site into a chemicals and energy park. It also included an engagement with a government minister of North Rhine-Westphalia.

In 2020, the members of the committee were:

- Sir Nigel Sheinwald – Member since July 2012 and Chair since May 2018;
- Catherine Hughes – Member since November 2017;
- Linda Stuntz – Member since May 2018 and stood down in May 2020;
- Neil Carson OBE – Member since June 2019;
- Ann Godbehere – Member since May 2020; and
- Bram Schot – Member since October 2020

For further details on SESCo and how Shell manages sustainability see [www.shell.com/sustainability/our-approach/governance](http://www.shell.com/sustainability/our-approach/governance) and our Annual Report.

## 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.

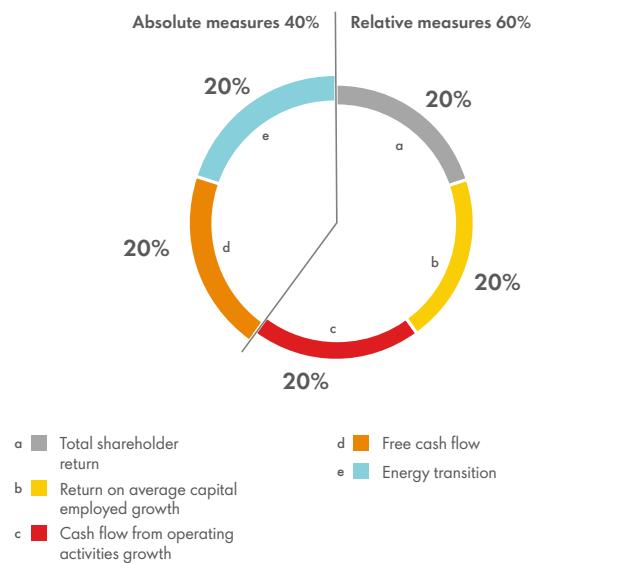
### Long-term incentive plan

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

percentage



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 2021-2023 long-term incentive plan grant is a 6-8% reduction in net carbon intensity against the 2016 baseline of 79 grams of CO<sub>2</sub> 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.

Read more about executive remuneration in the [2020 Directors' Remuneration Report](#) in the Annual Report.



## SPECIAL REPORT

# SHELL'S RESPONSE TO COVID-19

In 2020, the COVID-19 pandemic had a serious impact on people's health and livelihoods around the world. Sadly, it led to the deaths of 20 Shell colleagues, including two contractors who lost their lives after they caught the virus during the course of their work for Shell.

We worked to assist in the global fight against the virus and to support recovery efforts. We took steps to protect our staff and customers and to support communities where we operate. At the same time, Shell people worked hard to keep energy supplies flowing. Our refuelling stations helped to keep emergency and delivery services on the roads.

## PROTECTING COLLEAGUES

In January 2020, we brought together a global health alert monitoring team, made up of medical specialists across Shell, to equip staff and businesses with guidance to remain operational in a responsible way. We updated our guidance materials throughout the year and shared information with the International Association of Oil & Gas Producers so it could be used by others in the industry.

We moved quickly in the first few months of the year to protect the health of our staff, including requiring or encouraging office-based staff to work from home, depending on the advice of local authorities. From March 2020 until the end of the year, the occupancy of our 18 largest offices fell to around 10%. Our information technology (IT) teams ensured that thousands of people could work from home each day. More than 50,000 staff took a health-based risk assessment as part of our home-working ergonomics programme. This gave them advice and, if necessary, support, to buy office and IT equipment.



We installed screens to protect staff in the control room of our Moerdijk chemical complex in the Netherlands.

Shell updated business continuity plans and supporting guidance to ensure the safety and health of our key workers at facilities worldwide remained a priority (see [Supply chain](#)). These plans included robust cleaning programmes, health screening, social distancing in vehicles and common areas, and providing additional personal protective equipment in accordance with local guidelines. We increased our use of technology, for example, drones for remote monitoring of facilities, as lockdowns caused by the COVID-19 pandemic disrupted the movement of people.

We also strengthened our approach to mental health. We provided resources to address the challenges of remote working and to support staff as Shell prepared for a major organisational restructure. We set up a Care-for-Self programme to encourage staff to pay attention to their physical and mental well-being, and to support them as they did so.

## SUPPORTING CUSTOMERS

As the pandemic disrupted the world, Shell people at our forecourts provided the fuel, food and drink to help keep crucial services, such as ambulances, emergency vehicles and deliveries, on the roads. Shell offered free fuel to health-care providers and ambulances in several countries, including Brunei, Bulgaria, Mexico, the Netherlands, Oman, Poland, Russia and Turkey.



A Shell attendant in China was one of many around the world helping to keep crucial vehicles on the road during the COVID-19 pandemic.

Our people worked with business customers to meet demand for essential hand and surface cleaning products. Manufacturing plants at Pernis in the Netherlands, Sarnia in Canada and Bukom in Singapore produced additional isopropyl alcohol (IPA), which is a key ingredient in hand-sanitising liquids. Shell donated IPA to several countries, including making 2.5 million litres available free of charge to the Dutch health-care sector.



## 1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA



Our refineries produced additional isopropyl alcohol, which is a key ingredient in hand-sanitising liquids.

## HELPING COMMUNITIES

Shell supported efforts by communities to halt the spread of the virus and to help people recover. This included a number of in-kind and monetary donations to help vulnerable groups and front-line workers. For example, Shell donated \$3 million to the COVID-19 Resilience Fund run by Mercy Corps (see [Social partners](#)).

Our response also included collaborating with hospitals, universities and health specialists to provide 3D-printed parts to increase the availability of protective masks and ventilators.



Produce was delivered to key workers in the Philippines as part of our efforts to support local communities.

We granted \$1.7 million to six companies providing electricity in India, Kenya, Nigeria, Sierra Leone, Tanzania, and Uganda to support customers in financial difficulty because of the pandemic. In 2020, these grants helped around 800,000 people (see [Access to energy](#) and read more about [Shell's contributions around the world](#)).

We also donated \$10 million to COVAX, a global programme working for equitable access to COVID-19 vaccines. The programme is led by the Global Alliance for Vaccines and Immunization, the World Health Organization and the Coalition for Epidemic Preparedness Innovations.

In all this, Shell people working on COVID-19 relief initiatives carried out donations according to Shell's ethics and compliance standards (see [Business ethics and transparency](#)).



Parts made with 3D printers have increased the availability of protective masks for medical staff and ventilators for patients on COVID-19 hospital wards in the Netherlands.

Read more about Shell's global response to COVID-19 on [www.shell.com/covid19/covid-19-shells-global-response](http://www.shell.com/covid19/covid-19-shells-global-response)



## 1. SUSTAINABILITY AT SHELL

## 2. OUR CORE VALUES

## 3. ACHIEVING NET-ZERO EMISSIONS

## 4. RESPECTING NATURE

## 5. POWERING LIVES

## 6. GENERATING SHAREHOLDER VALUE

## 7. OUR PERFORMANCE DATA

# ABOUT THIS REPORT

## SELECTING THE TOPICS

The 2020 Sustainability Report, published on April 7, 2021, is our 24<sup>th</sup> 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 non-governmental 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](http://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.

## EXTERNAL VOICES

Several individuals have shared informed views on Shell's activities, published under the header "External voices". These quotes are intended to give independent perspectives on our activities. They typically come from a range of organisations in areas such as civil society, academia, contracting and supply, community leadership, as well as customers and people living or working near our facilities. They also reflect some of the different regions where we operate and some of our businesses and projects. The views expressed are those of the individual and do not represent views held by Shell. Contributors are not remunerated.

## REPORTING GUIDELINES

We report in line with guidelines developed by IPIECA, the global oil and gas industry association for advancing environmental and social performance. This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards: Core option (see [GRI index](#) for full details). It is also the document we use to communicate our progress in supporting the principles of the UN Global Compact.

As a member of the World Business Council for Sustainable Development, we support the organisation's updated criteria for membership from 2022, which includes requirements for corporate transparency.

The recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) help to guide and inform our reporting in our Sustainability Report and Annual Report.

In January 2021, we agreed to adopt the Stakeholder Capitalism Metrics, a set of environmental, social and governance metrics released by the World Economic Forum and its International Business Council.

More detailed information about how we report is available at [www.shell.com/sustainability/sustainability-reporting-and-performance-data/voluntary-reporting-standards-and-esg-ratings](http://www.shell.com/sustainability/sustainability-reporting-and-performance-data/voluntary-reporting-standards-and-esg-ratings)

## REPORT REVIEW PANEL

We use an external review panel to strengthen our sustainability reporting. The panel helps evaluate and improve the quality and credibility of our Sustainability Report. The 2020 Report Review Panel comprised five sustainability and corporate reporting experts:

- Mandy Kirby, UK. Chief Strategist and Co-founder, City Hive (Chair of the Report Review Panel)
- Andrew Logan, USA. Senior Director, Oil and Gas, Ceres
- Changhua Wu, China. Chief Executive Officer, Beijing Future Innovation Center
- Hilary Parsons, UK. Formerly Head of Creating Shared Value Engagement, Nestlé
- Vanessa Zimmerman, Australia. Chief Executive Officer, Pillar Two

The panel provided input into our topic selection process. They reviewed the report, discussed Shell's reporting and spoke to relevant Shell employees to prepare their statement. The panel's mandate focused on the quality of Shell's reporting, including credibility, completeness and responsiveness.

Panel members are offered an honorarium for their input.

You can read more about the panel members at [www.shell.com/sustainability-report-review-panel](http://www.shell.com/sustainability-report-review-panel)



## 1. SUSTAINABILITY AT SHELL

## 2. OUR CORE VALUES

## 3. ACHIEVING NET-ZERO EMISSIONS

## 4. RESPECTING NATURE

## 5. POWERING LIVES

## 6. GENERATING SHAREHOLDER VALUE

## 7. OUR PERFORMANCE DATA

### REPORT REVIEW PANEL RECOMMENDATIONS

#### 2019 RECOMMENDATIONS

#### HOW SHELL RESPONDED IN 2020

##### **Focus on strategic priorities**

More clearly articulate how Shell's sustainability priorities intersect with its core business strategy to drive decisions, such as resource allocation and prioritisation.

The 2020 report organises content under the four main goals of Shell's Powering Progress business strategy – generating shareholder value, achieving net-zero emissions, powering lives and respecting nature – and our core values of honesty, integrity and respect for people and our focus on safety (see [Sustainability at Shell](#)).

More effectively convey the big picture of Shell's place in society – including both risks and opportunities, and how business can help address society's most pressing challenges.

You can read case studies and commentary about Shell's progress in creating value for wider society, including our response to challenges related to climate change, the environment, diversity and inclusion, and human rights. In 2020, Shell worked to assist in the global response to the COVID-19 pandemic (see [Shell's response to COVID-19](#)). See also [Letter from the CEO](#).

Engage readers who are not sustainability experts but are concerned about material issues such as climate change and ecological integrity.

We continue to improve the relevance and readability of the report by clearly describing Shell's role in addressing global challenges. This includes details of our Powering Progress business strategy, which builds on Shell's long-standing commitment to contribute to sustainable development (see [Sustainability at Shell](#)).

We have also increased the number of links within the report, including to [www.shell.com](http://www.shell.com), and improved the topic selection filter on the homepage to direct readers more easily to relevant content.

##### **Measuring sustainability performance**

Further improve the balance of the report by articulating in more depth the potential challenges facing key business areas. Provide more context and explanation for the metrics so that readers are better able to assess changes in performance and progress.

We focused on improving the quality of performance commentary for data tables in the report, seeking to ensure it is complete, balanced and fair. You can find commentary on the factors that influence our performance, including explanations for relevant graphs, within the [safety](#), [environment](#) and [social performance](#) sections.

Develop new ways to measure and convey the impact of the steps Shell is taking to evolve its safety culture.

In 2020, we started to deploy our refreshed approach to safety. We plan to report on a new metric (from 2021) which will measure our performance in serious injury and fatal incidents. It has a more consistent focus across the organisation on the way people, culture, equipment, work systems and processes all interact (see [Our approach to safety and Process safety](#)).

Share more information on how and when Shell pursues sustainability-related partnerships and how their impact is measured.

You can find information about our extensive work with others in Collaborations and stakeholder engagement, as well as case studies and details of new initiatives across the report. See also [Social and Environmental partners](#).

Further improve the balance of the report by including more diverse and critical points of view from independent voices.

We continue to include independent views on our activities, from a broad range of organisations and individuals outside Shell.



## 1. SUSTAINABILITY AT SHELL

## 2. OUR CORE VALUES

## 3. ACHIEVING NET-ZERO EMISSIONS

## 4. RESPECTING NATURE

## 5. POWERING LIVES

## 6. GENERATING SHAREHOLDER VALUE

## 7. OUR PERFORMANCE DATA

### REPORT REVIEW PANEL OPINION

The Report Review Panel issues the following independent statement on Shell's 2020 Sustainability Report.

"We have had the opportunity to review two drafts of the 2020 Sustainability Report and provided both written and verbal feedback to Shell in relation to the quality of sustainability reporting. During this process, Shell has been responsive to feedback, providing clarifications on language and approach.

Following the panel's review of the 2019 Sustainability Report, Shell has pursued further efforts to make content accessible to all readers, while serving the individual needs of its diverse stakeholders. We welcome the clear language and structure this year, and the effort to frame the majority of sections with a mixture of accessible content, contextual diagrams and more detailed technical terminology.

The panel acknowledges the significant global challenges in 2020 caused by the COVID-19 pandemic and the impact on business and data collection. Shell was responsive to suggestions that the report clearly communicate its efforts to address the pandemic in relation to its operations and suppliers, and the broader context of its role in society.

Clarity of reporting has improved in many areas, including its strategic approach and improved framing of metrics with contextual information, as recommended by the panel in 2019. The explicit connection between sustainability strategy and the actions taken by Shell could be strengthened by featuring more case studies.

The panel welcomes Shell's expanded transparency efforts, in particular around tax and remuneration.

We commend the improvements in safety culture and reporting. We would encourage Shell to explore opportunities for greater use of forward-looking metrics with its disclosure, for example, on process safety where current disclosure consists entirely of lagging indicators.

Shell has the potential to become a leader in evolving areas of sustainability disclosure, particularly water – where localised, context-based reporting is key to understanding a company's impact – and strategies to reduce greenhouse gas emissions. There are areas where strategy remains less evident, notably renewable energy and, in a broader context, systemic changes and opportunities of the energy transition.

We recognise that there was reduced opportunity for stakeholder engagement during the 2020 reporting period, not least the difficulty of in-person contact. While we are aware of Shell's efforts to engage with a wide range of stakeholders and to include diverse external voices in the report, the panel would welcome more details on Shell's engagement across sustainability topics, particularly challenges that have emerged and how they have been addressed. We appreciated that Shell included information on its implementation of international standards, including those relating to human rights.

This report more clearly sets out Shell's approach to the UN Sustainable Development Goals and their consideration in its business. We welcome Shell's articulation of its responsibility and role in society, including its acknowledgement that further changes to its business plans will be needed to meet its sustainability goals. This will become more relevant as society's efforts to move towards a net-zero emissions future imply changes to energy production and supply, and as standards around sustainability continue to evolve.

In the future, the panel would hope to see more detail on Shell's supply chain strategy and its use of new and existing technologies and how these contribute to the pace of change of the energy transition.

We would like to thank Shell for the opportunity to share our feedback here and throughout the drafting process and we look forward to reading the next Shell Sustainability Report."



1. SUSTAINABILITY AT SHELL

**2. OUR CORE VALUES**

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA



# LIVING BY OUR CORE VALUES

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

**18**

Business ethics and transparency

**23**

Safety





# BUSINESS ETHICS AND TRANSPARENCY

## ETHICAL LEADERSHIP

Our core values of honesty, integrity and respect for people underpin our work with employees, customers, investors, contractors, suppliers, non-governmental organisations and others. The Shell General Business Principles, introduced more than 40 years ago, describe our core values, our responsibilities and the principles and behaviours that guide how we do business.

### Ethical leadership during COVID-19

In 2020, we stepped up efforts to support our employees, contractors and those we do business with to make the right ethical choices and adhere to Shell's compliance expectations in response to challenges from the COVID-19 pandemic.

We developed guidance on COVID-19 to help Shell leaders set the tone for behaving ethically and to promote compliance in their teams. We offered additional practical advice on avoiding potential breaches of our Code of Conduct. This advice covered managing potential conflicts of interest while working at home, where work and family lines may be blurred. We issued reminders to complete mandatory training and emphasised that leaders should ensure people feel comfortable speaking up.



We work to ensure our workplace is an environment where people feel comfortable speaking up.

This work built on the ethical leadership expectations programme, which was introduced in 2018 and continues to be rolled out for senior leaders across Shell. The programme was designed to reinforce the level of commitment to ethics and compliance in senior leaders.

In 2020, we also developed a new decision-making framework to ensure that we continue to make ethical decisions in line with our Code of Conduct. The framework, which has been externally reviewed, will help staff to think through, in a structured way, the legal, ethical and external consequences of the various decisions they face in their daily work. We are launching the framework in 2021.

### Supply chain

In 2020, we took steps to strengthen and simplify our approach to working with suppliers and contractors amid COVID-19 uncertainties. For example, we adapted our due diligence assessments to ensure partners that look to save costs do not compromise ethical conduct. We also produced additional COVID-19 guidance for employees, highlighting potential corruption and money laundering risks in supply chain and relief donations.

## Speaking up

Shell employees, contractors and any third party can report any potential breaches of the Code of Conduct confidentially and anonymously through several channels, including a global helpline, operated by an independent provider.

Shell has specialists who investigate concerns or allegations about a breach of our Code of Conduct. If a breach is substantiated, the relevant Shell company will take appropriate action up to and including a contract termination or dismissal. We maintain a stringent no retaliation policy to protect any person making an allegation in good faith.

## ANTI-BRIBERY AND CORRUPTION

Shell has rules on anti-bribery and corruption in our Code of Conduct and Ethics and Compliance Manual. Both are available publicly online. Contractors and consultants are also required to act consistently with our Code of Conduct when acting on our behalf.

In 2020, we also made our Code of Conduct training publicly available, with the aim to ensure contract staff working for Shell understand their personal responsibilities. In addition, using a risk-based approach, we started offering select third parties, such as distributors and suppliers, an online anti-bribery and corruption training course, free of charge and in several languages.

In March 2021, Shell and four former employees were acquitted in a long-running trial in Milan related to a Nigerian oil block called OPL 245. Shell has always maintained that the 2011 settlement with the Federal Government of Nigeria and Eni that was at the heart of this trial was a legal transaction, so we welcome the ruling. This has been a difficult learning experience for Shell. Business integrity is one of our core values and we continue to work hard to raise standards in this area. You can read Shell's detailed response at [www.shell.com/shell-comments-on-the-verdict-from-the-milan-tribunal-over-opl-245](http://www.shell.com/shell-comments-on-the-verdict-from-the-milan-tribunal-over-opl-245)

## PERSONAL DATA

Shell respects the privacy of individuals and recognises that personal data belong to the individual. We take action to manage personal data in a professional, lawful and ethical way.

Our privacy policies, notices and other customer agreements clearly define the data we are collecting, why they are being collected, who has access to them and for how long. We seek to process only the minimum data required, such as when customers participate in loyalty schemes or pay for fuel on their phones without leaving their vehicle. Personal data processed in our systems are secured appropriately and treated with respect to maintain privacy for our employees, partners and millions of customers around the world. The COVID-19 pandemic increased the need to process personal data, for example, when employees, suppliers and others visit our premises.

Our specialists work closely with teams across Shell to maintain compliance with our data privacy standards and to ensure that we use data in an ethical way. In 2020, we continued to evolve our approach. For example, we analysed new data privacy regulations, such as those in Brazil and California, USA, and the advice of regulatory and industry bodies, including the World Federation of Advertisers. We also review our marketing standards, including our apps and websites, to keep them up to date with best practices.



1. SUSTAINABILITY AT SHELL

**2. OUR CORE VALUES**

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

**LIVING BY OUR PRINCIPLES****SHELL GLOBAL HELPLINE****1,425**

Reports to the helpline

**CODE OF CONDUCT****216**

Confirmed breaches of the Code of Conduct

**TAKING ACTION****252**

Employees or contractor staff subject to disciplinary action

**TAKING ACTION****54**

People dismissed

**CONTINUOUS SCREENING****5.1 million**

Counterparties screened for trade compliance, anti-bribery, anti-corruption and anti-money laundering on an ongoing basis

**ENHANCED COMPLIANCE REVIEWS****8,246**

Enhanced pre-screenings for higher-risk contracts

**Cyber security**

Shell is subjected to frequent cyber-security attacks, including attacks targeting our customer database, and the COVID-19 pandemic led to an increase in such activity. Data breaches have occurred at Shell. Where systems, customer accounts and data have been compromised, we have notified data privacy regulators and affected customers where appropriate.

We regularly monitor our IT systems for possible vulnerabilities to cyber attacks. Our incident-handling process helps to ensure that we deal effectively with an issue. The process also helps us to meet the most stringent regulatory reporting timelines, for example, the 72-hour requirement under the General Data Protection Regulation.

Read more about our values at [www.shell.com/values](http://www.shell.com/values) and our requirements for our businesses and functions to comply with at [www.shell.com/shell-ethics-and-compliance-manual](http://www.shell.com/shell-ethics-and-compliance-manual)

**COLLABORATIONS AND STAKEHOLDER ENGAGEMENT**

We work with governments, non-governmental organisations, industry bodies, national oil and gas companies and many other businesses. These collaborations range from working together on a project to sponsoring a particular group. These efforts help us learn, share best practice, achieve specific objectives, set future goals and build trust with our stakeholders.

For example, we work with Building Responsibly, a group of companies that collaborate to promote the rights and welfare of workers across the engineering and construction industries (see [Respecting human rights](#)).

**Working together to lower emissions**

We are a founding member of the Energy Transitions Commission, which brings together leaders from other energy companies, financial institutions, wider industry partners and civil society groups. The commission aims to achieve net-zero emissions by mid-century, in line with the Paris Agreement climate goal of limiting global warming to well below two degrees Celsius and ideally to 1.5°C.

In 2020, the commission released the Making Mission Possible: Delivering A Net-Zero Economy report. Shell welcomes the report, which sets out the milestones in the 2020s to put the commission's 2050 targets within reach.

Shell also worked with the UN Environment Programme, Environmental Defense Fund, energy businesses and others to develop an updated Oil & Gas Methane Partnership 2.0 reporting framework for tracking methane emissions. The framework agreement was signed in 2020, and makes it easier for officials, investors and the public to accurately track and compare performance across companies. European Union policymakers are considering using it as a basis for legislation. Shell was also part of a group of energy companies and environmental organisations which shared recommendations with the European Commission on how to reduce methane emissions.

We also work with the Oil and Gas Climate Initiative, a voluntary CEO-led group that focuses on carbon capture, utilisation and storage, methane detection and reduction, as well as energy efficiency. In 2020, the group announced a new target to reduce the collective average carbon intensity of member companies' aggregated upstream oil and gas operations to between 20 kilograms and 21 kilograms of carbon dioxide equivalent per barrel of oil equivalent by 2025. This target is consistent with the reduction needed across the oil and gas industry by 2025 to support the goals of the Paris Agreement.



## COLLABORATIONS OVERVIEW

The table shows some of the organisations that we collaborate with globally on topics such as environmental sustainability and technology. Shell also works with many community-based organisations.

	Environmental sustainability and climate change	Human rights and social responsibility	Safety and technical standards	Technology and innovation	Transparency and governance
Alliance to End Plastic Waste	✓				
B Team Responsible Tax Principles		✓			✓
Bonsucro	✓	✓			✓
Building Responsibly		✓	✓		
Business for Social Responsibility	✓	✓			
Clean Cooking Alliance		✓			
Clean Skies for Tomorrow Coalition	✓			✓	✓
Earthwatch	✓				
Employment and Skills for Eastern Africa E4D / SOGA		✓			
Energy Institute (EI)			✓	✓	
Energy Transitions Commission (ETC)	✓			✓	✓
Extractive Industries Transparency Initiative (EITI)					✓
GIZ		✓			
Global Road Safety Partnership (GRSP)			✓		
HeliOffshore			✓		
Hydrogen Council	✓		✓	✓	✓
International Association of Oil & Gas Producers (IOPG)	✓	✓	✓	✓	✓
International Sustainability and Carbon Certification (ISCC)	✓	✓			✓
International Union for Conservation of Nature (IUCN)	✓				
IPIECA (industry association for environmental and social issues)	✓	✓	✓		✓
Jet Zero Council	✓			✓	✓
Mercy Corps		✓			
Methane Guiding Principles Coalition	✓		✓	✓	✓
Mission Possible Partnership	✓			✓	
Oil and Gas Climate Initiative (OGCI)	✓			✓	✓
Roundtable for Responsible Soy (RTRS)	✓	✓			✓
Roundtable for Sustainable Biomaterials (RSB)	✓	✓		✓	✓
Roundtable for Sustainable Palm Oil (RSPO)	✓	✓			✓
The Nature Conservancy (TNC)	✓			✓	
The Valuable 500		✓			
Transparency International UK Business Integrity Forum					✓
UN Environment Programme (UNEP)	✓			✓	✓
UN Global Compact		✓			✓
UN World Food Programme (WFP)		✓			✓
Voluntary Principles Initiative		✓			
World Business Council for Sustainable Development (WBCSD)	✓	✓	✓		✓
World Economic Forum (WEF)	✓			✓	✓



## POLITICAL ENGAGEMENT

Shell engages governments, regulators and policymakers to help shape comprehensive and effective policy, legislation and regulation. We advocate our positions on matters which affect us, our employees, customers, shareholders or local communities, in accordance with our values and the Shell General Business Principles.

We provide our statement on corporate political engagement and positions on key public issues on our website [www.shell.com/advocacy](http://www.shell.com/advocacy). Shell senior executives endorse our advocacy priorities annually.

We also advocate to political stakeholders indirectly, for example, through industry associations or advocacy coalitions. Our Industry Associations Climate Review 2021 assesses our alignment with key industry associations on Shell's climate-related policy positions.

Examples of our advocacy in practice are support for the European Union's (EU) target to achieve climate neutrality by 2050 and advocating a return to the direct regulation of methane emissions under the Clean Air Act in the USA.

Shell companies do not make payments to political parties, organisations or their representatives. Shell employees, suppliers or contractors acting on behalf of Shell must not use Shell funds or resources, either directly or indirectly, to help fund political campaigns, political parties, political candidates, or anyone associated with them. Political payments or in-kind contributions must never be made by or on behalf of Shell companies or by industry associations with Shell funds.

In the USA, Shell Oil Company administers the non-partisan Shell Oil Company Employees' Political Awareness Committee (SEPAC), a political action committee registered with the US Federal Election Commission. Eligible employees may make voluntary personal contributions to the SEPAC. All employees' contributions comply with federal and state law and are publicly reported in accordance with US election laws. Shell Oil Company does not exercise control over SEPAC's funding decisions.

In accordance with the Shell General Business Principles, all Shell staff and people working in joint ventures we operate are required to comply with all applicable laws and regulations of the countries in which we operate, including on lobbying. We report on our lobbying activities in line with local requirements. For example, in the EU and the USA, we report our costs relating to lobbying activities in line with the requirements and guidelines set out in the EU Transparency Register and the US Lobbying Disclosure Act, respectively. These submissions are publicly available.

## TAX TRANSPARENCY

Taxes are a vital source of revenue for countries around the world and help to fund essential services like education, health care and transport. In times of crisis such as the COVID-19 pandemic, taxes are also central to government policies to support people's lives and livelihoods.

Being transparent is about showing how developing energy resources responsibly provides governments with an opportunity to generate revenues, support economic growth and enhance social development.

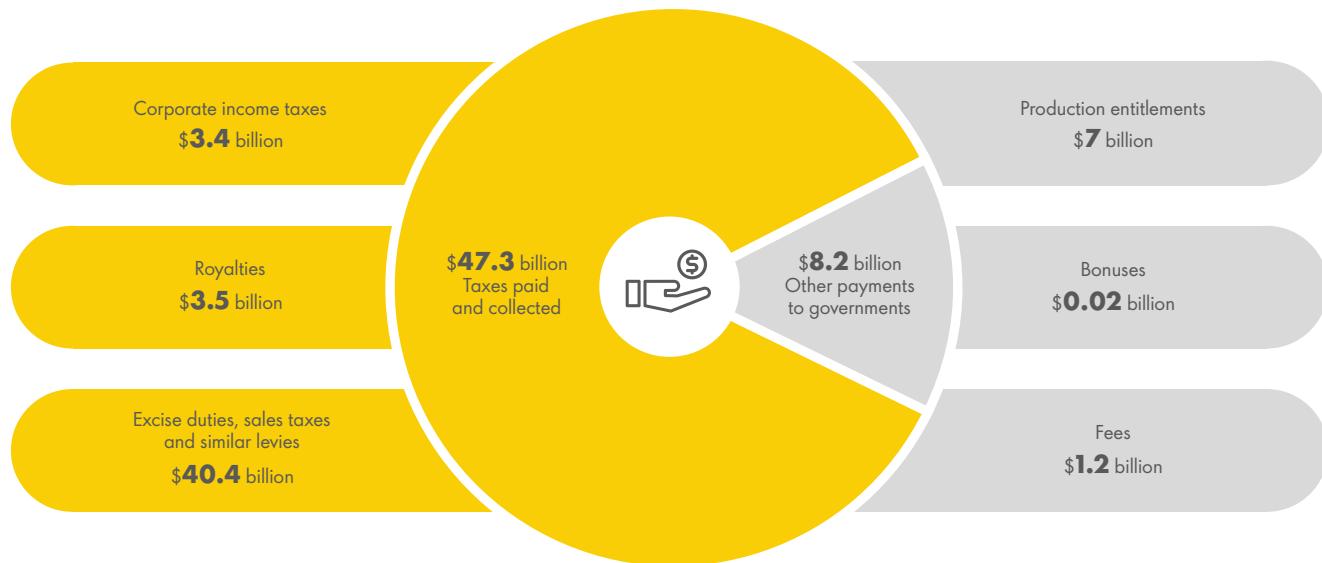
Shell publishes a Tax Contribution Report annually which sets out the corporate income tax that Shell companies paid in countries and locations around the world where Shell companies have a taxable presence. You can read our latest report at <https://reports.shell.com/tax-contribution-report/2019>

The Tax Contribution Report builds on the information we disclose in our Annual Report and Accounts, Form 20-F, the Sustainability Report and the **Payments to Governments Report**.

The report shows how our business activities are taxed globally. It outlines Shell's approach to tax which is centred on compliance, transparency and open dialogue. Compliance is embedded in our Shell General Business Principles and the Code of Conduct. We do not condone, encourage or support tax evasion. In the report, we share information about our use of tax incentives and where we operate and why.

In 2020, Shell paid more than \$47.3 billion to governments. We paid \$3.4 billion in corporate income taxes, \$3.5 billion in government

## OVERVIEW OF TAX AND OTHER PAYMENTS TO GOVERNMENTS





1. SUSTAINABILITY AT SHELL

**2. OUR CORE VALUES**

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

royalties and collected \$40.4 billion in excise duties, sales taxes and similar levies on our fuel and other products on behalf of governments.

**Incentives and low-tax jurisdictions**

Governments use tax incentives to encourage investment in their country. Shell uses available and appropriate tax incentives where we have a qualifying business activity.

For example, in Poland, the government has designated zones to accelerate economic development. We created jobs in one of these economic development zones in Krakow and as a result qualify for tax incentives that partially exempt us from paying corporate income tax.

Governments sometimes set low corporate income tax rates to attract investment. When we are present in low-tax jurisdictions, we are there

for commercial reasons. We do not use these locations to avoid taxation on activities that take place elsewhere.

In 2019, we launched a review of parts of our corporate structure against our Shell Responsible Tax Principles, which have been developed with the non-profit organisation, The B Team, and which guide our decisions on tax matters.

We frequently review our corporate and financing structures to ensure these remain consistent with our policies and principles. This has led to the liquidation and restructuring of some entities that were in low- or zero-tax jurisdictions. For example, in 2019, we ended our financing activities from Switzerland to some Shell operating companies and, in 2020, we ceased our lending activities in Bermuda.

**SHELL RESPONSIBLE TAX PRINCIPLES****Principle 1: Accountability and Governance**

Tax is a core part of corporate governance and responsibility and is overseen by Royal Dutch Shell plc's Board of Directors.

**Principle 2: Compliance**

We are committed to complying with the tax legislation of the countries in which we operate and pay the right amount of tax at the right time, in the countries where we create value.

**Principle 3: Business Structure**

We will only use business structures that are driven by commercial considerations, are aligned with business activity and which have genuine substance. We do not seek abusive tax results.

**Principle 4: Relationships with Authorities**

We seek, wherever possible, to develop cooperative relationships with tax authorities, based on mutual respect, transparency and trust.

**Principle 5: Seeking and Accepting Tax Incentives**

Where we claim tax incentives offered by governments, we seek to ensure that they are transparent and consistent with statutory and regulatory frameworks.

**Principle 6: Supporting Effective Tax Systems**

We engage constructively in national and international dialogue with governments, business groups and civil society to support the development of effective tax systems, legislation and administration.

**Principle 7: Transparency**

We provide regular information to our stakeholders, including investors, policymakers, employees, professional service providers and the general public about our approach to tax and taxes paid.



# SAFETY

## OUR APPROACH TO SAFETY

Safety is central to the responsible delivery of energy. We aim to do no harm to people and to have no leaks across our operations. We call this our Goal Zero ambition.

We expect everyone working for Shell only to start work when all required safety measures are in place and to intervene when anything appears unsafe or conditions change.

We investigate incidents and aim to learn from them, sharing findings to improve safety performance across our organisation and our industry.



Shell staff in the USA practice social distancing for a briefing as part of efforts to stay safe in response to the COVID-19 pandemic.

We help all Shell employees and contractors to comply with our safety standards and requirements, including our mandatory Life-Saving Rules. We discuss dilemmas, share ideas and learn together how rules and procedures apply in the context of our work.

In response to the COVID-19 pandemic, we took additional steps to make workplaces safe for staff and contractors, for example, supporting our business partners to set up extra accommodations for frontline contractors to allow for greater social distancing.

## Refreshing our safety approach

In 2020, we started what is expected to be a multi-year effort to refresh our approach to safety for all employees and contractors. This followed a review that considered the effectiveness of preventative tools, such as the Life-Saving Rules, and our Goal Zero ambition.

Since the early 2000s, these tools have helped strengthen our safety culture and performance, but we have not been able to sustainably eliminate all fatal incidents involving Shell employees or contractors.

We are now implementing our new approach with a more consistent focus across the organisation on the way people, culture, equipment, work systems and processes all interact. The majority of our fatalities over the last five years were down to the interaction between these elements.

We encourage people to spend more time in teams reflecting on and improving their understanding of the gap between how we anticipate work will be safely carried out and what happens in reality. We continue to work to prevent incidents through maintaining safety barriers and training, but acknowledge that people can make mistakes

and processes can fail. We are taking steps to help people make more considered decisions about risks and prevent harm when things do not go as planned. We want to get to a place where even if there is an incident, our people emerge unharmed.

## Embracing a “learner mindset”

Our new approach centres on people being open to learn, both from things that went well and from their mistakes, and confidently sharing ideas and concerns with colleagues. Being open in this way means mistakes are reported quickly so action can be taken. Teams that embrace this learner mindset can more easily identify better ways to manage safety risks. We are also updating our various systems and controls to enable people to more effectively identify and address potential safety incidents. This means, for example, strengthening the way work is planned by having more in-depth discussions before, during and after tasks to identify and implement improvements.

In 2020, we provided training for leaders throughout Shell to help them understand and explore the learner mindset and behaviours they need to adopt. The training focused on systems and conditions that influence their team decisions, as well as the effectiveness of protective barriers.

Practical changes in 2020 under our refreshed safety approach included:

- announcing plans to move from our Life-Saving Rules to the International Association of Oil & Gas Producers Life-Saving Rules, which include a new rule that focuses on keeping people out of the line of fire;
- replacing our metric for Total Recordable Case Frequency (TRCF) with a new metric for Serious Incidents and Fatalities Frequency (SIF-F) that will take effect from 2021. This will enable us to measure our performance and help us better understand those instances where we have not been able to prevent significant harm; and
- launching an online portal with learning materials related to our refreshed approach to safety, which we made available to contractors and suppliers.

## Personal safety performance

In 2020, Shell had the safest year it has ever experienced. It was the first year with zero fatal injuries, and also the strongest ever process safety performance at ventures operated by Shell.

## FATAL ACCIDENT RATE (FAR) [A]

Number per 100 million hours



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

Our fatal accident rate – the number of fatalities per 100 million working hours – decreased to 0 in 2020 compared with 1.4 in 2019.



1. SUSTAINABILITY AT SHELL

**2. OUR CORE VALUES**

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

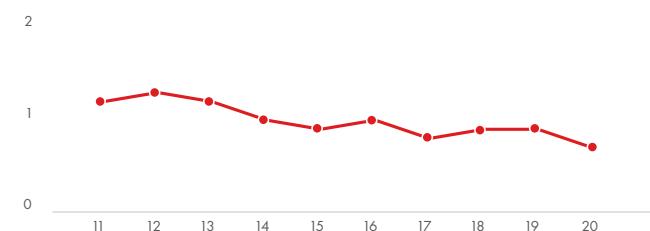
5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

**TOTAL RECORDABLE CASE FREQUENCY (TRCF)**

Number per million hours



In 2020, the number of injuries per million working hours – the total recordable case frequency (TRCF) – was 0.7, compared with a 2019 TRCF of 0.9.

The number of recordable injuries decreased by around 35% in 2020 compared with 2019, which was partly due to the impact of the COVID-19 pandemic. COVID-19 restrictions meant that many staff members were working from home, fewer people were able to travel on Shell business and many of our work activities, including higher-risk ones, were reduced or carried out differently.

**LOST TIME INJURY FREQUENCY (LTIF)**

Number per million hours



The level of injuries that led to time off work in 2020 decreased to 0.2 compared with 0.3 in 2019.

For details of Shell's 2020 safety performance and remuneration outcomes, see the [Directors' Remuneration Report](#) in our Annual Report.

**HSSE & SP CONTROL FRAMEWORK**

The HSSE & SP Control Framework defines mandatory standards, requirements and accountabilities. The framework applies to Shell entities and Shell-operated ventures, including employees and contractor staff.

**Mandatory manuals**  
describe:

- Purpose of the manual
- Accountabilities and responsibilities

- Scope
- Requirements to be met



**HSSE & SP Management System**



**Health**



**Personal Safety**



**Process Safety**



**Environment**



**Social Performance**



**Security**



**Product Stewardship**



**Transport**



**Contractor HSSE Management**



**Projects**



**Resources**



Shell Commitment and Policy on Health, Security, Safety, the Environment and Social Performance



## PROCESS SAFETY

Process safety management is about keeping hazardous substances in pipes, tanks and vessels so they do not cause harm to people or the environment.

It starts with designing and building projects and is implemented throughout the life cycle of the facilities to ensure they are operated safely, well maintained and regularly inspected.

### Refreshing our approach

Process safety management remains central to the updated approach to safety we started to deploy for all employees and contractors from 2020 (see [Our approach to safety](#)).

While we continue to work to prevent incidents through maintaining safety barriers and ensuring good operating practices, we are also implementing our refreshed approach which has a more consistent focus on how people interact with these processes. We acknowledge that people can make mistakes and processes can fail.

We are working to ensure continuous learning is a deeply embedded habit and our workplace is an environment where people feel comfortable to speak up, particularly on difficult issues.

We are updating the various systems and controls we have in place to enable people to more effectively identify and address potential safety incidents. For example, we are improving work planning by having more in-depth discussions before, during and after tasks to identify and implement improvements.

Increasingly, we concentrate on leading indicators of process safety to understand the effectiveness of our barriers and work processes, rather than focusing just on indicators of past performance, such as the absence of safety incidents.

## RISK MANAGEMENT APPROACH



Our global standards and operating procedures define the controls and physical barriers we believe are necessary to prevent incidents. We refer to this system of barriers and recovery measures as a bow-tie model, which visually represents a system where process safety hazards are managed through prevention and response barriers.

We also continue to better align the various approaches to managing facilities across our businesses to enable safer ways of working. For example, all Shell-operated facilities and some non-operated ventures have adopted a single global asset management system. The system simplifies work processes and helps people across Shell share expertise in asset equipment care, maintenance, learning from incidents and assurance.

### Process safety fundamentals

Our refreshed approach to safety is built on work we have carried out since 2016 to strengthen barriers involving critical safety tasks performed by front-line staff. Embedding a set of 10 process safety fundamentals across Shell has been key to this approach. They provide

clear guidelines for good operating practice to prevent unplanned releases of hazardous materials. We encourage employees and contractors to use them in daily conversations to identify safety dilemmas, so they can be resolved.

### Advances in technology

In 2020, we increased our use of drones, robots and digital technology, such as augmented reality, as lockdowns caused by the COVID-19 pandemic disrupted the movement of people. This technology enabled us to carry out more remote monitoring and continue to assure data to meet safety and environmental performance reporting standards.

An example of this technology in action is at the Shell-operated Ormen Lange facility where teams sent a remote-controlled vessel alone into the Norwegian Sea, 100 kilometres from land, to inspect the gas field. This enabled mariners based in Ireland to take the helm using a computer-generated joystick without breaching COVID-19 restrictions. Read the full story: [How technology stepped up when COVID-19 struck](#).



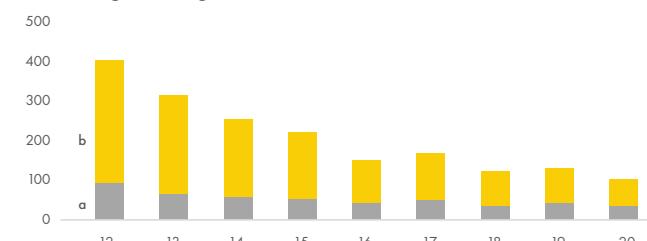
The X-07 vessel collected data from the Ormen Lange gas field in Norway, while remotely operated by experts based in Ireland.

### Process safety performance

In line with industry standards, we measure and report process safety incidents according to significance, with Tier 1 as the most significant category.

## TIER 1+2 OPERATIONAL PROCESS SAFETY EVENTS [A]

\* excluding sabotage



a ■ Tier 1

b ■ Tier 2

[A] Process safety events classified according to guidance from the IOGP and API. In 2020, there was one Tier 1 sabotage-related event. The classification of sabotage-related process safety events is made on the best endeavours basis.



The number of Tier 1 and 2 operational process safety events decreased from 130 in 2019 to 103 in 2020, of which 34 were Tier 1 and 69 were Tier 2. For comparison, there were 41 Tier 1 and 89 Tier 2 operational process safety events in 2019. This is Shell's best annual performance for combined Tier 1 and Tier 2 incidents since implementing this industry process safety performance metric.

In 2020, there was one significant process safety incident related to a fire and subsequent equipment damage in the Shales business in Texas. The fire was caused by mechanical failure of a pump that caused a release of lubrication oil that caught fire and damaged several pumps. There were no injuries associated with this event.

Process safety events related to sabotage and theft in Nigeria are recorded separately. There was one Tier 1 event in 2020 compared with nine in 2019.

Visit [www.shell.com/safety](http://www.shell.com/safety) for more on Shell and safety.

Visit [www.shell.com/process-safety](http://www.shell.com/process-safety) for more on our approach to process safety and full details of our approach to risk management, including the controls and physical barriers we believe are necessary to prevent incidents.

## RAISING SAFETY STANDARDS

### Across the industry

We learn from others and share our safety experience and standards with other operators, contractors and professional organisations, including the International Association of Oil & Gas Producers (IOGP), the Energy Institute and IPIECA, the global oil and gas industry association for advancing environmental and social performance.



We operate and charter helicopters and planes to transport staff and contractors to facilities.

In 2020, we continued to work with offshore helicopter safety association HeliOffshore and the IOGP in a number of areas to drive safer ways of working with aircraft. Together with aviation industry groups, helicopter operators, and other energy companies, we developed a common set of industry guidelines and best practices for offshore helicopter flights. These include recommended improvements such as warning systems with earlier hazard alerts.

This work is designed to deliver a more consistent approach and a stronger safety performance across the industry.

### With our contractors

Since 2014, Shell executives have collaborated in pairs with executives of major contractor companies – as part of Shell's contractor safety leadership programme – to identify strategies and

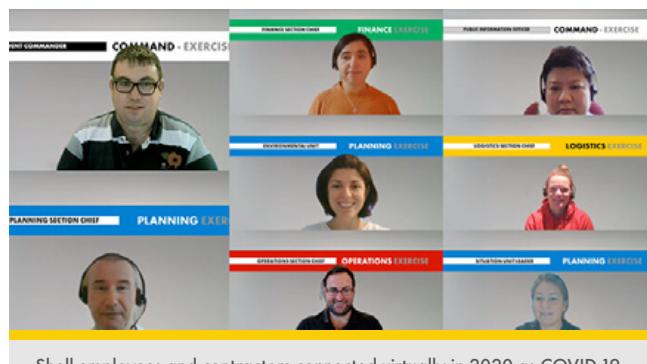
practical steps to improve safety culture and achieve our Goal Zero ambition of no harm and no leaks. They have also worked together to drive standardisation and simplification. The programme has a joint safety vision and includes 21 companies.

In 2020, the contractor safety leadership programme focused on worker welfare, mental health, digital technology, and Shell's refreshed approach to safety (see [Our approach to safety](#)), including ways to strengthen its implementation in 2021. Challenges posed by COVID-19 were also discussed.

## PREPARING FOR EMERGENCIES

We work to ensure we have the necessary resources to deal with spills, leaks, fires and explosions, both offshore and onshore. We regularly test our response procedures and capability so we can respond rapidly to an incident. We recognise the need for urgent and transparent communication with relevant stakeholders, such as local authorities, in response to an incident.

In 2020, COVID-19 restrictions made it difficult to run large-scale training in person. As a result, we accelerated our drive towards virtual support and new ways of working to maintain our response readiness by, for example, using online collaboration tools.



Shell employees and contractors connected virtually in 2020 as COVID-19 restrictions made it difficult to run oil spill exercises in person.

We trained around 500 employees and contractors on a large-scale virtual oil spill exercise and several smaller exercises. These involved businesses in Brazil, Canada, Qatar, Singapore, Trinidad and Tobago, the UK and the USA and included oil spill scenarios related to our shipping, offshore production, and refining operations. Exercises involved our emergency response contractors, joint-venture partners, and regulatory authorities to test our organisational capability to manage a worst-case spill incident.

In the UK, we carried out a two-day simulation of an oil spill from an offshore drilling operation that required the use of specialised equipment from local suppliers and from Italy, Norway, and Singapore. The exercise involved around 200 people and tested procedures to contain the release, such as deploying floating barriers and applying dispersant to the oil, and required working with freight contractors and customs authorities.

We have worked with maritime authorities and emergency response partners in Scotland, UK, to train local fishermen in oil spill response methods, such as oil sampling and dispersant effectiveness.

You can watch the training exercise that took place in March 2020 at [www.youtube.com/watch?v=v3RKlIZPcyg](https://www.youtube.com/watch?v=v3RKlIZPcyg)



We also used our incident management system to help co-ordinate the evacuation of platforms due to COVID-19 and hurricanes in the US Gulf of Mexico, and to help around 2,000 seafarers stranded on vessels to get home during the pandemic.

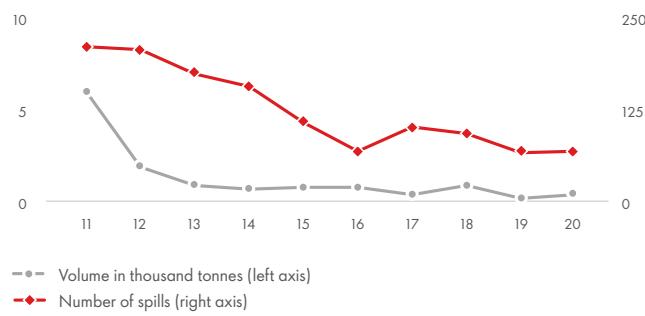
### Spills

Shell has procedures to prevent operational spills. We also have routine programmes to maintain facilities and pipelines, to improve reliability and to reduce spills.

But spills still occur for reasons such as operational failure, accidents or sabotage. We investigate and learn from spills to improve our performance and aim to clean up the areas around operations that are affected by spills, irrespective of the cause.

### Spills performance

#### SPILLS – OPERATIONAL [A]



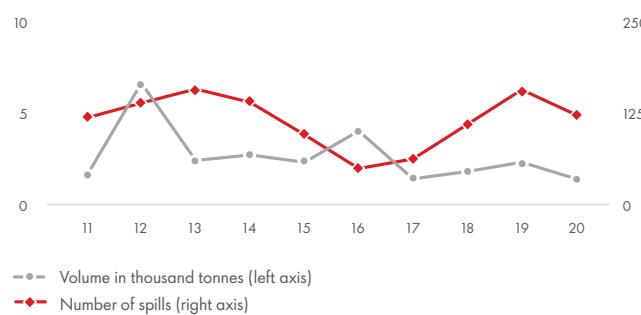
[A] All spill volumes and numbers are for hydrocarbon spills of more than 100 kilograms. We have updated some of our historical figures following a review of the data.

The volume of operational spills of oil and oil products in 2020 was 0.4 thousand tonnes, an increase from 0.2 thousand tonnes in 2019. This was partly due to an underground leak of around 0.3 thousand

tonnes (plus or minus 30%) of light gas oil at the Rheinland refinery in Germany, formed at some point between 2016 and 2019, with the volume established in 2020. We have agreed to a remediation plan with local authorities, which is currently being implemented, and are publishing progress reports on the refinery's webpage.

There were 69 operational spills of more than 100 kilograms in 2020 compared with 67 in 2019. We have programmes in place to reduce the number of operational spills over the long term.

#### SPILLS – SABOTAGE [A] [B]



[A] Sabotage- and theft-related spills of more than 100 kilograms. We have updated some of our historical figures following a review of the data.

[B] All sabotage- and theft-related spills occurred in Nigeria except in 2016 (0.001 thousand tonnes).

The number of spills caused by sabotage and theft decreased to 122 in 2020 from 156 in 2019. The volume of these spills decreased to 1.4 thousand tonnes in 2020 from 2.3 thousand tonnes in 2019. Sabotage and oil theft remained a significant cause of spills in the Niger Delta, Nigeria.

Visit [www.shell.com/process-safety](http://www.shell.com/process-safety) for more on our emergency response procedures.



## SPECIAL REPORT

# SPILL RESPONSE AND PREVENTION IN NIGERIA

The Shell Petroleum Development Company of Nigeria Ltd (SPDC) produces oil and gas through its SPDC Joint Venture (SPDC-operated, with Shell interest 30%). It operates a network of wells and pipelines across the Niger Delta, a region of forest, farmland, rivers and marshes – the home to around 40 million people.

For decades, the region has been beset by crude oil theft, sabotage of pipelines and illegal oil refining. This results in oil spills, which cause harm to the environment and can damage people's livelihoods and Shell's businesses. This illegal activity sometimes occurs in remote areas of the Niger Delta and the SPDC JV can face challenges when it comes to responding to incidents and accessing its infrastructure.

No spill is acceptable, and we work hard to prevent them. Over the last decade, the total number of operational spills in the Niger Delta has fallen significantly, from more than 60 in 2011 to 11 in 2020. The SPDC JV has also made good progress in reducing spills caused by third-party interference and other illegal activities. The combined volume of third-party and operational spills in 2020 was at its lowest level in 10 years. SPDC continues to review its portfolio options for onshore oil in Nigeria. In the last decade, SPDC has reduced its licences in this area by half.

Frequent overflights, on-the-ground inspections and anti-theft protection mechanisms, such as anti-tamper locks and steel cages with CCTV for wellheads, all help discourage crude third-party interference. In addition, closer community relations, the use of new surveillance equipment and improved collaboration with government security agencies have led to quicker, more effective interventions before damage can be done.



A team in Shell Nigeria hold one of their spill response and remediation review sessions.

SPDC has also implemented several local initiatives and partnerships to address the underlying causes and raise awareness of the damage caused by breaking pipelines and crude oil theft. For example, communities are awarded contracts to monitor the company's

pipelines and SPDC promotes alternative livelihoods through entrepreneurship, employment and education programmes.

In 2020, SPDC reduced the volume of operational spills of more than 100 kilograms to about 0.02 thousand tonnes of crude oil (11 incidents) compared with about 0.03 thousand tonnes of crude oil (seven incidents) in 2019. This represents a year-on-year reduction of around a third by weight.

In 2020, more than 90% of oil spills of more than 100 kilograms from the SPDC JV's facilities were due to third-party interference and other illegal activities. The volume of crude oil spills of more than 100 kilograms caused by sabotage was 1.4 thousand tonnes (122 incidents) in 2020 compared with 2.3 thousand tonnes (156 incidents) in 2019.

## SPILL RESPONSE AND PREVENTION IN NIGERIA

### Spills in 2020

Number of operational spills	11
Volume of operational spills	20 tonnes
Number of spills caused by third-party interference and other illegal activities	122
	91.7% of the total number
Volume of spills caused by third-party interference and other illegal activities	1,438 tonnes
	98.6% of the total volume

### Clean-up

Average days before joint investigations commence	Two days in 2020, improved from six days in 2016
Average days to complete the recovery of surface oil	Five days in 2020, improved from 13 days in 2016
Number of sites remediated	50 in 2020 464 in total since 2016

### Prevention

Illegal theft points removed	166 in 2020 689 in total since 2017
Steel cages installed to protect wellheads	364 in total
Breaches of steel cages in 2020	15 out of 1,706 attempts

SPDC operates to the same technical standards as other Shell companies globally. Illegal activities, including third-party interference, and their legacy continue to require additional work and security but the SPDC JV is able to safely produce oil and gas, limit spills – in number and size – and respond quickly if they do occur.

Regardless of the cause, SPDC cleans up and remediates areas impacted by spills that come from its facilities. In the case of operational spills, SPDC pays compensation to communities affected by the spill. Once the clean-up and remediation are completed, the



work is inspected, and, if satisfactory, approved and certified by Nigerian government regulators.

For operational spills, local communities take part in the remediation work and, despite the restrictions of COVID-19, this collaboration continued in 2020, although on a smaller scale. SPDC has collaborated with the International Union for Conservation of Nature (IUCN) since 2012 to enhance remediation techniques and protect biodiversity at sites affected by oil spills.

### EXTERNAL VOICE



**RACHEL ASANTE**  
IUCN

*Rachel is a biodiversity expert at the International Union for the Conservation of Nature (IUCN), which brings together government and civil society organisations interested in conserving nature and accelerating the transition to sustainable development.*

"A conservation organisation and an oil company are not natural bedfellows. But we have worked together to find some technical solutions to a difficult issue. We're instituting an advisory group, which is made up of both Nigerian and international scientists, and which is working with the company to ensure that remediation standards are best practice.

"SPDC approached the IUCN about getting some support in areas of remediation and biodiversity recovery. It's been a fruitful collaboration and we have managed to build trust. We have learned from SPDC and they have learned from us. We've managed to come to a common understanding which is critical.

"We are monitoring the spill sites but we're also monitoring reference sites so that we can establish an environmental baseline. This project can contribute to what needs to be done in the Niger Delta. It's not a panacea that will solve all the problems of oil spills in the Niger Delta, but I hope it can be part of a larger solution."

### Clean-up in Bodo

In 2015, SPDC and the Bodo community signed a memorandum of understanding granting SPDC access to start cleaning up areas affected by two operational spills in 2008. The clean-up process is overseen by an independent body called the Bodo Mediation Initiative. Two contractors were selected to conduct the clean-up, overseen by an independent project director. The clean-up project initially suffered delays due to difficulties in accessing the sites and disputes between communities.

The first phase, removal of free-phase surface oil, was completed in August 2018 and the contract procurement process for phase two, remediation of soil, was completed in 2019. Remediation activities in the field started in November 2019 and were due to be completed by mid-2021. In 2020, the project was shut down for around seven months due to COVID-19 restrictions. Phase two remediation is now expected to be completed in 2023.



The SPDC remediation and oil spill response team help clean up and remediate areas impacted by spills.

### Clean-up in Ogoniland

SPDC is working with the relevant stakeholders to implement the 2011 UN Environmental Programme (UNEP) Report on Ogoniland, where SPDC has not produced oil and gas since 1993. The clean-up efforts are led by the Hydrocarbon Pollution and Remediation Project (HYPREP), an agency established by the Federal Government of Nigeria. For more information on the activities of HYPREP go to [hyprep.gov.ng](http://hyprep.gov.ng)

SPDC has taken action on all of the UNEP recommendations addressed specifically to it as operator of the SPDC JV. SPDC has completed most of these recommended actions.

The UNEP report recommended the creation of an Ogoni Trust Fund with \$1 billion capital, to be co-funded by the Nigerian government, the SPDC JV and other operators in the area. The SPDC JV remains fully committed to contributing \$900 million to the fund as its share over five years. Since July 2018, the SPDC JV has contributed \$360 million.

### Nigerian litigation

In March 2021, Shell and four former employees were acquitted in a long-running trial in Milan related to a Nigerian oil block called OPL 245. Shell has always maintained that the 2011 settlement with the Federal Government of Nigeria and Eni that was at the heart of this trial was a legal transaction, so we welcome the ruling. This has been a difficult learning experience for Shell. Business integrity is one of our core values and we continue to work hard to raise standards in this area. You can read Shell's detailed response at [www.shell.com/shell-comments-on-the-verdict-from-the-milan-tribunal-over-opl-245](http://www.shell.com/shell-comments-on-the-verdict-from-the-milan-tribunal-over-opl-245)

More details on spill prevention and response in Nigeria can be found at [www.shell.com.ng/environment](http://www.shell.com.ng/environment) and [www.shell.com.ng/oil-spills](http://www.shell.com.ng/oil-spills)



## TRANSPORT SAFETY

Moving large numbers of people, products and equipment by road, rail, sea, and air poses safety risks. We develop best-practice standards within Shell and work with others, such as specialist contractors, industry bodies, non-governmental organisations, and governments, to reduce transport safety risks.

### At sea

In our maritime business, we are working with our contractors to improve the quality and consistency of their safety management. This includes developing more effective virtual tools to reduce physical time spent on board carrying out vessel audits, which proved crucial in 2020 during COVID-19 lockdowns.

This work involved creating a virtual programme to verify that safety initiatives implemented for vessels meet Shell's standards. We worked on this programme with around 80 maritime officials and 450 contractor partners, and carried out more than 400 safety coaching sessions with mariners.

### In the air

We operate and charter planes, helicopters, and drones for tasks such as monitoring pipelines, conducting geophysical surveys and transporting passengers and equipment. Despite the COVID-19 disruptions to commercial air travel, Shell staff and our contracted operators continued to keep our air transport services running and to serve our customers across the globe. In 2020, our owned and contracted aircraft flew around 52,000 hours and safely delivered around 554,500 Shell employees and contractors.

Shell's own aircraft were used to fill gaps in commercial services globally, including evacuating families from high-risk countries and rotating critical workers such as our shipping crews.

### On the road

In 2020, Shell employees and contractors drove around 470 million kilometres on business in more than 70 countries. There were no road-transport-related fatalities in activities under the operational control of a Shell company in 2020.

We take steps to continually improve our road safety performance such as implementing best practice, encouraging safe behaviours, and calling for safe vehicle design. We run road safety programmes, including our mandatory defensive driving course that teaches safe techniques and behaviour. In 2020, around 20,000 Shell employees and contractors completed some form of in-vehicle or virtual defensive driving training.

Fatigue is one of the most significant risks when on the road. In 2020, at the Shell-operated QGC facility in Australia we worked with four world-class universities and eight contracting companies to evaluate fatigue detection devices to find the one that performed best in expert testing. The collaboration was the largest of its kind and involved evaluating around 100 devices on long stretches of Australia's road network. We aim to start using recommended devices in Malaysia in 2021.

In 2020, we also continued to roll out our road transport risk management initiative focused on countries where road transport is a high risk. We took steps to reduce driving time by constructing new supply points in India, Mexico, Pakistan, the Philippines and Russia,

and moving more products by pipeline in South Africa. In India, this resulted in a reduction of around 21% of the distances being driven.

In Pakistan, we continued to implement learnings from a tragic roll-over incident that occurred in 2017. Our focus has now moved from technical standards to driver professionalism, including aspects such as fitness to work, training, and coaching on the job. Shell Pakistan Limited is managing fatigue on the road through the creation of enhanced awareness of this topic, reduced duty hours, and better rest facilities.

Visit [www.shell.com/transport-safety](http://www.shell.com/transport-safety) for more on our approach to transport safety.

## PRODUCT STEWARDSHIP

We work to ensure our products – such as fuels, lubricants, and chemicals – are safe throughout their life cycle. Our goal is to protect employees, customers, communities, and the environment from potential risks posed by these products and to comply with relevant laws such as chemicals management laws.

We follow internal risk assessment processes to identify and manage our products' potential health, safety, and environmental risks. In 2020, we carried out more than 700 risk assessments for products and additives. We also published and distributed around 100,000 safety data sheets to customers in about 160 countries.

We aim to ensure that products classified as dangerous goods are safely packed and transported according to local and international regulations.

### Circular economy

We are preparing for regulations and requirements that aim to create a more circular economy, such as those arising from changes to European Union directives on waste. A circular economy is based on the idea that things are designed to last longer and to be reused, repurposed, or recycled.

In 2020, we continued to strengthen our capabilities in this area; for example, by appointing a dedicated waste adviser to our product stewardship team. We also have internal health, safety, and environmental standards for recycling used oil back into useful motor oils for the market.

### Plastic waste

Increasingly, we use plastic waste as feedstock at our chemical plants (see [Plastics](#)). In 2020, our product stewardship team worked with suppliers on assessing risks and assuring regulatory compliance to enable them to enter the growing circular feedstock market.

We engage with regulators about the safe and sustainable use of chemicals to inform and build trust in the chemicals industry. In 2020, we contributed to the American Chemistry Council sustainability metrics review and the European regulatory agency's chemicals management review. We provided information on data quality and completeness to the European agency in response to concerns from regulators and wider society.

Visit [www.shell.com/product-stewardship](http://www.shell.com/product-stewardship) for more on our approach to product stewardship.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

**3. ACHIEVING NET-ZERO EMISSIONS**

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA



# ACHIEVING NET-ZERO EMISSIONS

Our Powering Progress strategy focuses on working with our customers and across sectors to accelerate the transition to net-zero emissions, in step with society. A net-zero world is one where society stops adding to the total amount of greenhouse gases in the atmosphere.

- |           |                                    |
|-----------|------------------------------------|
| <b>32</b> | Our climate target                 |
| <b>37</b> | Managing greenhouse gas emissions  |
| <b>45</b> | Producing natural gas responsibly  |
| <b>47</b> | Providing lower-carbon electricity |
| <b>50</b> | Fuelling mobility                  |
| <b>53</b> | Driving innovation                 |





# OUR CLIMATE TARGET

## OUR APPROACH

Shell's 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.

With this target, we will contribute to a net-zero world, where society stops adding to the total amount of greenhouse gases (GHGs) in the atmosphere. This supports the most ambitious goal to tackle climate change laid out in the Paris Agreement: to limit the rise in average global temperature to 1.5 degrees Celsius above pre-industrial levels.

Becoming a net-zero emissions energy business means that we are reducing emissions from our operations, and from the fuels and other energy products we sell to our customers. It also means capturing and storing any remaining emissions using technology or balancing them with offsets.

We are transforming our business to meet our target, providing more low-carbon energy such as charging for electric vehicles, hydrogen and electricity generated by solar and wind power.

We are also working with our customers as they make changes too, including in sectors that are difficult to decarbonise, such as aviation, shipping, road freight and industry.

We believe our emissions peaked in 2018 and we will continue to work to bring them down.

We will reduce emissions from our own operations, including the production of oil and gas, by increasing energy efficiency and capturing or offsetting any remaining emissions. Emissions from our own operations make up less than 10% of our total emissions.

Most of our emissions come from the use of the energy we sell, so we aim to help our customers cut their emissions when they use that energy. Importantly, our target includes emissions not only from the energy we produce and process ourselves, but also from all the energy products that others produce, such as oil, gas, biofuels and electricity, and that we sell to our customers.



Becoming a net-zero emissions energy business means that we are reducing emissions from our operations, and from the fuels and other energy products we sell to our customers.

## We play three roles

We are an energy provider. Becoming a net-zero emissions energy business means offering customers more low-carbon products, from

renewable electricity to charging for electric vehicles and hydrogen. We aim to reduce the carbon intensity of the energy products we sell by 100% by 2050, in step with society. Carbon intensity is the total amount of GHG emissions associated with each unit of energy we sell, and which is used by our customers. This includes the emissions associated with the production, processing, transport and end use of our energy products. The calculation also subtracts emissions that are stored by using carbon capture and storage or are offset using natural carbon sinks, such as forests and wetlands. Read about how we measure this in Our carbon intensity.

We are an energy user. Our target is to achieve net-zero emissions from all our operations, as well as from the energy we need to power them. That means that any GHG emissions from making our products that cannot be avoided will be captured or offset using technology and nature.

We are a partner for change. Working with our customers, we are helping them to address the emissions created when they use products bought from us. We are also helping our customers to find ways to reduce their overall carbon footprints. Partnering with others includes supporting government policies to reduce carbon emissions, sector by sector.



We are transforming our business to meet our target of becoming a net-zero emissions energy business by 2050, in step with society, by providing more low-carbon energy such as hydrogen.

## Business milestones

We are taking steps to cut emissions from our existing oil and gas operations, and to avoid generating more in the future. Here are some of Shell's business milestones:

- We believe our annual oil production peaked in 2019, and we expect our total oil production to decline by 1-2% a year until 2030.
- Natural gas emits 45-55% fewer GHG emissions than coal when used to generate electricity, according to IEA data. 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 from the assets we operate.
- By 2025, we expect to have kept the methane emissions intensity of Shell-operated assets to below 0.2%.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

**3. ACHIEVING NET-ZERO EMISSIONS**

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

- We have linked the pay of more than 16,500 staff to our target to reduce the carbon intensity of our energy products by 6-8% by 2023, in comparison with 2016.
- We are the first energy company to offer shareholders an advisory vote on its energy transition strategy at its Annual General Meeting. We will do this every three years, starting in 2021.

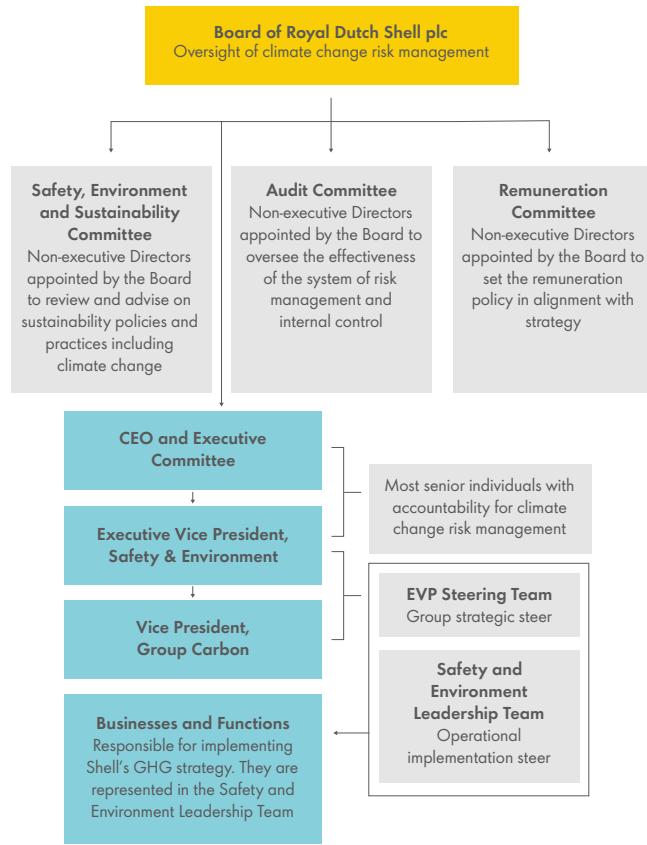
**EXTERNAL VOICE****PEDRO FARIA**  
CDP

*Pedro is a strategic adviser at CDP, a not-for-profit charity that runs a global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts.*

"We need help from everyone in achieving ambitious standards matched with the level of ambition we have as a society. Standards are essential for science-based targets, including a comprehensive look at emissions across the full value chain, both intensity and absolute targets, and including specific requirements for emissions from the consumption of energy products and also refining and production.

"We also need to assess the contribution of individual companies in achieving the Paris Agreement and net-zero goals by 2050 in a way that is dynamic and future-oriented. We need to account for the time lag between investments today, and emissions in five, 10 and 15 years. Because of this time lag challenge, we need extra scrutiny and I would say uber transparency.

"Continuing to evolve the reporting requirements for companies will be essential to building trust."

**CLIMATE CHANGE MANAGEMENT ORGANOGRAM**

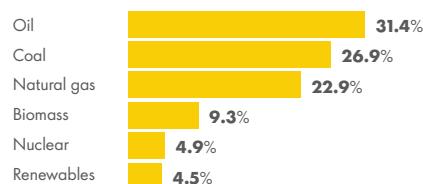


## TODAY'S ENERGY USE

### PRIMARY ENERGY DEMAND

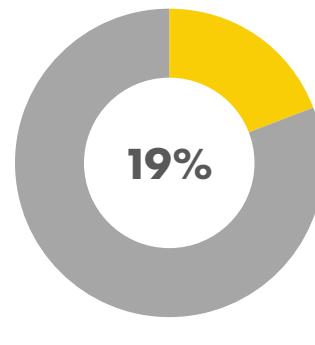
The global economy gets most of its energy from coal, oil and gas, with around a fifth of all energy being used to generate electricity. Energy sources differ across industry, transport and domestic use, which all need to transition to low-carbon options.

### GLOBAL ENERGY DEMAND BY TYPE



### ELECTRICITY

The power sector transforms primary energy, such as gas, coal or renewables, into the electricity used in other end-use sectors. Because electricity is emission-free at its point of use, decarbonisation of the power sector can enable decarbonisation elsewhere.



### ENERGY USE BY SECTOR

#### INDUSTRY

**33%**

#### BUILDINGS

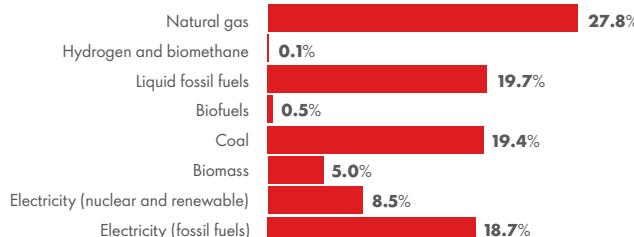
**34%**

#### TRANSPORT

**33%**

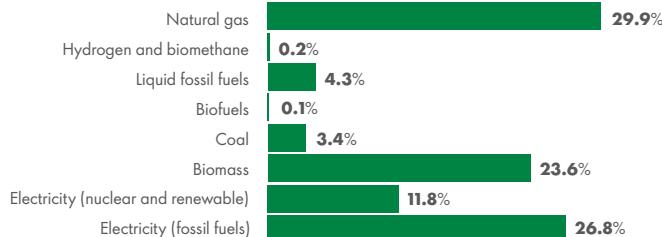
### INDUSTRY

There are currently no easy replacements for hydrocarbons in energy-intensive industries, such as in petrochemicals or in iron and steel manufacturing where extremely high temperatures need carbon-intensive processes.



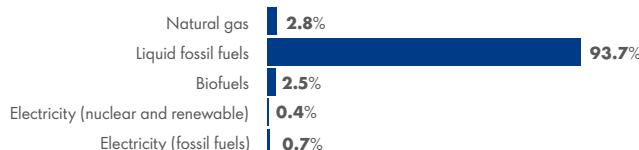
### BUILDINGS

The buildings sector is responsible for around one-third of global final energy consumption and is also the source of a large proportion of electricity demand and therefore emissions in the power sector. The primary use of energy in buildings is for heating or cooling, lighting and cooking.



### TRANSPORT

Oil currently powers more than 90% of transport, with aircraft, motor vehicles and ships in use for between 15 and 25 years.



Source: Shell analysis based on data from the IEA (2020) World Energy Balances, all rights reserved



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

**3. ACHIEVING NET-ZERO EMISSIONS**

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

**OUR CARBON INTENSITY**

Tackling climate change is an urgent challenge. We will contribute to a net-zero world, where society stops adding to the total amount of greenhouse gases (GHG) in the atmosphere. That is why we have set a target to become a net-zero emissions energy business by 2050, in step with society. This supports the most ambitious goal to tackle climate change laid out in the Paris Agreement: to limit the rise in average global warming to 1.5 degrees Celsius.

We have set short-, medium- and long-term targets to reduce the carbon intensity of the energy products we sell, in step with society. These targets are measured using the Net Carbon Footprint metric and methodology. Our Net Carbon Footprint is a carbon intensity measure that takes into account the life-cycle GHG emissions of the products we sell, including our customers' emissions when they use these products. For more on how we calculate our Net Carbon Footprint visit [www.shell.com/ncf](http://www.shell.com/ncf)

We have set short-term reduction targets of 2-3% by 2021, 3-4% by 2022, and 6-8% by 2023 (compared with 2016). Our medium- and long-term reduction targets are 20% by 2030, 45% by 2035, and 100% by 2050 (compared with 2016). The updated 2035 and 2050 targets reflect the fact that we will start to include all actions taken to reduce emissions when we calculate our carbon intensity. This includes the actions we take ourselves as well as actions taken by the users of the energy products we sell.



We are taking steps to reduce emissions from our existing operations, including at our Moerdijk petrochemicals complex in the Netherlands, where we invested in new furnaces that reduce energy consumption and emissions.

We have linked the pay of more than 16,500 staff to our target to reduce the carbon intensity of our energy products by 6-8% by 2023, compared with 2016.

**Achieving our target**

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

We are increasing the proportion of lower-carbon products such as natural gas, biofuels, electricity and hydrogen in the mix of products we sell. Customers' emissions from using our energy products account for over 90% of Shell's total emissions. That is why we are working with our customers to help them address the GHG emissions they produce when they use products sold by us.



We are working with our customers to help them address the GHG emissions they produce when they use products sold by us.

To reduce carbon emissions across sectors, we are partnering with our customers and others; this includes support for government policies.

We are also investing in ways to mitigate emissions through capturing and storing CO<sub>2</sub> safely underground, or by planting and protecting natural ecosystems.

**Net Carbon Footprint performance**

We express our Net Carbon Footprint as the grams of CO<sub>2</sub> equivalent per megajoule (gCO<sub>2</sub>e/MJ) produced for each unit of energy delivered to, and used by, a consumer.

Shell's Net Carbon Footprint in 2020 was 75 gCO<sub>2</sub>e/MJ, a 4% reduction from the previous year and a 5% reduction from the 2016 reference year. In 2020, one of the major causes of this reduction was lower demand for energy. Demand for oil products experienced the most significant reduction, followed by natural gas and LNG. Another important factor contributing to the reduction of the Net Carbon Footprint 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 reduction.

	2020	2019	2018	2017
Net Carbon Footprint (gCO <sub>2</sub> e/MJ) [A]	75	78	79	79

[A] Retail sales volumes from markets where Shell operates under trademark licensing agreements are excluded from the scope of the Net Carbon Footprint.

Lloyd's Register Quality Assurance Ltd has provided limited assurance for our Net Carbon Footprint assertion for each year from 2016 to 2020. Limited assurance means nothing has come to the auditor's attention that would indicate that the Net Carbon Footprint data and information as presented in the Net Carbon Footprint assertions were not materially correct.

**Data sources**

The Net Carbon Footprint calculation uses production and product sales data taken from the Annual Report and Accounts. Any other product sales data used for the calculation but not disclosed in the Annual Report and Accounts are disclosed in this Sustainability Report.

For more on how we calculate our Net Carbon Footprint visit [www.shell.com/ncf](http://www.shell.com/ncf)



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

**3. ACHIEVING NET-ZERO EMISSIONS**

4. RESPECTING NATURE

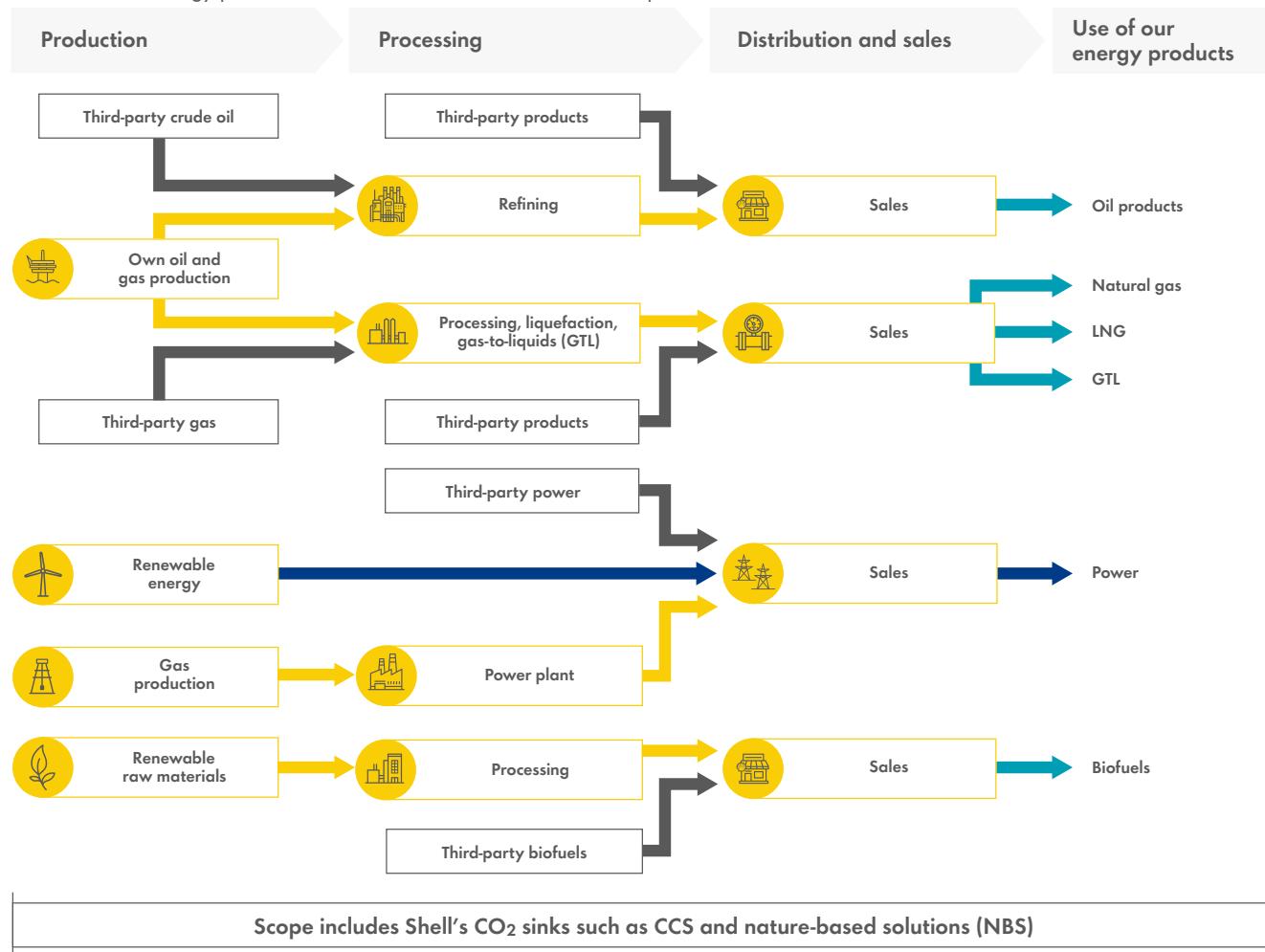
5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

**SCOPE OF OUR NET CARBON FOOTPRINT**

Emissions from energy products included within the Net Carbon Footprint framework





1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

**3. ACHIEVING NET-ZERO EMISSIONS**

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

**SECTORAL DECARBONISATION**

Working with our customers, we are helping them to address the greenhouse gas (GHG) emissions they produce when they use products bought from us. We are also helping our customers to find ways to reduce their overall carbon footprints. Partnering with others involves supporting government policies to reduce carbon emissions, sector by sector. This includes sectors that are difficult to decarbonise, such as aviation, shipping, road freight and industry.

For example, we have agreed a deal with Amazon Air to supply up to six million gallons of sustainable aviation fuel. This biofuel, produced by the company World Energy using agricultural waste fats and oils, has significantly lower life-cycle carbon emissions than conventional jet fuel.

We also formed a strategic alliance with Microsoft in 2020. Shell will help supply Microsoft as the technology company works towards its goal of using 100% renewable energy by 2025. Both companies will develop digital tools to help Shell's customers decarbonise.

We are working on more of these strategic relationships, generating value while helping sectors to reduce their carbon emissions.

In shipping, we have also developed and deployed advanced energy-efficiency technologies, such as software that helps guide a vessel's position in the water to cut fuel consumption and lower emissions, as well as advanced engine lubricants that also boost efficiency. We outlined the actions we are taking to help accelerate progress towards net-zero emissions in the shipping sector in our report *Setting Shell's Course*.

In the road freight sector, we offer nature-based carbon credits to business customers operating heavy- and light-duty fleets in 10 countries across Europe and Asia (see [Nature-based solutions](#)). Together with Daimler Truck AG, IVECO, OMV, and the Volvo Group, we will also help create the conditions for the mass-market roll-out of hydrogen trucks in Europe (see [Hydrogen](#)).

**Industry collaborations**

We are a founding member of the Energy Transitions Commission. The commission brings together leaders from a wide range of sectors and interests to accelerate the energy transition while enabling robust economic development and limiting the rise in global average temperature.

In 2020, we agreed to apply six Energy Transition Principles that we jointly developed with BP, Eni, Equinor, Galp, Occidental, Repsol and Total. The principles aim to support collective industry acceleration to

contribute to the Paris Agreement goals by delivering progress on reducing GHG emissions, the role of carbon sinks, and transparency and alignment on climate change with trade associations.

The joint approach was welcomed by Climate Action 100+, an initiative led by investors with around \$52 trillion in assets under management. Read more about the principles at [www.shell.com/leading-energy-companies-announce-transition-principles](http://www.shell.com/leading-energy-companies-announce-transition-principles)



We are helping our customers to find ways to reduce their overall carbon footprints, including in sectors that are difficult to decarbonise such as shipping.

We have helped to develop a range of sector-specific programmes under the Mission Possible Platform, an initiative by the World Economic Forum together with the Energy Transitions Commission. The platform focuses on developing partnerships for enabling the heavy-industry and heavy-duty transport sectors to achieve net-zero carbon emissions.

We also work with the Oil and Gas Climate Initiative (OGCI), a voluntary CEO-led group that focuses on carbon capture, utilisation and storage, methane detection and reduction, and energy efficiency. In 2020, the OGCI announced a new target to reduce the collective average carbon intensity of member companies' aggregated upstream oil and gas operations to between 20 kilograms and 21 kilograms of carbon dioxide equivalent per barrel of oil equivalent by 2025. This is consistent with the reduction needed across the industry by 2025 to support the Paris Agreement goals.

Read more about Shell's work with others to help address GHG emissions across different sectors at [www.shell.com/energy-and-innovation/the-energy-future/cutting-carbon-together-sector-by-sector](http://www.shell.com/energy-and-innovation/the-energy-future/cutting-carbon-together-sector-by-sector)

# MANAGING GREENHOUSE GAS EMISSIONS

**OUR APPROACH**

We have set a target to be net zero on greenhouse gas (GHG) emissions generated by all our operations by 2050, in step with society, as well as on emissions associated with the energy we need to power them.

Improving the energy efficiency of our facilities is one of the ways to help us reduce GHG emissions from our operations. We achieve this by replacing old machinery with more energy-efficient equipment, among other things.

We will work to ensure that any GHG emissions from making our products that cannot be avoided will be captured or offset using technology and nature.

We aim to eliminate the GHG emissions that are generated from the electricity we buy to power our operations. We are taking a number of steps to achieve this, including buying renewable energy certificates and increasing our use of electricity from renewable sources (see [Wind](#) and [Solar](#)).



The Gangari Solar Project in Australia will help power our QGC natural gas project in Queensland and has the potential to reduce QGC's carbon dioxide emissions by around 300,000 tonnes a year.

We require projects and facilities that produce more than 50,000 tonnes of GHG emissions a year to have a GHG emissions and energy management plan in place.

These plans encourage site managers to take steps such as using more energy-efficient equipment, installing power from renewable sources and evaluating readiness for carbon capture, utilisation and storage in the design of our new and largest projects, with the aim of reducing our emissions. Plans must include the sources of GHG emissions, as well as a forecast of expected emissions at the site for at least 10 years.

Projects under development that are expected to have a material emissions footprint must meet our carbon performance standards or industry benchmarks. During development, projects are expected to evaluate relevant low-carbon technologies and options to remove these emissions.

To assess the resilience of proposed projects, we consider factors such as potential costs associated with operational GHG emissions. We use short-, medium- and long-term estimates of future carbon costs that are specific to each country. These estimates are reviewed and updated on an annual basis. This is an important part of our efforts to stay in step with society's progress toward the goals of the Paris Agreement.

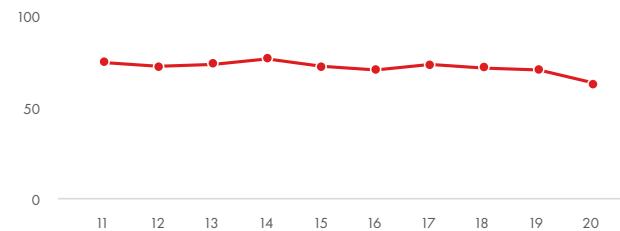
The process for developing these estimates uses short-term policy outlooks and long-term scenario forecasts, both of which reflect the current nationally determined contributions (NDCs) submitted by countries as part of the Paris Agreement and evolving national policy developments. By 2050, our estimates for all countries increase to at least \$100 a tonne of GHG emissions. 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. They are the first NDCs under the Paris Agreement and are scheduled to be revised every five years. 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.

#### Greenhouse gas emissions performance

Our direct GHG emissions decreased from 70 million tonnes of CO<sub>2</sub> equivalent in 2019 to 63 million tonnes of CO<sub>2</sub> equivalent in 2020.

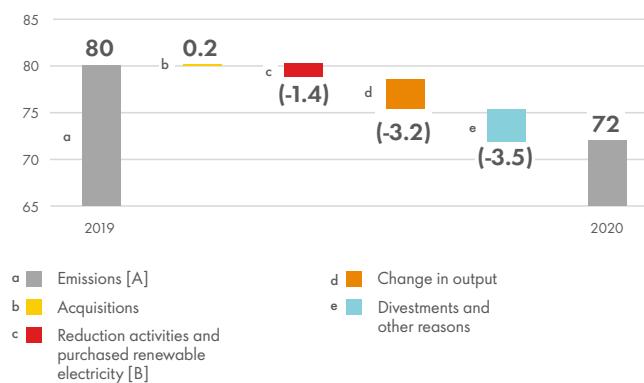
#### DIRECT GREENHOUSE GAS EMISSIONS

million tonnes CO<sub>2</sub>e



#### SCOPE 1 AND SCOPE 2 GHG EMISSIONS CHANGES FROM 2019 TO 2020

million tonnes CO<sub>2</sub>e



[A] Total greenhouse gas emissions are rounded to the closest million tonnes

[B] Does not include ~0.94 million tonnes of CO<sub>2</sub> captured and sequestered by our Quest CCS project in Canada in 2020

The main reasons for this decrease were divestments (for example, in Canada and the USA) and the number of our facilities operating at reduced capacity due to lower demand driven by the COVID-19 pandemic. In addition, our Prelude floating liquefied natural gas installation in Australia did not run at full capacity in 2020.

#### ENERGY EFFICIENCY IN OUR OPERATIONS

We aim to be net zero on emissions generated by all our operations by 2050 or sooner, as well as on emissions associated with the energy we need to power them. To help us achieve this, our production sites are increasingly using lower-carbon energy sources. Shell's Renewables and Energy Solutions business (formerly New Energies) is playing a key role in developing these.

Greenhouse gas emissions (GHG) from making our products that cannot be avoided – through energy efficiency or using lower-carbon fuel – will be balanced using technology or carbon offsets that avoid emissions or remove them from the atmosphere.

#### Boosting efficiency and cutting emissions

Our chemical plants continue to work on improving energy efficiency and reducing GHG emissions. In 2020, we announced that we will install eight new cracker furnaces at our Moerdijk petrochemicals complex, replacing 16 older units. This is expected to reduce the site's energy consumption, and lower GHG emissions by around 10% compared with 2019.



We are building a power plant at our Rheinland refinery in Germany that is expected to lead to a reduction of around 100,000 tonnes of GHG emissions a year.

In the USA, we are building a 250 MW co-generation power plant at our Pennsylvania chemicals facility that will also supply electricity to local homes. The chemicals plant has been designed with an energy-efficient gas cracker that will use hydrogen as a fuel source.

At our Rheinland refinery in Germany, we are building a power plant that is expected to lead to a reduction of around 100,000 tonnes of GHG emissions a year. We are also working with ITM Power to build an electrolyser at the site that produces hydrogen using renewable energy. The new hydrogen electrolysis plant is expected to be completed in 2021. It is designed to have a capacity of 10 MW and produce 1,300 tonnes of hydrogen a year. The hydrogen produced will initially be used by the refinery.

### Reducing our shipping emissions

Shipping is critical to the global economy and accounts for around 2.7% of global GHG emissions. It is also a sector that is hard to decarbonise quickly, partly because currently it cannot be easily electrified.

We are investing in our fleet and researching and implementing efficiency technologies in order to lower emissions. In 2020, we signed a further 10 long-term charter contracts for carriers that can use either liquefied natural gas or conventional liquid marine fuel. This is expected to deliver a 60% reduction in carbon emissions compared with 2004 models of steam turbine LNG carriers.

To reduce energy consumption in our LNG ships, we are deploying air lubrication technology. The first vessel equipped with this technology set sail in October 2020. Air lubrication uses air bubbles to reduce resistance between a ship's hull and the seawater, in the same way a penguin's feathers do. Less resistance results in less fuel consumption. The technology can reduce fuel consumption by 5–8% and will be included on all eight of Shell's LNG vessels currently under construction.

### Energy intensity performance

The main metric we use to measure our performance is energy intensity: the amount of energy consumed for every unit of output.

## ENERGY INTENSITY – REFINING

Refinery Energy Index [A]

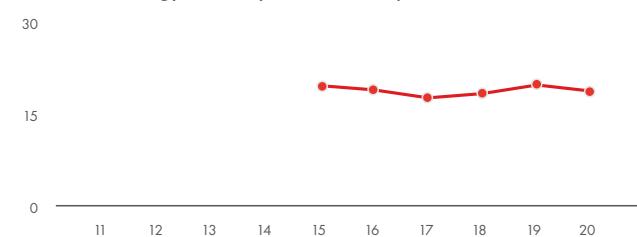


[A] Data are indexed to 2002, based on Solomon Associates Energy Intensity Index methodology.

The refinery energy intensity index increased from 94.4 in 2019 to 96.1 in 2020, mainly because many sites were running below capacity.

## ENERGY INTENSITY – CHEMICAL PLANTS

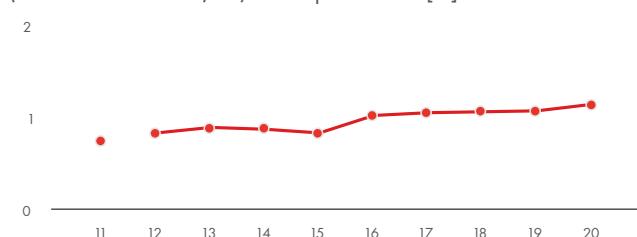
Chemicals Energy Intensity – GJ/tonne production



Chemical steam cracker energy intensity in 2020 was 18.7 gigajoules per tonne (GJ/tonne) of high-value chemical (HVC) production, down from 19.7 GJ/tonne HVC in 2019, mainly as a result of facilities running at higher capacity after turnaround at three of our sites in 2019.

## ENERGY INTENSITY – UPSTREAM

(excl. LNG and GTL) GJ/tonne production [A]



[A] Methodology was updated in 2012. Data for 2011 are not directly comparable.

In 2020, the overall energy intensity for the production of oil and gas in our Upstream and Integrated Gas businesses (excluding liquefied natural gas and gas-to-liquids) increased to 1.14 compared with 1.07 in 2019. This was partly because of reduced production from the Groningen gas field (lower energy intensity asset) operated by the NAM joint venture (Shell interest 50%) in the Netherlands and inclusion of energy consumption from contractor transport in our data.

We expect it will be difficult to maintain the energy intensity levels of recent years, as existing fields age and new production comes from



more energy-intensive sources. This may increase our upstream energy intensity over time.

## METHANE EMISSIONS

Methane is a potent greenhouse gas (GHG) and when it is released into the atmosphere it has a much higher immediate global warming impact than carbon dioxide.

We use a range of methods and technologies to limit leaks of methane from our oil and gas operations, including implementing leak detection and repair programmes. We use the best available technologies such as drones and other aircraft equipped with optical gas imaging cameras, and satellites to detect leaks.



We are expanding our use of drones for methane leak detection at our sites in the Permian Basin, USA.

In 2020, in the Permian Basin, USA, where we have more than 400 sites, we deployed drones with specialised cameras and laser detection technology to detect methane emissions. This enables us to repair leaks and reduce emissions faster and more efficiently by reducing the time inspection teams need to spend at sites. Read more about this project at [www.shell.us/media/2020-media-releases/expanding-use-of-drones-for-methane-detection](http://www.shell.us/media/2020-media-releases/expanding-use-of-drones-for-methane-detection)

At our Shell ONEGas facilities in the North Sea, we have reduced methane emissions by 55% (around 2,000 tonnes) since 2017 through a series of improvements to reduce gas venting, including minimising valve leakage.

## Methane initiatives and collaborations

We encourage industry-wide action on methane emissions reduction by participating in voluntary initiatives. In 2020 we:

- were a founding signatory to the Oil and Gas Methane Partnership 2.0, which is designed to enhance methane emissions reporting and transparency and encourage greater participation across the industry;
- proposed recommendations to the European Commission on reducing methane emissions in the oil and gas industry, alongside BP, the Environmental Defense Fund, Eni, Equinor, the Florence School of Regulation, Repsol, the Rocky Mountain Institute, Total and Wintershall Dea; and
- advocated a return to the direct regulation of methane under the Clean Air Act in the USA.

We also participate in the Methane Guiding Principles coalition, which we initiated in 2017. The partnership's growing membership includes major international and national oil companies and associate

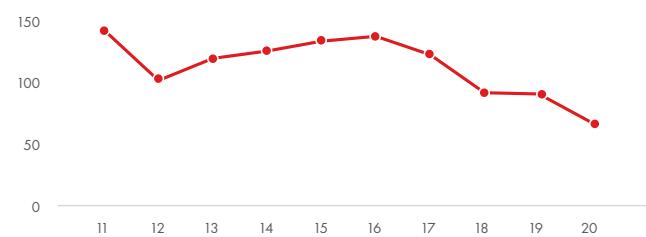
signatories such as the International Energy Agency and the UN Environment Programme.

## 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%.

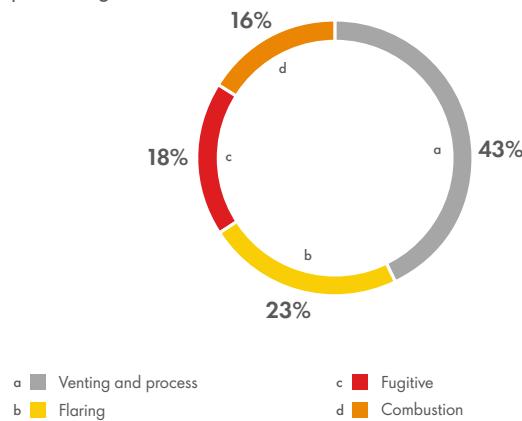
## METHANE (CH<sub>4</sub>) EMISSIONS

thousand tonnes



## METHANE EMISSIONS BY SOURCE IN 2020

percentage



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 CO<sub>2</sub>-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.

## FLARING

We are working to reduce flaring, which contributes to climate change and wastes valuable resources.

Flaring is the controlled burning of natural gas and is a common practice in oil and gas exploration, production and processing operations. Flaring is used to safely dispose of hydrocarbons that could pose a hazard to workers, nearby residents and facility equipment if there is a lack of equipment to gather the gas. Flaring can occur during start-ups, maintenance turnarounds and power failures, where production system pressure must be safely relieved.



We may use flaring at facilities, such as our Pernis refinery in the Netherlands, if required to safely relieve production system pressure.

Gas routinely produced with oil, known as associated gas, may also be flared. As a signatory to the World Bank's Zero Routine Flaring by 2030 initiative, we continue to pursue our 2015 commitment to eliminate associated gas flaring at our facilities.

### Flaring performance

Flaring of gas in our Upstream and Integrated Gas businesses contributed around 6% to our overall direct greenhouse gas (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. Overall flaring decreased to 3.8 million tonnes of carbon dioxide equivalent in 2020 from 5.9 million tonnes of carbon dioxide equivalent in 2019.

#### FLARING – UPSTREAM HYDROCARBONS FLARED

million tonnes



#### FLARING – UPSTREAM CO<sub>2</sub> EQUIVALENT

million tonnes CO<sub>2</sub>e



The most significant reduction for upstream flaring emissions in 2020 was due to the extended shutdown of the Prelude floating liquefied natural gas facility in Australia, a significant contributor to Shell flaring in 2019.

Also in Australia, Shell affiliate QGC Pty Limited's upstream coal-seam gas facilities reduced flaring by about 65% in 2020 compared with 2019. In the USA, flare reduction continued at our Permian unconventional oil facilities, while in Qatar our Pearl gas-to-liquids plant reduced its GHG emissions from flaring by more than 15% in 2020 compared with 2019.

In Nigeria, the Southern Swamp Associated Gas Solutions project captures gas produced alongside oil in the Niger Delta to help reduce flaring. The Shell Petroleum Development Company of Nigeria Ltd (SPDC) Joint Venture reported a 17% decrease in routine flaring in 2020.

Further associated gas flaring reductions by SPDC are anticipated with the completion of commissioning of the Forcados Yokri gas-gathering project in 2021. This was delayed from 2020, in part due to COVID-19-related procurement and construction activity suspensions.

### REALISING THE ROLE OF NATURE

We are increasing our investment in protecting or developing natural ecosystems, such as forests, grasslands and wetlands, to capture carbon and help our customers offset their emissions using carbon credits.

We recognise that nature-based solutions are a tool that can only ever complement, and not replace, other solutions we are deploying to help society move to a low-carbon future.

### Investing directly in natural ecosystems

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.

In 2020, we acquired 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. Select Carbon runs more than 70 carbon farming projects that span an area of more than 10 million hectares. The carbon credits generated by the farms are sold through the Australian government's Emissions Reduction Fund and other markets, creating additional revenues for farmers and landowners. Select Carbon is our first acquisition in nature-based solutions.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

## EXAMPLES OF SHELL'S DIRECT INVESTMENTS IN NATURAL ECOSYSTEMS [A]

### 1 CANADA

#### 840,000 trees

to be planted on 700 hectares of wildfire-devastated land, together with the Tshilqot'in National Government

### 2 SPAIN

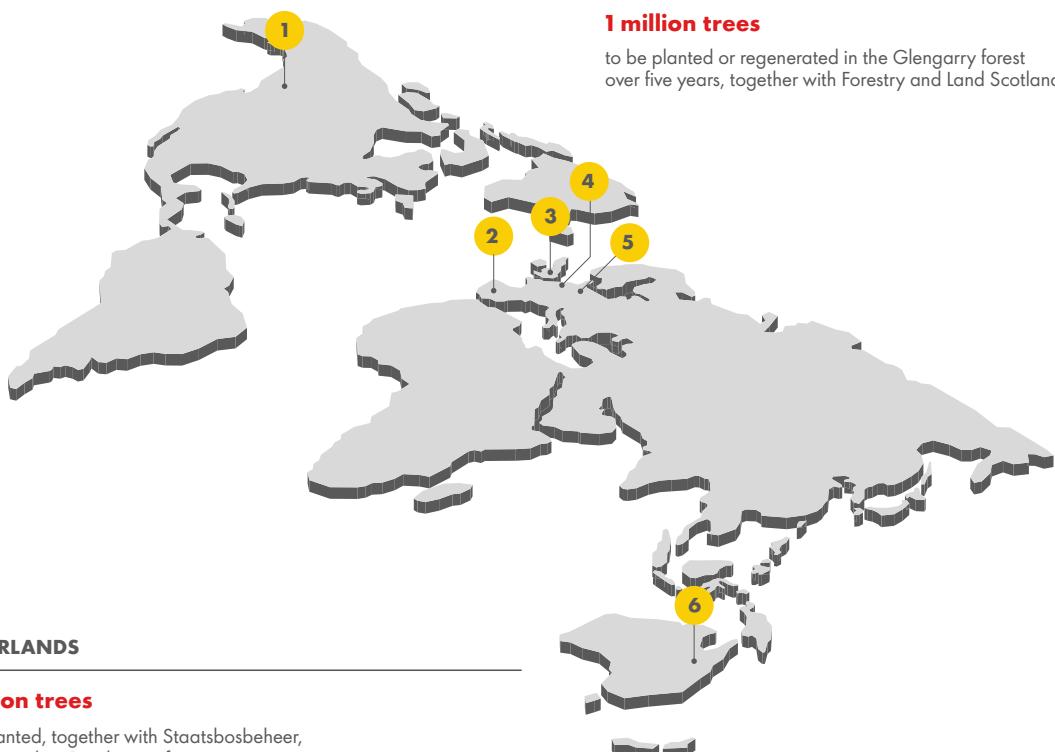
#### 300-hectare

reforestation project in the Castilla y León region, together with Land Life Company

### 3 UK

#### 1 million trees

to be planted or regenerated in the Glengarry forest over five years, together with Forestry and Land Scotland



### 4 NETHERLANDS

#### 5 million trees

to be planted, together with Staatsbosbeheer, the independent Dutch state forestry service

### 5 GERMANY

#### 20 hectares

of former agricultural land to be utilised for a reforestation project, together with Schleswig-Holsteinische Landesforsten AöR

### 6 AUSTRALIA

#### 800-hectare

project focused on endangered native forest regeneration in Queensland developed by Shell's QGC

[A] Selection of nature-based solutions projects announced between 2019 and 2020



## Expanding carbon-neutral choices

In 2020, we increased the number of drivers and business customers who use our nature-based carbon credits to offset the life-cycle CO<sub>2</sub>-equivalent emissions generated by their use of the Shell fuel they buy.

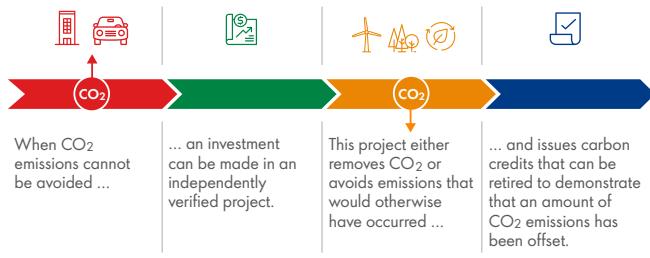


We are increasing our investment in protecting or developing natural ecosystems, including in the Netherlands where we are working with the state forestry service to plant 5 million trees.

We have made carbon-neutral driving available to our fleet customers in 12 countries and to retail customers at more than 4,600 service stations in Austria, Canada, Denmark, Germany, the Netherlands, Switzerland and the UK.

We also offer a range of products with nature-based carbon credits, including home energy in the UK, liquefied natural gas in Asia (see [Natural gas](#)), bitumen in Europe and selected lubricants.

## HOW CARBON OFFSETS WORK



## Emissions trading

We are one of the world's most established traders of carbon credits and have been operating in compliance and voluntary emissions markets since 2003.

We have a global portfolio of nature-based projects, for example, the Katingan Peatland Restoration and Conservation Project in Indonesia, through which we can help our customers to offset their CO<sub>2</sub> emitted from their use of fuels they buy from us. We also provide customers with tailor-made solutions for environmental compliance markets globally. Compliance markets are a mechanism through which companies can comply with environmental regulations and manage their emissions by trading carbon credits.

## Screening our investments

In 2020, we strengthened our screening approach aimed at ensuring that nature-based credits used by Shell meet accepted standards of quality. All projects we invest in or buy from are certified under

independent carbon credit standards. Each project must deliver broader environmental and social benefits and the organisations that develop the projects must maintain appropriate health, safety, security and social governance standards. Our project screening processes are audited by an independent third party.

Learn more about our work in nature-based solutions at [www.shell.com/energy-and-innovation/new-energies/nature-based-solutions](http://www.shell.com/energy-and-innovation/new-energies/nature-based-solutions)

## CAPTURING CARBON EMISSIONS

We invest in projects to capture and store carbon dioxide (CO<sub>2</sub>) and we are exploring new ways of using CO<sub>2</sub> once it has been captured. Carbon capture and storage (CCS) technology is necessary to achieve the goals of the Paris Agreement, according to the majority of climate change scenarios produced by the IEA, IPCC and Shell.

Shell is involved in seven of the 51 large-scale CCS projects globally, listed in 2019 by the Global CCS Institute. Accelerating the pace of CCS deployment requires continued collaboration between governments, industry and investors, among others, to help unlock financing capacity, accelerate technology development and encourage public support. We recognise the scale of the challenge in developing CCS globally as quickly and as widely as needed.

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. We seek to have access to an additional 25 million tonnes a year of CCS capacity by 2035 – equal to 25 CCS facilities the size of our Quest CCS project in Canada (Shell interest 10%).

## EXAMPLES OF CCS JOINT VENTURES WITH SHELL INVOLVEMENT

	Northern Lights	TCM CO <sub>2</sub> capture test and research facility	Gorgon	Quest
Post final investment decision	Operating	Operating	Operating	
Location	Norway	Norway	Australia	Canada
CO <sub>2</sub> source				
Gas power		■		
Refining/chemical		■		
Hydrogen				■
Gas			■	
Industrial (third party)	■			

We are a member of the Oil and Gas Climate Initiative (OGCI), which is taking steps to unlock large-scale investment in carbon capture, utilisation and storage with a focus on decarbonising industrial hubs around the world, including in Canada, China, Norway, the Netherlands, the UK and the USA.

In Norway, we are working with Equinor, Total and the Norwegian government to create a market across Europe for industry to capture and safely store CO<sub>2</sub>. In 2020, the government approved the final investment decision for the Northern Lights CCS project, which will transport CO<sub>2</sub> from industrial sites by ship to a plant on Norway's west coast. CO<sub>2</sub> will then be piped to a reservoir around 3,000 metres below the seabed to be safely and permanently stored.



Using ships to transport the captured CO<sub>2</sub> enables more sectors to take advantage of CCS technology, for example, industrial companies based far from a pipeline or suitable CO<sub>2</sub> reservoir.

We are also part of an industry partnership with BP, Eni, Equinor and Total that in 2020 took ownership of the Net Zero Teesside project, which was launched by the OGCI to build the UK's first zero-carbon industrial cluster. The BP-operated project will build a transportation

and storage system to gather industrial CO<sub>2</sub>, compress it and store it safely in a reservoir under the seabed.

By the end of 2020, our Quest CCS project had captured and safely stored more than 5.5 million tonnes of CO<sub>2</sub> since it began operating in 2015. In Australia, the Chevron-operated Gorgon CCS project (Shell interest 25%), which started operating in August 2019, had stored more than 4 million tonnes of CO<sub>2</sub> by the end of 2020. Gorgon is the largest CCS operation in the world.

## HOW CARBON CAPTURE AND STORAGE WORKS

See what is involved in the process of capturing and storing carbon dioxide deep underground

### 1 Capture

CO<sub>2</sub> capture separates CO<sub>2</sub> from gas before it is emitted using a chemical solvent. The captured CO<sub>2</sub> is separated from the solvent and compressed into a liquid form for transport.

### 2 Transport

CO<sub>2</sub> is generally pumped through a pipeline, taking the CO<sub>2</sub> from the industrial site where it has been produced to its storage site, which may be onshore or offshore.

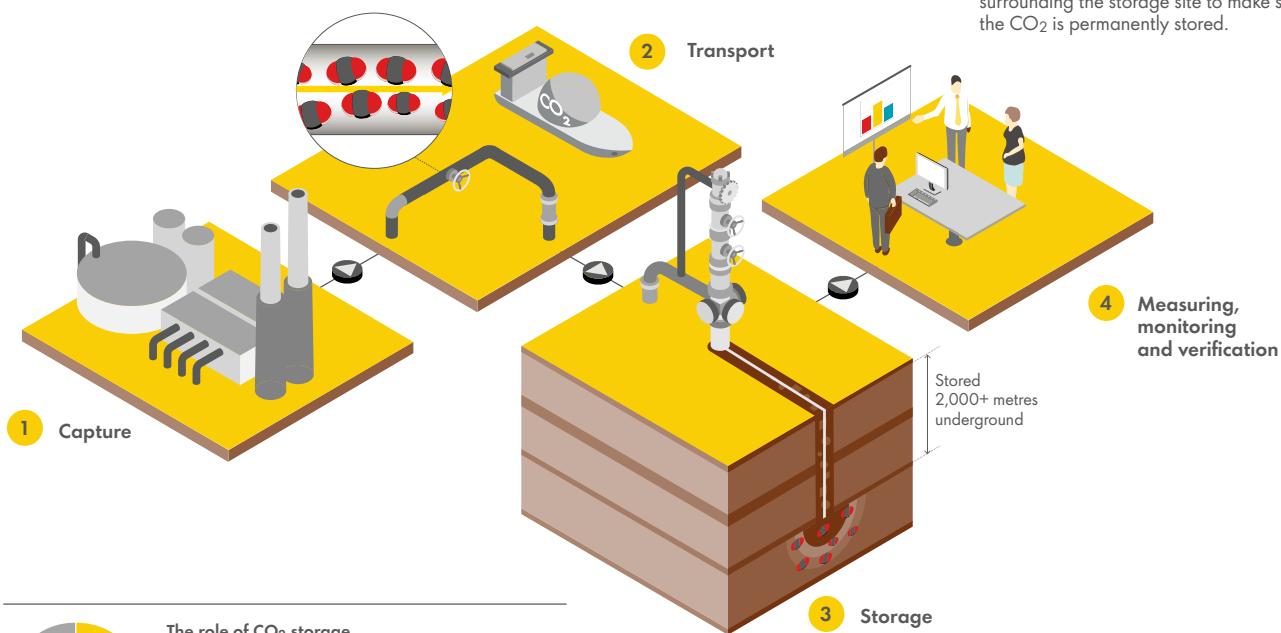
### 3 Storage

CO<sub>2</sub> is injected deep underground into the microscopic spaces in porous rocks. A layer of impermeable rock, called a cap rock, lies directly above the porous rocks ensuring that the CO<sub>2</sub> remains there permanently.

### 4 Measuring, monitoring and verification

Monitoring of storage sites takes place within the storage reservoir, as well as at the injection well, where sensors can detect small changes in pressure or CO<sub>2</sub> levels.

In addition, a number of monitoring technologies can be incorporated within the geosphere, biosphere and atmosphere surrounding the storage site to make sure the CO<sub>2</sub> is permanently stored.



#### The role of CO<sub>2</sub> storage

15%

In the IEA's sustainable development scenario, carbon capture, utilisation and storage accounts for nearly 15% of the cumulative reduction in emissions.

Source: International Energy Agency 2020 report: CCUS in Clean Energy Transitions 2020



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

# PRODUCING NATURAL GAS RESPONSIBLY

## NATURAL GAS

Natural gas emits 45-55% fewer greenhouse gas emissions than coal when used to generate electricity, according to IEA data. Increasing the role that gas plays in the energy mix is one way countries can take action as the world moves to a low-carbon future.

Gas will help us achieve our target, in step with society's progress towards meeting the Paris Agreement goal, to become a net-zero emissions energy business by 2050.

### NATURAL GAS

#### SUPPLY



We provide around 2.5% of the world's natural gas

#### LNG SHIPPING



We manage one of the world's largest fleets of LNG carriers

## Carbon-neutral LNG

We are delivering liquefied natural gas (LNG) to business customers in Asia that has had the carbon dioxide-equivalent emissions associated with its production, delivery and usage offset with carbon credits originating from projects that protect or develop natural ecosystems. We made the world's first deliveries of carbon-neutral LNG in 2019 to Tokyo Gas in Japan and GS Energy in South Korea. In 2020, we secured new customers such as China National Offshore Oil Corporation (CNOOC) and CPC Corporation Taiwan. Since 2019, we have delivered seven cargoes, providing enough carbon-neutral LNG to power nearly 1 million homes for a year.

Carbon-neutral LNG allows our customers in these countries to offer, in turn, carbon-neutral gas to companies that want to decarbonise their energy use. In Japan, Tokyo Gas sells carbon-neutral gas to offices

and utilities. It also makes hydrogen from carbon-neutral LNG at its Toyosu hydrogen station in Tokyo. CNOOC has auctioned the cargoes received from Shell on the Shanghai Petroleum and Gas Exchange, offering gas buyers the chance to reduce their net carbon footprint.

## Gas production

In 2020, we took final investment decisions to sustain our production of natural gas in Australia and to expand our LNG production in Nigeria.

In Queensland, Australia, phase one of Arrow Energy's Surat Gas Project (Shell interest 50%) is being developed to meet local and overseas demand. The gas produced from Surat will use pipelines and treatment facilities at our QGC gas plant to reduce the need to build new infrastructure, which could have an impact on safety and the environment.



Our Nigeria LNG joint venture aims to boost LNG production capacity, create more jobs and stimulate local industries.

In Nigeria, our Nigeria LNG joint venture (Shell interest 25.6%) will increase production capacity at the Bonny Island liquefied natural gas (LNG) facility by around a third. The expansion is expected to create about 12,000 direct jobs during construction and stimulate the growth of local industries that provide ancillary services. Construction is expected to take a number of years.

Visit [www.shell.com/energy-and-innovation/natural-gas](http://www.shell.com/energy-and-innovation/natural-gas) and [www.shell.com/providing-more-and-cleaner-energy](http://www.shell.com/providing-more-and-cleaner-energy) for more on how natural gas contributes to a lower-carbon world.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

SPECIAL REPORT

# WORKING FOR THE FUTURE OF GRONINGEN

The NAM joint venture with ExxonMobil (Shell interest 50%) in partnership with the Dutch government operates the Groningen gas field in the Netherlands. NAM continues to help people living in Groningen who regrettably have been affected by earthquakes linked to gas production.



NAM continued to decommission its gas production facilities in Groningen in 2020.

The Dutch government is currently instructing NAM on production levels. Production from the Groningen field is expected to stop by 2022 or shortly thereafter. NAM is working with the government on plans to close down production as quickly and safely as possible while considering the energy security of the Netherlands. NAM is safely decommissioning its facilities and consulting with local communities to plan for the future of these production sites.

## Supporting local communities

Since 2014, NAM has taken steps to help improve the situation in Groningen, such as investing in the NAM Liveability and Sustainability programme, which provided financial support for around 300 local initiatives to strengthen structures affected by earthquakes. This

included support for houses and improving the running costs of sports facilities by installing solar panels.

In June 2020, the Dutch government took over the management of these investments through its National Programma Groningen, which receives around half its funding from NAM.

## Handling damage claims

In 2020, NAM settled all outstanding damage claims for affected residents. All new claims are now handled by independent public organisations set up by the Dutch government.

NAM was, and will remain, responsible for all earthquake-related costs. Shell has provided a guarantee that it will fund its share of these costs if NAM is not able to pay them.

## Decommissioning and restoration

In 2020, NAM continued to decommission its gas production facilities in Groningen with eight locations plugged and work started to safely remove surface infrastructure. In 2020, this included decommissioning gas facilities in Uiterburen, a small village in south-east Groningen, where production stopped in 2008. NAM plans for all wells at Uiterburen to be safely closed down by 2021.

At the same time, NAM continues to discuss plans with neighbours of production locations, local municipalities and the Economic Board Groningen to reuse locations for renewable energy facilities.

## Investing for the future

Shell and NAM continue to look for ways to play a part in building a low-carbon energy future for Groningen.

In 2020, for example, Shell announced plans to work with partners Gasunie and Groningen Seaports on a project to use renewable energy to electrolyse water to produce green hydrogen. The NorthH2 project includes an ambition to build an offshore wind farm in Groningen capable of producing up to 4 gigawatts by 2030 and up to 10 gigawatts by 2040.



## PRODUCING SHALE OIL AND GAS RESPONSIBLY

Shales – also known as tight gas and oil – will continue to play a role in meeting global energy demand. We work to unlock shale resources safely and responsibly, using advances in technology and by following our onshore operating principles.



Our shales activity in the USA is focused on the Permian Basin.

### Tackling emissions

We have a range of technologies and practices in place in our shales operations to help find and reduce greenhouse gas emissions (GHG), such as methane which may be emitted during the extraction and processing of shales.

Our approach includes methane leak detection and repair programmes, primarily using handheld optical gas imaging cameras. In the Permian Basin, USA, we deploy drones equipped with multiple cameras and sensors to detect methane emissions more effectively and repair them more quickly. In 2020, we expanded the programme to cover our 400 sites in the Permian Basin.

We have taken steps to reduce flaring, or burning off, of gas from shales. Flaring contributes to climate change and wastes valuable resources. In 2018, we upgraded Permian Basin older facilities with

equipment to automatically shut down production, instead of flaring gas, to relieve high pressure from certain high-demand pipelines. In 2020, we started replacing flare stacks, the devices used to burn off gas, with improved gas processing infrastructure in the Permian Basin.

In 2020, we also completed the installation of around 130 more energy-efficient control devices, which regulate the flow of gas, to potentially reduce GHG emissions from Permian facilities by up to 3%.

Since 2017, these efforts and others have reduced GHG emissions by 34%, including methane emissions by 50% and flaring by more than 80%, across our Permian facilities.

We have long supported the direct regulation of methane emissions when regulation is efficient, effective and encourages innovation. For example, in 2020 in the USA, we advocated a return to the direct regulation of methane emissions by the United States Environmental Protection Agency under the Clean Air Act. Shell believes more robust measurement, transparency and management are needed to successfully reduce methane emissions globally (see [Methane emissions](#)).

### Local communities

Engagement with communities is an important part of our approach to shales. This includes our extensive engagement in Argentina with indigenous people, as well as local farmers and nearby communities, in the Vaca Muerta shales basin in Neuquén (see [Indigenous people](#)). These efforts help us understand community concerns so they can be proactively addressed in our operations.

### Earth tremors

We believe there is a relatively low likelihood of hydraulic fracturing technologies or produced water disposal well operations inducing earth tremors that are felt on the surface. We take precautionary measures to prevent tremors and proactively manage the risk in accordance with regulatory requirements.

Read more about our approach at [www.shell.com/energy-and-innovation/shale-oil-and-gas](http://www.shell.com/energy-and-innovation/shale-oil-and-gas)

## PROVIDING LOWER-CARBON ELECTRICITY

### LOWER-CARBON AND RENEWABLE POWER

We believe more renewable energy, such as solar and wind, is critical for a cleaner energy future, and that how people live, work and play is increasingly going to need to be powered by lower-carbon electricity.

In 2020, we stepped up our activities in generating and trading lower-carbon and renewable electricity, as well as providing it directly to customers.

### WIND

We are expanding our wind power activities to make more renewable electricity available to our customers. At the end of 2020, the Shell share of total installed capacity combined from onshore and offshore wind was 290 megawatts (MW), with a further Shell share of 2,861 MW in development. We have wind power interests in several countries, including off the coasts of the Netherlands and the USA, as well as onshore USA.

In 2020, the CrossWind consortium, a joint venture between Shell and Eneco, won the tender to build and operate the Hollandse Kust (noord) offshore wind farm (Shell interest 79.9%). The project is expected to start operating in 2023 and will supply 759 MW, equivalent to powering more than 1 million Dutch homes with renewable energy. It is intended to help meet the objectives of the Dutch government's National Climate Agreement, which contains agreements with sectors on what they will do to help achieve the Netherlands' climate goals, and the European Green Deal, the plan to make the European Union's economy sustainable.

Shell is a 20% shareholder in the Blauwwind Consortium, which is developing the Borssele III and IV wind farm off the Dutch coast. In 2020, Blauwwind started generating power and delivering renewable electricity into the Dutch grid. The site has the capacity to generate 731.5 MW. Shell has an agreement to buy and trade half the electricity produced.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

### 3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA



The Silicon Ranch project in the USA, where solar electricity generation is combined with rural revitalisation.

We continue to invest in floating wind technologies. We have acquired EOLFI, a French renewable energy developer specialising in floating wind power. Shell is a major shareholder in TetraSpar (Shell interest 46.2%), which is developing an innovative floating wind demonstration project off the coast of Norway. We are also developing a project with floating wind specialist CoensHexicon that could bring 800 MW of floating wind power to South Korea in the first phase of development.

Visit [www.shell.com/wind](http://www.shell.com/wind) to find out more about our work in wind power.

#### SOLAR

We are expanding our solar power generation capability by investing in the development and operation of long-term commercial and industrial solar projects, including at our own sites.

At the end of 2020, our share of installed solar power capacity was 674 megawatts (MW), with 1,053 MW in development.

In the USA, Silicon Ranch, a company in which we increased our stake in 2020 and now have a 46.47% interest, continued to expand its Regenerative Energy programme across some of the 142 projects it owns and operates in 14 states. The programme combines solar electricity generation with carbon sequestration and ecosystem restoration. Silicon Ranch projects operating in 2020 had a total capacity of 1,130 MW.

In 2020, we announced plans to build our first industrial-scale solar power plant. The Gangarri Solar Project in Australia is expected to produce up to 120 MW of renewable energy. The project will help power our QGC natural gas project in Queensland and has the potential to reduce QGC's carbon dioxide emissions by around 300,000 tonnes a year.

Oman Shell launched the Qabas solar project in Oman to help power a smelting company. The project comprises 88,000 solar panels and generates 25 MW, displacing the equivalent gas-fired power generation taken from the grid and avoiding more than 25,000 tonnes of CO<sub>2</sub> emissions each year.

Read more about our operations and investments in solar power at [www.shell.com/solar](http://www.shell.com/solar)

Read more about Silicon Ranch and Regenerative Energy at: [www.shell.com/inside-energy/power-of-sun-and-soil](http://www.shell.com/inside-energy/power-of-sun-and-soil)

#### REDUCING EMISSIONS AT WORK AND HOME

As well as supplying industrial power, Shell also provides low-carbon electricity to workplaces and homes in several countries, including Australia, Germany, the UK, and the USA.

#### Carbon-neutral homes

We supply 100% certified renewable electricity to more than 900,000 homes in Great Britain through Shell Energy Retail. There we recently launched a range of carbon-neutral energy tariffs to meet growing interest from households for energy with a lower-carbon footprint. The Go Further tariffs offset the life-cycle CO<sub>2</sub>-equivalent emissions associated with the production, distribution and use of renewable electricity and gas in the home. This is managed by buying equivalent certified carbon credits from projects that protect or enhance forests.

Customers receive 100% renewable electricity with the tariffs. Our renewable electricity is certified by Renewable Energy Guarantees of Origin, which means that all the electricity customers use is matched with the equivalent amount of electricity generated from 100% renewable sources.

#### Lower-carbon businesses

We are working with industrial and commercial customers to help them make the transition to lower-carbon and renewable energy. In 2020, in the USA, through our partner company MP2 and Shell Energy, we agreed long-term contracts to supply 100% certified renewable energy to 1,200 Wells Fargo sites in Washington DC and seven US states.

Read more about Shell and lower-carbon electricity at [www.shell.com/energy-and-innovation/new-energies](http://www.shell.com/energy-and-innovation/new-energies)



## RENEWABLES AND ENERGY SOLUTIONS

a selection of investments, acquisitions and ventures

### KEY



Energy solutions



Wind



Mobility



Trading



Energy access



Solar



Nature-based solutions



Hydrogen

\* Minority investments

### YEAR BUSINESS FOUNDED

<b>2016</b>	■ Blauwwind*, NL	
<b>2017</b>	■ Acquired NewMotion, NL ■ Connected Freight*, Philippines	
	■ Shell Energy Retail, UK (acquired as First Utility) ■ Innowatts*, USA	
<b>2018</b>	■ Acquired MP2 Energy, USA	
	■ Opened hydrogen stations in the UK and USA	
<b>2019</b>	■ Silicon Ranch*, USA ■ Cleantech Solar*, Asia ■ Opened Moerdijk solar farm, NL	
	■ Atlantic Shores Offshore Wind*, USA ■ Mayflower Wind Energy*, USA ■ TetraSpar*, Norway	
<b>2020</b>	■ Opened hydrogen stations in California, USA ■ HyET Hydrogen*, NL	
	■ Husk Power*, India ■ SunFunder*, Kenya	
	■ Revel*, USA ■ Aurora*, USA ■ Nordsol*, NL	
	■ Acquired EOLFI, France ■ CoensHexicon*, South Korea	
	■ Nature-based solutions projects under way in Australia, Malaysia, Netherlands, Spain and UK	
	■ Orb Energy*, India ■ PowerGen*, Kenya ■ d.light*, Kenya	
	■ ESCO Pacific*, Australia	
	■ Announced plans to build Rheinland Hydrogen Electrolyser, Germany	
	■ Final Investment Decision to build Gangarri solar farm, Australia	
	■ Masabi*, UK ■ InstaFreight*, Germany ■ Spiffy*, USA	
	■ Select Carbon, Australia ■ Climate Bridge*, China	
	■ Announced plans to build 20 MW green hydrogen electrolyser and refuelling stations, China ■ ZeroAvia*, USA	
	■ Shell and Eneco awarded tender to build 759 MW Hollandse Kust (Noord) offshore wind farm, NL	
	■ Palmetto*, USA ■ GreenCom*, Germany	



# FUELLING MOBILITY

## REDUCING EMISSIONS FROM TRANSPORT

Transport accounts for almost 30% of the world's energy use and around 25% of global carbon dioxide (CO<sub>2</sub>) emissions. To help people and companies switch to cleaner modes of transport, we are investing in lower-carbon options – from electric-vehicle charging points and e-Mobility products to fuels like hydrogen and biofuels.

### BIOFUELS

Biofuels are a renewable energy source, made from organic matter or waste, which can significantly reduce CO<sub>2</sub> emissions from transport.

Biofuels are blended with other fuels such as petrol and diesel. They can help decarbonise the aviation, marine and heavy-duty road transport sectors.



Our Raízen joint venture in Brazil produces one of the lowest-CO<sub>2</sub> biofuels available.

The Raízen joint venture (Shell interest 50%, not Shell-operated) in Brazil is one of the world's largest biofuel producers, with one of the lowest-CO<sub>2</sub> biofuels available today. In 2020, Raízen produced around 2.5 billion litres of ethanol and around 4.4 million tonnes of sugar from sugar cane. In 2015, Raízen opened its first cellulosic ethanol plant at its Costa Pinto mill in Brazil. This produced almost 25 million litres in 2020.

In 2020, around 9.5 billion litres of biofuels went into Shell's petrol and diesel worldwide, which includes Raízen sales.

### Turning waste into fuel

Most biofuels are produced from agricultural crops, such as corn, sugar cane, or vegetable oil. We are exploring ways to use agricultural or animal waste, inedible crops, and waste wood to produce biofuels.

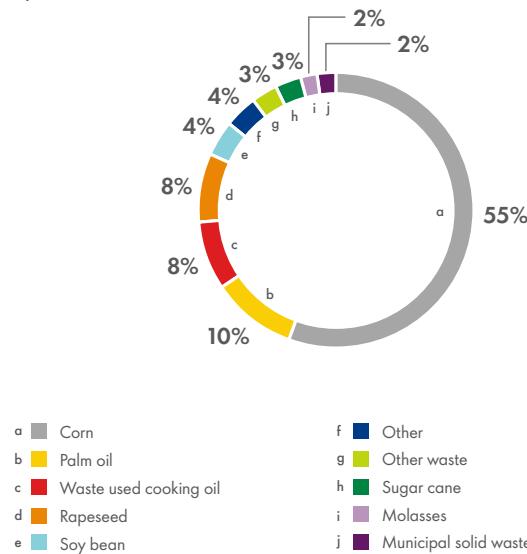
For example, we produce renewable natural gas, also known as biogas, from food waste, agricultural residues or manure. It can be used instead of natural gas in vehicles and shipping to reduce CO<sub>2</sub> emissions by between 50% and 100% compared with fossil fuels.

We also have agreements with companies in Europe and North America to supply sustainable aviation fuel. In 2020, we extended our operations into air cargo by agreeing to supply online retailer Amazon with blended sustainable aviation fuel for its air cargo fleet.

We continue to invest in new ways to produce advanced biofuels from sustainable raw materials. These include waste and cellulosic biomass

## GLOBAL BIO-COMPONENT PURCHASE [A]

by feedstock



[A] Does not include purchases by Raízen.

from non-food plants at our demonstration plant in India and investments in biofuel start-ups, such as FORGE Hydrocarbons, Canada.

### Sustainable production

The production of some biofuel feedstocks is considered higher risk for human rights, biodiversity or the release of carbon into the atmosphere. To help mitigate these risks, all the palm oil, sugar cane and South American soy feedstock we purchase is certified as sustainable by credible sustainability standards like the Round Table on Responsible Soy, the Roundtable for Sustainable Palm Oil and Bonsucro.

Visit [www.shell.com/biofuels](http://www.shell.com/biofuels) for more on our activities in biofuels.

### E-MOBILITY

Shell is exploring how best to meet the needs of electric-vehicle drivers – at home, at work or on the road. We are expanding our charging network worldwide and our range of specialised fluids for electric vehicles.

We operate more than 60,000 electric-vehicle charging points and aim to increase this to around 500,000 by 2025. This includes more than 1,000 charging points at Shell forecourts and new locations as well as operated charge points that are owned by individual consumers and business customers.

Shell-owned NewMotion is helping Alphabet, the world's fourth-largest fleet operator, move to e-vehicles by using the same Shell fleet cards to buy fuel and recharge their vehicles in the UK. Drivers can plan their next charging stop in real-time at more than 3,000 charging points and track their fuel and electricity use in a single invoice.



We are developing charging networks for electric-vehicle drivers through our NewMotion subsidiary.

### Electric-vehicle fluids

Electric vehicles require specially developed fluids and lubricants. The Shell e-fluids range covers the specialised needs of battery-electric and fuel-cell electric passenger and commercial vehicles.

We develop these fluids and greases, in collaboration with our customers, which include leading automotive manufacturers and Formula E racing teams. In 2020, we developed a specialised transmission fluid for Mahindra Racing's Formula E car to enhance transmission efficiency and the car's performance on the racetrack.

In 2020, we also formed a strategic alliance with Kreisel Electric, an Austrian technology company, to offer a combined battery and thermal management fluid solution for electric vehicles. The solution controls the temperature of each battery cell individually. This stabilises the cells and improves battery performance and safety when fast charging.

Learn more about e-mobility at [www.shell.com/electric-vehicle-charging](http://www.shell.com/electric-vehicle-charging)

### HYDROGEN

Hydrogen is a versatile energy carrier that can play a significant role in the transition to a low-carbon world.

It has great potential to help meet growing demand for cleaner transport. When driven, hydrogen vehicles do not emit carbon dioxide, only water vapour. If the hydrogen is produced by electrolysis using renewable energy to split water into pure hydrogen and oxygen, the fuel is virtually emission-free. This is known as green hydrogen.

Shell is helping to build the infrastructure that will be needed if hydrogen is to fulfil its potential.

### Making hydrogen from renewable energy

Nearly all hydrogen today is produced through fossil-fuel reforming, a process that creates a reaction between natural gas and steam. Shell is also assessing the feasibility of using hydrogen produced by electrolysis on a large scale for our own facilities as a starting point, then rolling it out with our customers. We are working with ITM Power to build a 10-megawatt electrolyser at our Rheinland refinery in Germany. The electrolyser, expected to be completed in 2021, is designed to produce up to 1,300 tonnes of green hydrogen a year.

We are also exploring several integrated hydrogen projects including electrolyzers for industrial and mobility demand in China, Germany

and the Netherlands, to help demonstrate that it is possible to produce large-scale green hydrogen using renewable energy.

In 2020, we announced one of the largest green hydrogen projects in Europe, North2, in a consortium with Gasunie, Groningen Seaports, Equinor and RWE. The project aims to build large wind farms in the North Sea to generate sufficient renewable energy for green hydrogen production for a range of industrial customers.

Green hydrogen is an important part of the Dutch government's National Climate Agreement, which contains agreements with sectors on what they will do to help achieve the Netherlands' climate goals, and the European Green Deal, the plan to make the European Union's economy sustainable.

### Building our refuelling network

We are helping to build networks of hydrogen refuelling stations in Europe and North America. We are part of several initiatives to encourage the use of hydrogen vehicles to reduce greenhouse gas (GHG) emissions in transport.

In Germany, through our participation in the H2 Mobility Germany joint venture, we are working with the government and partners to develop a national network of 100 hydrogen refuelling stations by 2021. At the end of 2020, 87 stations were open, 37 at Shell retail sites.



The H2 Mobility Germany joint venture is developing a network of 100 hydrogen refuelling stations.

In the UK, we are working with ITM Power, a company specialising in electrolyzers, to produce hydrogen fuel from renewable energy at Shell retail sites in England. Three of the sites began producing and selling green hydrogen in 2020.

In the USA in 2020, the California Energy Commission awarded Shell a \$40.8 million grant to install hydrogen refuelling equipment at 48 Shell retail stations and to upgrade three existing Shell hydrogen stations. At the end of 2020, we operated nine hydrogen refuelling stations in California.

We also opened two hydrogen refuelling stations in Canada and the first of three planned stations in the Netherlands.

In 2020, we announced a collaboration with Daimler Truck AG, IVECO, OMV and the Volvo Group to support the roll-out of hydrogen trucks in Europe, which will be needed to meet the EU's ambition of net-zero emissions by 2050. Read more about the H2Accelerate collaboration at [www.shell.com/h2-accelerate-new-collaboration-for-zero-emission-hydrogen-trucking](http://www.shell.com/h2-accelerate-new-collaboration-for-zero-emission-hydrogen-trucking)



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

**3. ACHIEVING NET-ZERO EMISSIONS**

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

Learn more about how we are developing and using hydrogen to reduce GHG emissions at [www.shell.com/hydrogen](http://www.shell.com/hydrogen)

#### **ENERGY-EFFICIENT PRODUCTS**

Shell V-Power petrol and diesel and Shell Helix engine oil increase efficiency by helping to keep engines running smoothly and reducing friction and wear. These products are used in millions of vehicle engines worldwide every day.

Shell PurePlus Technology converts natural gas into a pure base oil – which can form up to 90% of a finished motor oil – to improve and protect an engine's performance. For example, the technology is used in the Shell Helix 0W range of lubricants and can help to reduce car carbon dioxide emissions by up to 4% compared with traditional lubricants.

For heavy-duty vehicles, Shell Rimula engine lubricants help heavy-duty diesel engines reduce friction to improve fuel economy and therefore reduce CO<sub>2</sub> emissions.

Read more about our fuels and lubricants at [www.shell.com/motorist](http://www.shell.com/motorist)

#### **Reducing fuel consumption in shipping**

We have developed a software tool for our marine customers that determines the best position for a ship's hull in the water, at any speed and in any weather conditions, to minimise fuel use and emissions.

In 2020, we deployed the software on 62 Shell-operated vessels, potentially reducing each ship's fuel use and associated emissions by up to 7%. We have now licensed the software, making it available to the wider industry.

Discover more about our marine solutions at [www.shell.com/marine](http://www.shell.com/marine)

#### **Reducing data centre energy use**

We have worked with technology firm Asperitas to develop an innovative approach which could boost energy efficiency in data centres by up to 45%. This involves immersing data servers in a specialised Shell cooling fluid made from natural gas, reducing the need for air cooling equipment. Data centres use large amounts of electricity to power equipment that cools the air around the servers that process the data.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

**3. ACHIEVING NET-ZERO EMISSIONS**

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

# DRIVING INNOVATION

In 2020, we spent \$907 million on research and development (R&D), compared with \$962 million in 2019.

Our R&D projects often involve collaborations with public or private entities, including universities, government laboratories, technology start-ups and incubators. This collaborative approach to innovation with partners inside and beyond the energy sector helps spark new ideas and accelerates their development and deployment.

In 2020, we started work on 124 R&D projects with universities, which is less than half that of last year due to the disruptions caused by COVID-19. Many of these projects focus on areas that are crucial for low-carbon energy systems, such as energy storage, fuel cells and greenhouse gas emissions.

## LOWER-CARBON AVIATION FUEL

In 2020, our scientists demonstrated how to produce 500 litres of synthetic kerosene aviation fuel from carbon dioxide, water and renewable energy to replace conventional hydrocarbon feedstocks. In a world first, the synthetic kerosene was blended with conventional jet fuel to power a KLM airlines passenger flight from Amsterdam to Madrid in early 2021.

The method can use carbon dioxide from any source, such as waste carbon dioxide from a refinery or biogas facility. We already supply airlines with sustainable aviation fuel refined from waste fats and oils.

We are now planning to test the technology at larger scale and use the same process to make chemical feedstocks.

## HIGH-PERFORMANCE FLUIDS FOR ELECTRIC VEHICLES

In 2020, we developed a range of e-fluids specially for battery-electric and fuel-cell electric vans and goods vehicles to help reduce emissions in the commercial road transport sector.



We are developing fluids and lubricants for electric vehicles in collaboration with customers such as Formula E racing teams.

Electric and hybrid vehicles require special transmission fluids to lubricate the gearbox, thermal fluids to cool the battery and electric motor, and greases to lubricate electric motor components working at much higher revolutions than internal combustion engines.

We develop the fluids and greases, in collaboration with our customers, at our Shell Technology Centres worldwide. Read more in [e-mobility](#).

We are also using technology to help reduce energy use at data centres (see [Energy-efficient products](#)).

## BLOCKCHAIN FOR A LOWER-CARBON WORLD

We are investing in blockchain, a system in which a record of transactions is stored across a network of computers, as a way of proving the credentials of low-carbon technologies and products. Blockchain provides a secure, transparent and tamper-proof record as no single party controls the computing system supporting it. Changes to the data in one computer must be validated by all computers in the network.

Blockchain can make it possible to track low-carbon energy and certificates from their origin through every stage and transaction.

We are exploring blockchain as a way of verifying if hydrogen is produced using renewable power and whether carbon credits actually represent the removal of carbon from the atmosphere.

For example, by tracking the progress and effectiveness of nature-based solutions for carbon capture or avoided emissions, blockchain could identify and avoid double counting of carbon credits and help to maintain the quality of forestry or conservation projects.

We have started using this approach in a pilot project that creates digital passports for equipment, so it can be tracked throughout its life cycle. This approach is more efficient and significantly reduces paperwork associated with conventional audit trails.

Shell believes blockchain could transform the way companies collaborate and interact to accelerate development of lower-carbon energy.

Read more about innovation and collaboration at Shell at [www.shell.com/innovation-through-research-and-development](http://www.shell.com/innovation-through-research-and-development)



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA



# RESPECTING NATURE

Our Powering Progress strategy means respecting nature by protecting the environment, reducing waste and making a positive contribution to biodiversity.

- 55 Our approach to the environment
- 55 Protecting biodiversity
- 58 Conserving water resources
- 60 Decommissioning and restoration
- 61 Managing waste
- 61 Plastics
- 62 Air emissions
- 63 The Arctic





# OUR APPROACH TO THE ENVIRONMENT

We operate in a way that respects nature, and we work to protect ecosystems. Measuring our environmental impact and setting ourselves goals to improve helps us find better ways to operate – working with nature, rather than against it.

We continually strive to improve our environmental performance and aim to transparently communicate about our progress (see [Our performance data](#)).

We use external standards and guidelines, such as those developed by the World Bank and the International Finance Corporation, to manage our emissions, discharges, conserve biodiversity and minimise water use and the impact on water resources.

Within operations, we focus on reducing energy use, flaring less gas and preventing spills and leaks. Where necessary, Shell companies

also clean up and remediate areas affected by spills that come from our operations.

We carry out detailed environmental, social and health impact assessments when planning major projects, such as exploration and drilling activities, offshore platform installation or decommissioning.

We are working to reduce waste and explore opportunities to integrate a circular economy approach in our operations and supply chains. The circular economy is based on the concept that products are designed to last longer and to be reused, repurposed or recycled.

Read about Shell's new environmental framework launched in February 2021 at [www.shell.com/sustainability/environment/environmental-management](http://www.shell.com/sustainability/environment/environmental-management)

## PROTECTING BIODIVERSITY

We seek to understand, avoid and respond to any potential impacts our activities may have on biodiversity and ecosystem services. We do this by protecting the local environments near our operations, which may include wetlands, natural habitats, and threatened species.

We are committed to not exploring for or developing oil and gas resources within natural and mixed World Heritage Sites.

### BIODIVERSITY MANAGEMENT

We aim to minimise the impact of our projects on biodiversity and ecosystems by applying the mitigation hierarchy, a decision-making framework that involves a sequence of four key actions: avoid, minimise, restore and offset. We first aim to avoid impacts on biodiversity and ecosystems. Where avoidance is impossible, we aim to minimise our impact and, where necessary, we apply mitigation measures and actively monitor their success.

Where our operations have had an impact, we work with conservation experts and communities to restore ecosystems by planting vegetation, for example, or redesigning parts of our operations to reduce their effect on local wildlife. We also look for opportunities to make a positive contribution to conservation, such as taking part in environmental research projects.

### RESTORING AND PROTECTING HABITATS

We work with the International Union for Conservation of Nature (IUCN) to protect areas such as nature reserves, wilderness areas and habitats for certain species.

IUCN and Shell Petroleum Development Company of Nigeria Limited (SPDC) have worked together since 2012 in Nigeria to enhance remediation techniques and protect biodiversity at sites affected by oil spills. This work includes using bioremediation, a process that uses micro-organisms to naturally break down, and ultimately remove, oil contamination.



Shell Petroleum Development Company of Nigeria Limited is working with IUCN to enhance remediation techniques and protect biodiversity in the Niger Delta.

In 2017, SPDC and IUCN joined forces on the Niger Delta Biodiversity Technical Advisory Group, which also includes representatives from the Nigerian Conservation Foundation. In 2020, the advisory group assessed the baseline field reports of two pilot sites containing fresh water and swamp forests and set out its aims and timeline for work at the sites. Field visits to the remote locations were disrupted due to COVID-19 restrictions. The advisory group is also analysing other potential pilot sites identified by SPDC and is planning an engagement session with the regulatory agencies in Nigeria (see [Spill response and prevention in Nigeria](#)).

We also collaborate with other global organisations such as Earthwatch on environmental research and conservation projects and to raise awareness among Shell staff.

We carefully consider and aim to respond to any potential impacts our activities may have on biodiversity and ecosystems. In Queensland, Australia, for example, the Shell-operated QGC natural gas project in the Surat Basin extensively monitors biodiversity to identify, avoid and minimise its potential impact on threatened plants, animals and



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

**4. RESPECTING NATURE**

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

ecosystems. This has meant that since construction of QGC's liquefied natural gas plant started in 2010, only 34% of disturbance to endangered ecosystems, ecosystems of concern and essential habitats has occurred compared with what was initially predicted. Shell has a majority interest in QGC as a result of the BG acquisition in 2016.

QGC manages the 10,000-hectare Valkyrie area of open woodland as part of its strategy to offset the project's carbon emissions and impact on biodiversity. QGC protects or redevelops ecosystems in Valkyrie to generate carbon credits that energy customers can buy to offset their emissions.



Valkyrie in Australia is home to an 800-hectare endangered-native-forest regeneration project.

For more on our approach to biodiversity, visit [www.shell.com/biodiversity](http://www.shell.com/biodiversity)

Find out more about our commitments at [www.shell.com/environmentally-sensitive-areas](http://www.shell.com/environmentally-sensitive-areas)

#### **ENVIRONMENTAL PARTNERS**

We work with partners to reduce our environmental impact, improve areas around our operations and ensure local communities benefit from our presence.

We share our scientific and conservation knowledge with industry and environmental groups and engage on sustainability challenges.

#### **IUCN collaborations**

The International Union for Conservation of Nature (IUCN) has been our global partner focusing on biodiversity policy and projects for more than 20 years. In 2020, together we developed a set of guidelines for mitigating the impact of solar and wind projects on biodiversity and a global standard for nature-based solutions.



Western gray whales are the focus of environmental impact studies in Russia.

IUCN has also set up independent scientific panels to help us mitigate environmental impacts. The Western Gray Whale Advisory Panel continued to advise Sakhalin Energy Investment Company Ltd (Shell interest 27.5%) in Russia on assessing and managing its impact on western gray whales. The panel is preparing its final conclusions which are due to be released in 2021.

In the Niger Delta, IUCN and Shell Petroleum Development Company of Nigeria Limited (SPDC) continued to collaborate with others to monitor the biodiversity recovery in areas where SPDC's new remediation standard is being applied to clean up spills.

#### **Earthwatch leadership skills**

We partner with Earthwatch to give Shell employees a chance to develop their sustainability leadership skills and make a direct contribution to scientific research and global conservation efforts. Virtual Earthwatch programmes were offered to Shell staff in 2020 due to COVID-19 restrictions.

Since Earthwatch and Shell's partnership started in 1998, Shell employees from 52 countries have contributed more than 57,000 hours to environmental data collection and conservation activities.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

## 20+ YEARS OF COLLABORATION WITH IUCN AND EARTHWATCH

### INTERNATIONAL UNION FOR CONSERVATION OF NATURE (IUCN)

**50+**

joint projects

**4**

conservation commitments since 2003 [A]

**17**

years of the Western Gray Whale Advisory Panel

**78**

Niger Delta Panel recommendations implemented [B]

### EARTHWATCH EUROPE Earthwatch expeditions

**1,183**

Shell participants, 56 research projects

**57,000**

hours of data collection and conservation activities

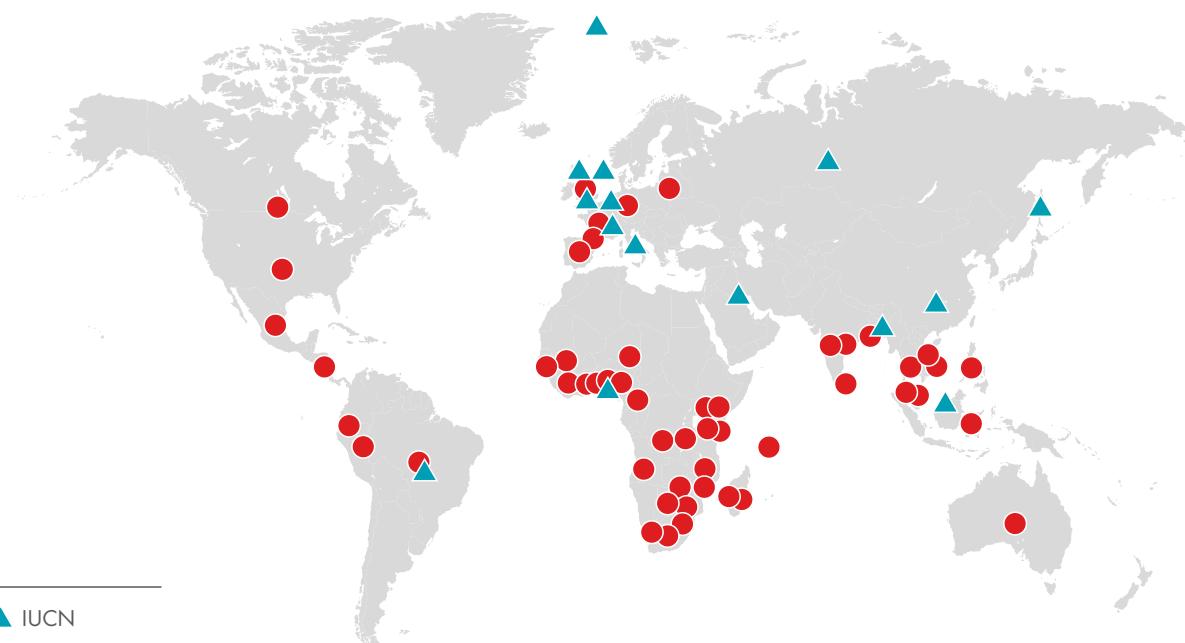
### Earth Skills Network

**184**

protected area staff supported

**63**

protected areas, including World Heritage Sites



[A] Shell will not explore for, or develop, oil and gas resources in natural World Heritage Sites; we will further improve the way we operate in IUCN Category HV protected areas and areas of high biodiversity value; we will publicly report on our activities in IUCN Categories HV; and we will work with IUCN and others to help safeguard protected areas.

[B] 78 out of 83 IUCN Niger Delta Panel recommendations have been agreed and implemented.



# CONSERVING WATER RESOURCES

We carefully manage the use of fresh water in our operations and the impact of our projects on water resources in the surrounding areas. Where water is scarce, we minimise our use of fresh water or aim to use alternatives such as recycled water, processed sewage water, and desalinated water. We treat waste water to international standards and are developing new technologies to improve the treatment, reuse, and recycling of water from our operations.

Our impact assessments help us to understand better the water risks for our projects and broader impact on the surrounding watershed. We evaluate the long-term sustainability of water resources to select the options that avoid or minimise disruption to the environment and other users. We use a combination of tools to help us do this, including the World Resources Institute's Aqueduct Water Risk Atlas.

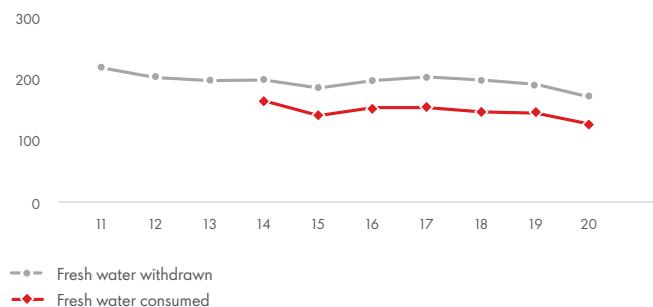
Shell is part of a consortium with BP, ExxonMobil, Chevron, Total and ENI that supports water risk assessment tools from IPIECA, the global oil and gas industry association for advancing environmental and social performance. These tools provide a high-level overview of how companies in the oil and gas sector can define, assess and respond to water risks.

Our Pearl gas-to-liquids facility in Qatar assesses and manages water use to as low as reasonably practicable, resulting in almost complete recycling and reuse at the facility. Pearl has capacity to treat up to 45,000 cubic metres of water a day, which is comparable to a municipal water treatment plant for a town of 140,000 people.

## FRESH-WATER USE PERFORMANCE

### FRESH WATER WITHDRAWN AND CONSUMED [A] [B]

million cubic metres



[A] Fresh water figures do not include once-through cooling water.

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

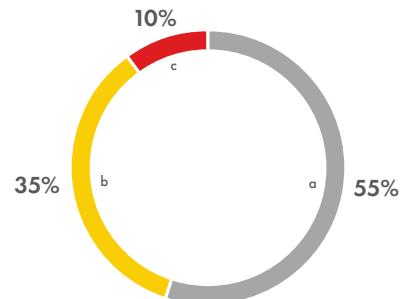
In 2020, our intake of fresh water was 171 million cubic metres, compared with 192 million in 2019. Around 90% of our fresh-water intake was used for refining oil products and chemicals, with the balance mainly being consumed in oil and gas production.



Water is almost entirely recycled and reused at our Pearl gas-to-liquids facility in Qatar.

## FRESH WATER WITHDRAWN BY SOURCE

%



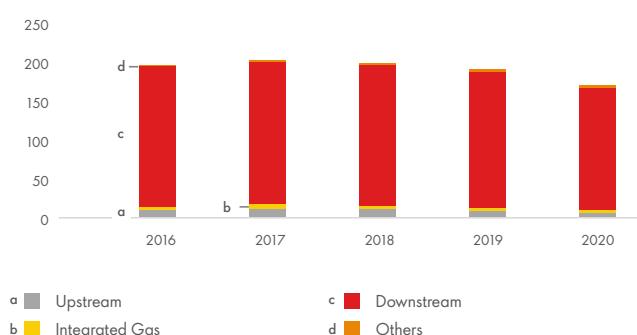
a ■ Surface

b ■ Public utilities

c ■ Ground

## FRESH WATER WITHDRAWN BY BUSINESS

million cubic metres





## WASTE WATER AND PRODUCED WATER

Where possible, we look for ways to treat water from our operations using natural solutions, such as constructed wetlands. We track low-level concentrations of oil, grease and other hydrocarbons within water returned to the environment from the day-to-day running of our facilities (referred to as "discharges to surface water"). We work to minimise these discharges in line with local regulatory requirements and our own standards.

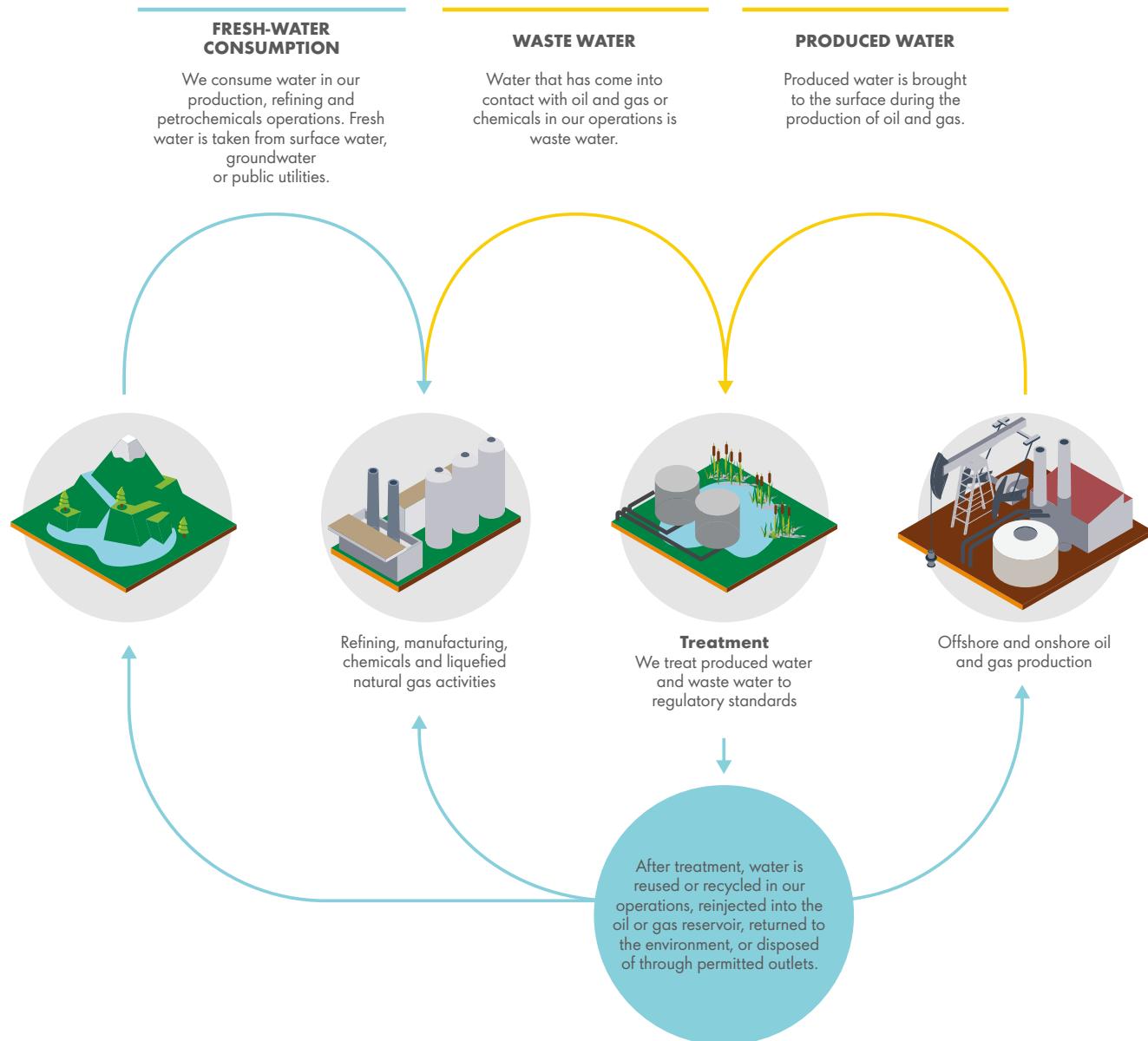
In 2020, the combined total of hydrocarbons discharged to surface water from our facilities was 1.4 thousand tonnes, compared with 1.3 thousand tonnes in 2019. This was mainly due to an increase in the

amount of oil discharged to water at the Pulau Bukom site in Singapore and some Shell facilities in the UK.

## SOIL AND GROUNDWATER

We assess and carefully manage the risks of potential soil and groundwater contamination. We investigate known and suspected releases associated with our operations and manage the impact on soil and groundwater according to the most stringent of local regulated standards or Shell global standards. We conduct scientific research on potential risks of contamination from petroleum activities, customer services or products we may use. We share our findings with government agencies, researchers and other stakeholders to support the development of sustainable risk-based environmental guidelines.

## WATER USE





1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

# DECOMMISSIONING AND RESTORATION

Decommissioning is part of the normal life cycle of every oil and gas structure, and we work hard to do it safely and responsibly. This includes restoring the surroundings of onshore and offshore platforms and facilities in line with relevant legislation, while taking our own environmental standards into account.

Growing numbers of oil and gas platforms and facilities are coming to the end of their expected life because they no longer have enough economically recoverable reserves. As a result, we have decommissioning activities under way in Brunei, India, Malaysia, the Netherlands, the UK and the USA.

Shell is required to account for future decommissioning expenses. At the end of 2020, we reported \$27.3 billion on our balance sheet for non-current decommissioning and other provisions (see our [Annual Report](#)).

## DISMANTLING AND RECYCLING

Our largest decommissioning project is the Brent oil and gas field, which lies in the North Sea between the UK and Norway. Preparation for decommissioning the four Brent platforms – Alpha, Bravo, Charlie and Delta – started in 2006.

We decommissioned Brent Delta in 2017 and Brent Bravo in 2019. In 2020, the Brent Alpha topside, the part of the platform that is visible above the sea, and the upper jacket, which supports the topside, were removed and sent for dismantling and recycling onshore. More than 97% of the Brent Delta and Bravo topsides have been recycled.



The Pioneering Spirit vessel removed the part of Brent Alpha visible above the sea in a huge single lift.

Watch how we dismantled the 27,000-tonne Brent Alpha platform at [www.youtube.com/watch?v=bBXilUSCrLo](https://www.youtube.com/watch?v=bBXilUSCrLo)

Find out more about the Brent decommissioning programme at [www.shell.co.uk/sustainability/decommissioning/brent-field-decommissioning](https://www.shell.co.uk/sustainability/decommissioning/brent-field-decommissioning)

In India, we are decommissioning the Tapti offshore natural gas field (Shell interest 30%), which lies off the coast of Mumbai. This is the country's first decommissioning project. All 38 wells have been closed and made safe and the five platforms are expected to be removed and recycled in 2021.

We continue to pursue opportunities to reuse, repurpose or recycle materials in decommissioning and ways to integrate a circular economy approach into designing future projects.

## DECOMMISSIONING AND REUSE IN PRACTICE

In the Netherlands, the NAM joint venture (Shell interest 50%) is working to repurpose former gas production sites for renewable energy facilities. This includes the NAM gas treatment plant in Emmen, where existing infrastructure such as pipelines and electrical cables will be used potentially as part of solar power, hydrogen or biogas projects.

Learn more about our approach to decommissioning at [www.shell.co.uk/sustainability/decommissioning](https://www.shell.co.uk/sustainability/decommissioning)



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

# MANAGING WASTE

We are working to keep waste from our operations to a minimum and run our operations and supply chains so they can contribute to a circular economy, designing materials and products that can be more easily reused and recycled.

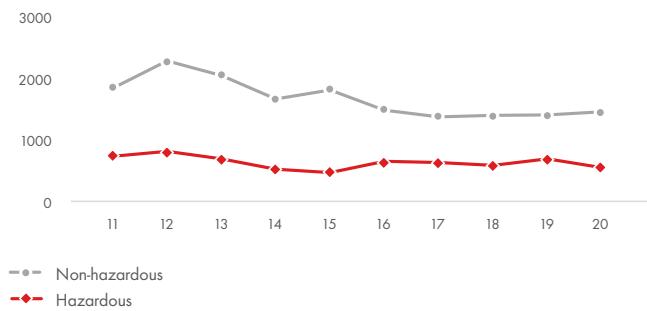
For example, Shell has an ambition to use 1 million tonnes of plastic waste as raw material at our chemical plants by 2025. Using a technique called pyrolysis, we use plastic waste to produce chemicals, which can be used to make plastics again. We want to expand the use of this technology at our chemical plants in North America, Europe and Asia (see **Plastics**).

In 2020, we launched a waste management programme to reduce, recycle and reuse waste across our global operations, which combined generate around 2 million tonnes of waste a year. We are working with small- and medium-sized enterprises to develop new commercial opportunities.

## WASTE PERFORMANCE

### WASTE DISPOSAL

thousand tonnes



# PLASTICS

We produce chemicals that are the raw materials for plastics. Products made from plastics bring important benefits to society, helping to improve living standards, hygiene and nutrition around the world.

But society also needs to tackle the amount of plastic waste in the oceans and the environment. Shell wants to play an active role in finding lasting solutions to this challenge.

### CREATING A CIRCULAR ECONOMY

We produce chemicals using a liquid feedstock made from plastic waste. A technique called pyrolysis turns hard-to-recycle plastic waste into a liquid, which we then process into chemicals that are used to make new plastics.

In 2020, we disposed of 2,020 thousand tonnes of hazardous and non-hazardous waste, which is broadly comparable with 2019. We also sent 465 thousand tonnes off-site for recycling or reuse. Three of our refineries sent 80% or more of their waste generated during the year for recycling or reuse in 2020.

### WASTE MANAGEMENT

We are rolling out waste management software that is designed to help reduce the amount of waste we generate by automating tasks such as planning, tracking and reporting waste in our operations and for suppliers. We have so far installed the system at our businesses in Australia, Qatar, Trinidad and Tobago and Malaysia.

Our facilities in Australia have been running waste improvement projects aimed at reducing the amount of waste going to landfill and providing benefits to local communities. For example, the contractor that collects and recycles waste oil from our QGC facilities in rural Queensland now also collects waste oil from farms during these trips, allowing this oil to be recycled as well.

Visit [www.shell.com/managing-waste](http://www.shell.com/managing-waste) for more on our approach to waste.



The Shell Norco Manufacturing Complex in the USA uses liquid feedstock made from plastic waste to make chemicals.



In 2020, Shell signed a supply agreement with Nexus Fuels LLC for pyrolysis liquid, to increase production of chemicals from plastic waste at our Norco facility in Louisiana, USA. The agreement is an important step towards achieving our ambition to use 1 million tonnes of plastic waste a year in our chemical plants globally by 2025. It follows a full year of testing and application at the Norco facility.

#### TACKLING PLASTIC WASTE

We are a founding member of the Alliance to End Plastic Waste, a not-for-profit organisation that aims to invest \$1.5 billion over five years to help end plastic waste in the environment. The alliance comprises almost 60 global companies, including chemical and plastics manufacturers, consumer goods and waste management companies, and the World Business Council for Sustainable Development.

In 2020, the alliance published its first [progress report](#) setting out projects it supports, including community projects in Africa, India and South-east Asia that aim to prevent waste plastic from entering nature, rivers and the sea. The report also outlines technology projects that

aim to unlock economic value from post-consumer waste. The alliance contributes funds to projects as well as the expertise of its members, for example, engineers, safety professionals and scientists.

#### REDUCING, REUSING AND RECYCLING

We are exploring ways to reduce, reuse and recycle packaging across our supply chains and introduce sustainable packaging solutions. These include large recyclable plastic liner bags for bag-in-box lubricant packaging, which reduce plastic use by more than 80% and carbon dioxide (CO<sub>2</sub>)-equivalent emissions by more than 60%, compared with traditional single-use plastic bottles.

We are also manufacturing lubricant bottles in Brazil using resin from sugar cane rather than traditional oil. This approach lowers the net CO<sub>2</sub> emissions of the bottles by up to 83% compared with our previous bottles.

Watch the film on transforming plastic waste into chemicals at [www.shell.com/nexus-and-shell-sign-strategic-supply-agreement](http://www.shell.com/nexus-and-shell-sign-strategic-supply-agreement)

## AIR EMISSIONS

#### AIR QUALITY

Transport is essential to modern living. It drives economic growth, allowing countries to trade goods and communities to connect with one another. But transport accounts for around 25% of the world's carbon dioxide (CO<sub>2</sub>) emissions and contributes to poor air quality.

Reduced travel due to the COVID-19 pandemic in 2020 highlighted the impact that traffic has on local air quality. Looking ahead, society needs to ensure people and goods can continue to move freely but in ever cleaner, more efficient and sustainable ways.

Shell continues to look for solutions to help improve air quality, including through the development of cleaner fuels. We are also investing in a range of cleaner alternatives in markets where we see strong potential for growth.

#### Cleaner transport options

We are developing a range of lower-emission choices for customers – from electric-vehicle charging points to hydrogen and advanced biofuels – to help people and companies use cleaner modes of transport.

We operate more than 60,000 electric-vehicle charge points and aim to increase this to around 500,000 by 2025. This includes over 1,000 charge points at Shell forecourts and new locations as well as operated charge points owned by our individual and business customers.

We are growing our global network of hydrogen refuelling stations for cars and trucks. When driven, hydrogen vehicles do not emit carbon dioxide, only water vapour. If the hydrogen is produced using renewable energy, the fuel is virtually emission-free. We are also investing in technologies that use renewable energy to produce green hydrogen at scale for industrial users in Europe (see [Hydrogen](#)).

For heavy-duty road transport, we make fuels from liquefied natural gas (LNG) and gas-to-liquids products that reduce sulphur emissions, particulates and nitrogen oxide.

Learn more about cleaner transport at [www.shell.com/future-transport](http://www.shell.com/future-transport)

#### Cleaner air at sea

We are increasing the availability of LNG for marine customers, which burns more cleanly compared with heavy fuel oil or marine diesel. To deliver LNG to customers in the busy seas of North-west Europe, Shell has three LNG bunker vessels to refuel ships. Our fleet includes the Cardissa, which can do this at sea or in port.



Cardissa supplies marine customers in Europe with LNG fuel, which can reduce sulphur and nitrogen oxide emissions compared with traditional marine fuels.

In our operations, we are investing in our long-term charter fleet with 18 new LNG carriers that can run on LNG or conventional liquid marine fuel giving them the best emissions performance in their class.

In upstream drilling, we aim to use equipment, such as natural-gas-powered engines, that can reduce our emissions of nitrogen oxide, sulphur oxides and other greenhouse gases.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

### Improving road paving

We have developed bitumen that reduces emissions of specific gases and particulates that impact local air quality when asphalt is made, or a road surface laid.

In trials, the new formulation reduced emissions of nitrogen oxide, sulphur dioxide, volatile organic compounds, particulate matter at 2.5 and 10 microns, and carbon monoxide by an average of 40% compared with conventional bitumen. Shell Bitumen FreshAir is now used in countries worldwide, including China, France, the Netherlands, Thailand and the UK.

### Managing emissions from our operations

Our refineries and chemical plants operate air quality monitoring networks that continually measure emissions from our facilities. These data are made available as required to regulators.

### MANAGING OUR NON-GHG EMISSIONS

We take steps to reduce airborne pollutants in our oil and gas production and processing, for example, lowering emissions of nitrogen oxides, sulphur oxides and volatile organic compounds.

### Sulphur oxide, nitrogen oxide and volatile organic compound emissions performance

Our sulphur oxide emissions in 2020 decreased to 36 thousand tonnes compared with 65 thousand tonnes in 2019. This was mainly because of divestments in Canada and the USA, reduced emissions from our Pulau Bukom refinery in Singapore and a smaller shipping fleet coupled with the use of lower-sulphur fuels.

Our nitrogen oxide emissions increased from 108 thousand tonnes in 2019 to 118 thousand tonnes in 2020, in part due to the inclusion of emissions from contractor transport in our numbers.

Our emissions of volatile organic compounds (VOCs) decreased to 47 thousand tonnes in 2020 from 55 thousand tonnes in 2019, in part due to a decrease in flaring at Prelude (Australia).

Read about Shell's [Greenhouse gas emissions](#).

## THE ARCTIC

Shell ended frontier offshore exploration drilling operations in Alaska in 2015 and continues to have no active operations in frontier offshore exploration or production projects north of the Arctic Circle.

We hold interests in a small number of exploration licences in Arctic areas of the USA, Norway and Russia. We also hold a number of other licences from our previous activities in the Canadian Arctic, although we do not have plans for further development of these licences.

We do not plan to pursue new oil exploration leases offshore in the Arctic Circle.

As elsewhere, we integrate safety, environmental and social considerations, alongside management of political, commercial and technical risks, into our decision-making process.

In 2020, Shell Exploration and Production West-Siberia B.V. formed a joint venture with Gazprom Neft to carry out exploration activity in two onshore licence areas on the Gydan Peninsula in Russia. The activity is being carried out in accordance with relevant technical, environmental and social standards. We also received regulatory approval in Alaska to combine our near-shore leases in West Harrison Bay, which we ultimately plan to divest after seeking a partner and transferring operatorship.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

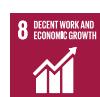
7. OUR PERFORMANCE DATA



# POWERING LIVES

Our Powering Progress strategy means powering lives and livelihoods through our products and activities, and by supporting an inclusive society.

- 65 Providing access to energy
- 66 Working with our suppliers
- 69 Contributing to communities
- 74 Advancing diversity and inclusion
- 76 Respecting human rights
- 78 Managing our impact on people





1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

# PROVIDING ACCESS TO ENERGY

Today, around 800 million people have no electricity access at all, and hundreds of millions more have unreliable power supply.

Goal 7 of the UN Sustainable Development Goals recognises the vital importance of "access to affordable, reliable, sustainable and modern energy for all" in eradicating poverty and protecting the planet. We are working to provide cleaner and reliable energy to those who do not have it today.

## INVESTING IN ENERGY ACCESS

Our ambition is to provide reliable electricity supply to 100 million people, in emerging markets, by 2030.

We are working to improve the reliability of existing power supply to on-grid customers and to provide first power to off-grid customers and communities.



Shell is working to help achieve universal access to clean, affordable energy.

We have made minority investments in companies that specialise in areas such as solar mini-grids and solar home systems that can deliver the reliable, affordable electricity customers need.

In 2020, we completed minority investments in PowerGen, a company that develops, builds and operates mini-grids in Africa; and in d.light, which provides reliable and affordable solar lighting and power systems for households and small businesses in 70 countries. Our investments are supporting the companies as they scale up their activities, so they can deliver more and cleaner energy to more people.

We are also looking to develop large-scale power projects in key emerging markets.

Read more about our energy access business at [www.shell.com/energy-access](http://www.shell.com/energy-access)

## SOCIAL PROGRAMMES

In 2020, we continued to operate social programmes in Canada, China, Malaysia, the Philippines and Tanzania, despite COVID-19-related disruptions to local economies and communities.

With our partner, the UN World Food Programme, we are improving food security, education and energy access in an area of the Western Desert, Egypt, where we have exploration activities. Together we aim to provide solar power, internet access and information technology equipment as well as water storage and street lighting to 15 remote community schools.



A family in the Western Desert, Egypt, where we are running a Livelihood Community Project.

As part of our response to COVID-19, we donated \$1.7 million in 2020 to six energy access companies in which we have invested. The grants support consumers in financial difficulty because of the pandemic in India, Kenya, Nigeria, Sierra Leone, Tanzania and Uganda and contribute to the installation of solar power systems in hospitals and schools. The grants helped around 800,000 people in 2020.

Read more at [www.shell.com/sustainability/communities/access-to-energy/access-to-energy-investing-in-communities](http://www.shell.com/sustainability/communities/access-to-energy/access-to-energy-investing-in-communities)

Read how we are helping people across the world gain access to a reliable supply of cleaner electricity at [www.shell.com/access-to-energy](http://www.shell.com/access-to-energy)



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

# WORKING WITH OUR SUPPLIERS

## SUPPLY CHAIN IN 2020

### SUPPLIERS

**29,326**

### GOODS AND SERVICES

**\$39.3 billion**

### SUPPLY CHAIN

Shell aims to work with suppliers, including contractors, that behave in an economically, environmentally and socially responsible manner, as set out in our Shell General Business Principles and [Shell Supplier Principles](#).

In 2020, Shell spent around \$39.3 billion on goods and services from around 29,000 suppliers globally.

Our suppliers are critical to our ability to run our businesses. They are involved in almost every step of our operations – and are often key to having a positive impact on local communities and achieving successful business outcomes.

### Making lower-carbon choices

We continually work with our suppliers to find ways to reduce greenhouse gas emissions across our supply chains.

In 2020, we worked with them to jointly identify the best-performing lower-carbon equipment available and call attention to these products in the catalogues Shell employees use to place orders for projects. The aim is to make it easier to choose products that can drive sustainability deeper into our projects and facilities. For example, by choosing more energy-efficient electrical motors rather than older steam turbine technology at a refinery.

We also designed a new interactive tool for suppliers to set a target and track, among other things, their emissions performance against other suppliers to Shell in their industry. The Shell Supplier Energy Transition Hub was created in collaboration with 50 of our major suppliers, who began trialling it in 2020. We expect to roll it out to other suppliers starting in 2021.

### Reducing waste

We are working with our suppliers to help develop a circular economy, where products are made with the least amount of waste and can later be recycled or reused.



Shell and Nexus Fuels LLC have a supply agreement for pyrolysis liquid made from plastic waste, which is then converted into chemical products.

We have worked together on ways to transform plastic waste into feedstock for Shell's chemical plants (see [Plastics](#)) and to use wastewater slurry for fuel instead of burning it as waste. We are also working together to develop reusable packaging solutions for our lubricants and retail operations. In 2020, we launched a waste management programme to reduce, reuse and recycle waste across our global operations.

Suppliers are also playing an important role in recycling materials when we decommission projects. For example, in the UK, our contractors have recycled more than 97% of the first two decommissioned Brent platform topsides – the parts that are visible above the sea.

We are also supporting this change to a circular economy through our procurement choices, which are the type of responsible commercial decisions that customers expect us to make.

### Supporting people

Our core values of honesty, integrity and respect for people underpin our work. We focus on ensuring that suppliers working at our sites care for their people. We carry out reviews of their approach to worker welfare.

We work to respect the rights of people employed in our supply chains. We require all our suppliers to meet and comply with our safety standards and with our approach to human rights and modern slavery. For certain high-risk contracts, suppliers must also comply with our worker welfare requirements (see [Safety](#), [Respecting human rights](#), and [Modern slavery](#)).

We also support local businesses and suppliers in the countries where we operate (see [Local content](#)).

Read more about how we work with contractors and suppliers at [www.shell.com/shell-for-suppliers](http://www.shell.com/shell-for-suppliers)



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

## INTERNAL VOICE



### MINGRAN TANG

Shell Contracting and Procurement

Mingran is the executive vice president for Shell's global contracting and procurement organisation. She is based in the Netherlands and employed by Shell Global Solutions Services B.V.

"When the first COVID-19 restrictions began in early 2020, it quickly became clear that this was an unprecedented challenge facing our global supply chain. This was different from the previous financial crisis. It was a pandemic. We responded to this urgent health challenge for our suppliers around the world. For example, we supported our business partners to set up extra accommodations for front-line contractors to allow for greater social distancing. We used our global supply network to source masks and ventilators to fill shortages in some communities where we operate. For key local suppliers who struggled financially, we introduced a range of supportive measures, including fast-tracking of payments. Today, Shell continues to work in whatever way we can to bring suppliers with us through the pandemic."

## LOCAL CONTENT

We want to make a positive difference to countries and local communities. We do this by creating jobs, training people, supporting local businesses and buying goods and services from local suppliers - collectively referred to as local content.



The SIBBAP Multipurpose Cooperative participates in the LiveWIRE programme in the Philippines.

In 2020, Shell companies spent \$39.3 billion on goods and services, of which 84.5% was purchased from suppliers based in the same country of operation, also called local procurement. About 67.5% of our procurement was in Australia, Canada, the Netherlands, the UK and the USA, of which 85.5% was spent with local suppliers.

We estimate that around \$4.5 billion was spent in countries that, according to the UN Development Programme's Human Development Index 2019, have a gross domestic product of less than \$15,000 a

## SUPPLY CHAIN PRIORITIES

Working with our suppliers to establish competitive supply chains that are safe, sustainable and digitally connected



### Reducing waste

Lower-waste supply chains

Reducing plastic use

Driving a circular economy



### Making lower-carbon choices

Lower-carbon equipment, products and services

Tools to help our suppliers decarbonise

Using lower-carbon power sources



### Supporting people

Diverse suppliers

Creating economic value in countries

Decent work

Contractor safety

Ethical supply chains



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

## SHELL LOCAL CONTENT ACTIVITIES IN 2020

### GOODS AND SERVICES

**\$39.3 billion**

spent globally on goods and services

**67.5%**

spent in Australia, Canada, the Netherlands, the UK and the USA

### LOW-INCOME COUNTRIES

**\$4.5 billion**spent in countries where gross domestic product is less than \$15,000 a year per person<sup>[A]</sup>

### LOCAL PROCUREMENT

**83.5%**

spent in these low-income countries with local companies

[A] According to the UN Development Programme's Human Development Index 2019

year per person. In these countries, Shell companies spent around 83.5%, or around \$3.7 billion, with local suppliers.

In 2020, our community skills and enterprise development programmes created 1,805 jobs, supported 1,017 businesses, and added 99 entrepreneurs to our supply chains globally (see *Community skills and entrepreneurship*).

### Contributing to the local economy

Our contribution to the development of individual countries is an important part of our support for decent work and economic growth, Goal 8 of the UN Sustainable Development Goals.

In 2020, for example, we completed an analysis of the long-term contribution to the national and local economy of our gas-to-liquids plant in Sarawak, Malaysia. We found, among other things, that for every dollar of gross value added produced by the plant, an additional \$1.19 is generated for other sectors of the national economy, mostly in Sarawak. And of the 436 employees at the plant in 2019, 99% were Malaysian and 89% from Sarawak state. From 2009 to 2018, most of the plant's spend on goods and services was in Malaysia, with a significant amount in Sarawak.

To help our suppliers through the difficulties of the COVID-19 pandemic, we have provided support in some countries, including faster payment of invoices, grants and funding for small local suppliers, and transit centres for travelling contractor staff.

Discover more about how we work to support the countries in which we operate: [www.shell.com/sustainability/communities/local-employment-and-enterprise](http://www.shell.com/sustainability/communities/local-employment-and-enterprise)

### EXTERNAL VOICE



**JEFF GEIPEL**  
Mining Shared Value

*Jeff is the founder and managing director of the Mining Shared Value initiative at Engineers Without Borders Canada, a non-governmental organisation that works to increase the social and economic benefits of global extractive industries by promoting the use of local suppliers.*

*"We have engaged with Shell in the last couple of years to explore ways it can continue to strengthen transparency about the economic impact of its procurement of goods and services. Buying from suppliers in host countries is one of the most meaningful ways that major investing companies and the oil and gas industry can contribute to local economies. Managing this well means tracking and publicly sharing how much is being spent. More international companies are being asked by investors, regulators and consumers to provide detailed information on their local procurement, as well as on how they conduct due diligence in supply chains to avoid corruption and problematic supplier practices. The global oil and gas sector spends around \$800 billion each year on procurement, so transparency is vital to helping ensure effective governance of natural resources."*



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

# CONTRIBUTING TO COMMUNITIES

## SOCIAL INVESTMENT

We invest in community projects so that local people can benefit from social and economic development. This investment is sometimes voluntary and sometimes required by governments, or part of a contractual agreement.

The intent of our social investment programmes is to benefit society and the environment where we operate, and also to create a more positive local business environment for Shell.

As well as responding to local social investment priorities, we have three global social investment themes:

- access to energy;
- science, technology, engineering and maths education; and
- community skills and enterprise development.

For example, in Ethiopia we are working with Mercy Corps on a programme to help displaced people access energy. Together, we are exploring the feasibility of deploying clean, sustainable, reliable and affordable energy services for refugee camps.

## SOCIAL INVESTMENT IN 2020

### TOTAL SPENT GLOBALLY



\$204 million

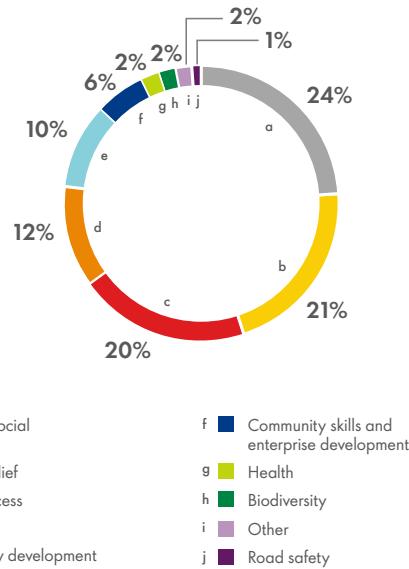
### TOTAL SPENT IN LOWER-INCOME COUNTRIES



\$87 million

## SOCIAL INVESTMENT

by theme



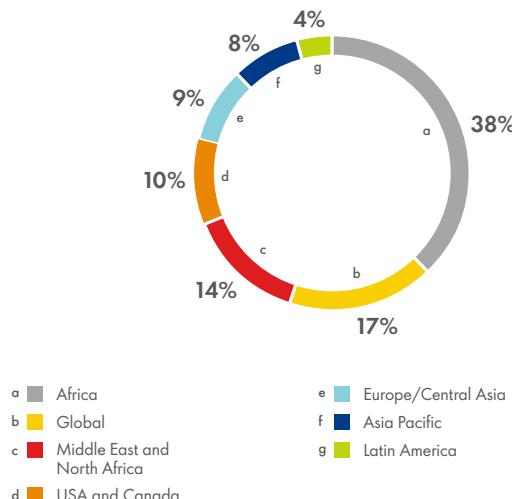
Social investment programme focus areas are determined by local community needs and priorities. In 2020, we spent almost \$204 million on social investment, of which 24% was required by government regulations or contractual agreements. We spent the remaining \$156 million (76%) on voluntary social investment. We spent approximately \$46 million on COVID-19 contributions, largely as voluntary initiatives. About \$5 million of this was part of our contractual obligations.

Around \$87 million of our total social investment spend in 2020 was in countries that, according to the UN Development Programme's Human Development Index 2019, have a gross domestic product of less than \$15,000 a year per person.



## SOCIAL INVESTMENT

by region



Innovators in Brazil used rays from the sun for a filter to purify rainwater.

## COMMUNITY SKILLS AND ENTREPRENEURSHIP

Our community skills and entrepreneurship programmes benefit local communities where we operate by creating employment opportunities and contributing to economic development, while adding value to our supply chain.

In 2020, 19,319 people participated in and 1,017 businesses were supported by our skills development and entrepreneurship programmes, leading to the creation of 1,805 jobs.

We work with governments, educational institutions and international organisations on technical and vocational education and training programmes. These programmes help people develop skills that are useful for their communities and local economies, as well as for businesses like ours. In Malaysia, Shell's ProjekLINK programme in Miri, Kota Kinabalu and Bintulu has trained 1,170 young adults in local communities to become qualified welders.

### Entrepreneurship

Shell has two entrepreneurship programmes implemented globally – Shell LiveWIRE and Shell StartUp Engine. In 2020, the economic impact of the COVID-19 pandemic posed significant challenges to local enterprises. We continued to support entrepreneurs by providing virtual training on supply chain management, cash management, fund-raising and e-commerce.

Shell's LiveWIRE programme helps entrepreneurs turn their ideas into reality and operates in 19 countries. Around the world, Shell LiveWIRE trained 2,224 people and supported 984 businesses, while 1,312 jobs were created. In 2020, 99 Shell LiveWIRE-supported businesses entered our supply chain.

In 2020, we organised a virtual Shell LiveWIRE Top Ten Innovators competition for alumni. Brazilian start-up Safe Drinking Water for All won the Local Prosperity prize with its Aqualuz technology to increase access to clean water and sanitation. Aqualuz is a low-cost device which uses a filter to purify rainwater using rays from the sun.

A special COVID-19 award went to an enterprise from Pakistan called Edvon, which developed a robot that helps sterilise hospitals, takes patients' temperatures and detects if people are wearing masks.



Pakistan's Edvon robot is designed to help the fight against COVID-19.

In Australia, Shell's QGC Business Navigator programme, affiliated to Shell LiveWIRE, provided local entrepreneurs with business advisory services and grants to assist them in reopening after COVID-19 restrictions. Through the programme, several businesses have started to jointly develop tourism ventures.

Shell StartUp Engine is a global innovation programme for entrepreneurs in the energy industry and supports early-stage start-ups in areas such as renewables, energy storage, smart grids and electric mobility. It is delivered in the UK, France, Singapore and the Netherlands. In 2020, 30 start-ups received support.



## SPECIAL REPORT

# ECONOMIC DEVELOPMENT IN NIGERIA

Shell has interests in several companies in Nigeria that produce and distribute oil, gas and other energy products. This energy contributes to economic growth in the Niger Delta and across the country. The businesses in which Shell has interests employ 2,700 people directly and provide jobs for many others in supplier networks.

Shell employees work closely with communities, contractors, joint-venture partners and federal and state government agencies to seek to create a safe operating environment and help improve the quality of life for Nigerians.



The Nigeria LNG joint venture's expansion project is expected to create about 12,000 direct jobs during construction.

Shell companies in Nigeria also contribute to community health, education and enterprise programmes, supporting the development of Nigerians and indigenous companies. In 2020, Shell launched measures to help protect employees from the COVID-19 virus and made additional contributions to communities. This work included setting up food programmes at seven COVID-19 isolation sites and providing testing kits, medical equipment, sanitiser and personal protective equipment to nine states.

The Nigerian government aims to power economic growth by focusing on developing oil and gas resources, investments in infrastructure and expanding access to energy for Nigerians.

In 2020, the Shell Petroleum Development Company of Nigeria Ltd (SPDC), the operator of the SPDC Joint Venture (Shell interest 30%), continued to focus on restoring and maintaining wells and pipelines in the Niger Delta to rejuvenate oil and gas production, which decreased by 2% in 2020 compared with 2019.

SPDC is also building facilities to gather gas that would otherwise be flared. Since 2002, SPDC's flaring in Nigeria has been reduced by 90%. Gas that was once flared is now captured and processed to supply domestic and international gas markets.

An example of this gas-gathering work is the Southern Swamp Associated Gas Solutions project, which was commissioned in 2020. SPDC is planning to reduce associated gas flaring further through its

Forcados Yokri gas-gathering project, a significant part of which is expected to be completed in 2021.

Unlocking the oil and gas resources in the deep waters of the Gulf of Guinea can also help meet growing energy demand in Nigeria and international markets. Shell works with local Nigerian companies and develops the skills and experience of Nigerian employees. The Shell Nigeria Exploration and Production Company (SNEPCo) uses its knowledge, experience and proven deep-water technologies to unlock new resources safely and efficiently.

## Developing gas infrastructure

Shell Gas B.V. and its partners in Nigeria LNG Limited (Shell interest 25.6%) took a final investment decision in 2020 on a new LNG processing unit. The expansion is expected to create around 12,000 jobs during construction and stimulate growth of the local oil and gas services sector. Once operational, the new unit, known as Train 7, will add around 8 million tonnes per annum (mtpa) of capacity to the Bonny Island facility, taking the total to around 30 mtpa. Construction is expected to take a number of years.

In 2020, Shell Nigeria Gas, which provides gas to industrial and commercial customers in Nigeria, completed its 20-kilometre domestic gas pipeline expansion project in Abia State in south-eastern Nigeria. The pipeline connects three key industrial zones and supplies gas to a consortium providing electricity to the Ariaria market. The market is one of the largest leather-shoe-making and open-stall markets in West Africa, with more than 37,000 shops and around 1 million traders.

Shell Nigeria Gas has also started building a large gas processing plant in the city of Aba, Abia State, and announced its intention to further develop domestic gas infrastructure in Oyo State. Progress also continued to be made on SPDC's Assa North-Ohaji South project, which is expected to be the largest gas facility in Nigeria.

## Contribution to society

Shell's Nigerian businesses support the development of local communities and companies. In 2020, Shell companies awarded contracts worth more than \$0.8 billion to Nigerian-registered businesses and contributed \$49.4 million in social investment projects, mainly in enterprise support, education, health care and road safety. \$18.6 of this spend was made on COVID-19-related interventions.

In 2020, Shell paid \$0.9 billion of royalties and corporate taxes to the Nigerian government (SPDC \$0.4 billion; SNEPCo \$0.5 billion).

We run various health care projects in Nigeria, often in partnership with local authorities or development bodies. In some locations, such as the Obio community in Rivers State, access to health care is provided through a community health insurance scheme set up in 2010 by the SPDC JV, Rivers State government and the local communities. Since 2010, more than 75,000 people have enrolled.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA



The Obio Cottage Hospital in Port Harcourt is one of the most visited health facilities in the region.

The Nigerian National Petroleum Corporation (NNPC) and SPDC have also trained more than 1,500 health workers since 2013. In 2020, SNEPCo, in partnership with NNPC, donated a fully equipped, 20-bed medical centre to Ogun State.

Enterprise development, opportunities for education and access to affordable health care hinge upon being able to have reliable and affordable energy. Shell has provided seed funding for All On, a Nigerian not-for-profit company, which supports renewable off-grid energy start-ups to enable them to provide power to villages and communities outside the main cities and towns.

Visit [www.shell.com.ng/nigeria-briefing-notes](http://www.shell.com.ng/nigeria-briefing-notes) for more on Shell in Nigeria.

#### EXTERNAL VOICE



**DAMILOLA OGUNBIYI**  
United Nations

Damilola is the CEO and Special Representative of the UN Secretary-General for Sustainable Energy for All and Co-Chair of UN-Energy. Both organisations are working to help ensure access to affordable, reliable, sustainable and modern energy for all, Goal 7 of the UN Sustainable Development Goals.

"When it comes to achieving Sustainable Development Goal 7, Nigeria is one of the most important countries globally. With the support of All On, Sustainable Energy for All is collaborating with Nigeria's Rural Electrification Agency to develop a sustainable framework for the solar systems industry. Our collective effort in Nigeria shows how data, policy and finance working in unison can accelerate progress on this goal."

#### SOCIAL AND ECONOMIC CONTRIBUTION OF SHELL COMPANIES IN NIGERIA

##### JOBs

**11,700**

People working for Shell, including more than 9,000 contractors

##### LOCAL STAFF

**97%**

Employees in 2020 who are Nigerian

##### GOVERNMENT REVENUE

**\$0.9 billion**

Royalties and corporate taxes paid to the Nigerian government in 2020  
(SPDC \$0.4 billion; SNEPCo \$0.5 billion)

##### LOCAL SUPPLIERS

**\$0.8 billion**

Value of contracts awarded to Nigerian companies

##### HEALTH

**19**

Health-care projects supported by SPDC JV and SNEPCo

##### EDUCATION

**2,391**

University grants awarded by SPDC JV and SNEPCo since 2016

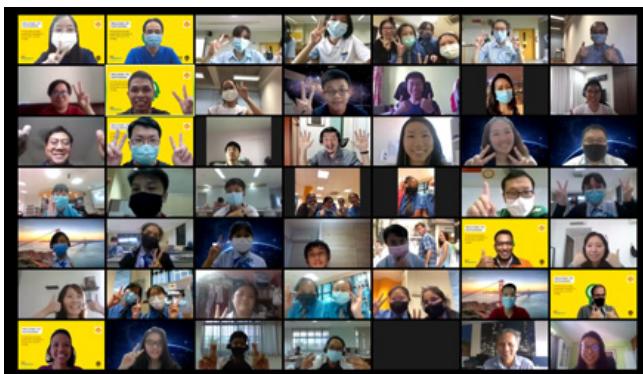


## EDUCATION IN SCIENCE, TECHNOLOGY, ENGINEERING AND MATHS

Our industry needs talented people with knowledge and skills in science, technology, engineering and maths (STEM).

We actively support STEM with a range of programmes in more than 20 countries. NXplorers, our flagship STEM programme, aims to help young people develop complex and creative thinking needed to bridge the skills gap for our future needs. NXplorers creates talent that can look at things differently, see opportunities, and build sustainable solutions to global issues, equipping students with the tools and skills to apply their learnings and make their ideas real.

In 2020, we continued to expand NXplorers by launching the programme in Qatar in partnership with the Ministry of Education and the Qatar Scientific Club. More than 500 students and 50 teachers across 10 schools experienced the NXplorers workshops to tackle real, local issues.



Shell Singapore's annual STEM competition, which moved online due to the COVID-19 pandemic, asks students to develop sustainable solutions to food, water and energy challenges.

NXplorers is now active in 18 countries, engaging more than 75,000 students worldwide since 2018. In 2020, due to extended school closures worldwide, the NXplorers programme was adapted to enable students to participate in fully facilitated online workshops. NXplorers also launched a self-learning module and more than 1,300 students worldwide have so far benefited.

### Online learning

In 2020, in India, during the prolonged closure of schools due to COVID-19 restrictions, more than 10,000 school students attended online facilitated NXplorers workshops and in Brazil more than 380 students from 12 schools took part in online lessons.

In the Philippines, more than 150 college students took part in a series of interactive, online NXplorers workshops to prepare their entries for the Shell Eco-Marathon, Pitch the Future competition and in Egypt more than 400 students from technical universities participated in online NXplorers workshops.

### SOCIAL PARTNERS

Our partners help us to understand external perspectives on a variety of community topics and address specific priorities, such as supporting human rights, boosting local employment and improving access to energy.

We work with local and global non-governmental and humanitarian organisations, including BSR (Business for Social Responsibility) and

Mercy Corps. These groups help us address the needs of the communities where we operate, often in times of emergency response.

In 2020, we donated \$3 million to Mercy Corps' COVID-19 Resilience Fund which aims to help communities protect themselves against the virus and ensure they have access to their basic needs, including clean water, food and personal protective equipment.

We have also renewed our long-standing commitment to the Clean Cooking Alliance, an organisation promoting cleaner cooking solutions globally, to support building an industry that makes clean cooking accessible to the 3 billion people who live each day without it.

### Improving access to jobs and economic opportunities

In Eastern Africa, we supported the Employment and Skills for Eastern Africa (or E4D/SOGA) programme in partnership with the German, British and Norwegian governments, the European Union and several companies. The programme aims to improve access to jobs and economic opportunities for local people in natural-resource-based industries and related sectors.

In 2020, through the partnership, 15,643 additional people received training and 11,229 additional people secured employment as a result of E4D/SOGA activities across the four partner countries Kenya, Mozambique, Tanzania and Uganda.

Since 2015 when the programme started, 70,649 people have received training and 26,851 people have secured employment. More than 59,689 people increased their income by at least 10%. Overall, 33,321 local enterprises were supported. Of those who secured sustainable employment, 30.7% were women.

### SHELL FOUNDATION

Shell Foundation is an independent charity that applies business thinking to the global development challenges of access to energy and transport services. The charity provides business support, grants and market connections to help social entrepreneurs prove new business models in low-income communities.

In 2020, Shell Foundation made additional funding available to help early-stage businesses it supports remain financially resilient during the COVID-19 pandemic. In total, Shell Foundation in partnership with the UK government and USAID provided more than \$27 million to companies in Africa and South Asia.



Shell Foundation supports a company called Sistema.bio which produces biogas digesters that convert farm waste into fuel for cooking, heating or powering machinery.



Shell Foundation also delivered strategic business support to help the social enterprises and institutions maintain performance or adapt their operations.

In total, the 65 companies in Shell Foundation's portfolio were able to reduce 8.5 million tonnes of carbon dioxide emissions and improve the livelihoods of more than 20 million people.

In 2020, the charity's portfolio included:

- Nayo Tropical Technology, a mini-grid developer powering COVID-19 health-care sites in Nigeria;

■ Odyssey Energy Solutions, an online data platform for the mini-grid sector, provided project management and data analytics support for COVID-19 relief efforts, including a management platform for an energy access relief fund; and

■ Tusker, a logistics firm based in India, which adapted its rural transport service to deliver vital health-care and energy products to villages and COVID-19 relief centres.

Read more about Shell Foundation's work to increase access to renewable energy and affordable transport solutions at [shellfoundation.org](http://shellfoundation.org)

## ADVANCING DIVERSITY AND INCLUSION

### OUR PEOPLE

Our people are essential to the successful delivery of the Shell strategy and to sustaining business performance over the long term. We accelerate the development of our employees, grow and strengthen our leadership capabilities, and enhance employee performance through strong engagement.

In 2020, we worked hard to assist in the fight against COVID-19 and support our people in a range of ways. This included strengthening the country chair network so we could respond locally to the challenges of the pandemic and bringing together a global health alert monitoring team.

At December 31, 2020, there were a total of 87,000 employees in Shell. Shell expects to reduce between 7,000 and 9,000 jobs by the end of 2022, as it seeks to reduce costs and restructures with the aim of becoming a more streamlined, more competitive organisation that is nimbler and better able to respond to customers. Read more in the [Employee overview](#) section of our Annual Report.

### EMPLOYEE ENGAGEMENT

The Shell People Survey is one of our principal tools to measure employee engagement, motivation, affiliation and commitment to Shell. It provides insights into employees' views and has had a consistently high response rate.

In 2020, the response rate was 86.1%, our highest ever level and an increase of 0.6 percentage points compared with 2019. The average employee engagement score was 78 points out of 100, the same as in 2019, which places us among the leading companies across a range of industries.

### WORKFORCE DIVERSITY AND INCLUSION

Our diversity and inclusion approach focuses on hiring, developing and retaining the best people.

Embedding the principles of diversity and inclusion in the way we do business gives us a better understanding of the needs of our people, partners, suppliers and customers. A diverse workforce, supported by an inclusive and caring environment that respects and nurtures diverse people, is a way to improve our safety and business performance.



Colleagues from Shell's digital team working in London, UK, before the COVID-19 lockdowns.

We continue our focus on attracting, developing and promoting more women, and we are supporting initiatives that encourage girls to study science, technology, engineering and mathematics. We also do this by creating a culture of respect and inclusion.

At the end of 2020, the proportion of women in senior leadership positions was 27.8%, an increase of 1.4 percentage points compared with the end of 2019. We are working to achieve 30% representation of women in senior leadership positions by the end of 2021, 35% by 2025 and 40% by 2030.

Shell's Chief Executive Officer Ben van Beurden is a member of the Catalyst CEO Champions for Change, a group of more than 50 CEOs who pledge to support women's advancement at all levels of leadership.

Shell is a member of the disability campaign [The Valuable 500](#), which seeks to eliminate the exclusion of disabled people worldwide and ensure disability inclusiveness remains a priority for global business leaders. Our workplace accessibility service currently serves 83 locations globally. The service is designed to ensure that all employees have access to reasonable physical workplace or other adjustments so that they can work effectively and productively.

In 2020, we established a Care-for-Self programme to encourage staff to pay attention to their physical and mental well-being, and to support them as they did so. This was considered particularly



## OUR PEOPLE IN 2020

### EMPLOYEES

**87,000**

employees at December 31, 2020

### REGION

**>70**

countries in which we operate

### TRAINING

**234,000**

formal training days for employees and joint-venture partners

### FEMALE EMPLOYEES

**32%**

female employees

### DIRECTORS

**38%**

women on the Board of Directors

### SENIOR LEADERS

**28%**

women in senior leadership positions

### EXPERIENCED HIRES

**957**

experienced people joined Shell (31% female)

### OPERATIONS CENTRE HIRES

**1,879**

recruited for Shell Business Operations centres (50% female)

### GRADUATE HIRES

**160**

graduate hires (49% female)

[A] All metrics except the employees metric exclude the employees in certain Upstream, Renewables and Energy Solutions and Downstream companies that maintain their own HR systems.

[B] As part of its restructuring plans, Shell expects to reduce 7,000-9,000 jobs by the end of 2022.

important given the stresses placed on staff by the COVID-19 pandemic and lockdowns.

At Shell, we support and enable people from every background, and strive to be a leader in lesbian, gay, bisexual and transgender (LGBT+) inclusion in the workplace. We have pledged support for the UN LGBTI Standards of Conduct for Business. We benchmark ourselves externally with consistent top-tier results. For example, in 2020 in the USA we earned a 100% score in the [Human Rights Campaign Foundation's Corporate Equality Index](#), a recognition we have earned annually since 2016. In 2020, Shell has again been benchmarked as a top employer in the [Workplace Pride Global](#) inclusive workplace benchmark survey.

We also created a global LGBT+ forum that is backed by members of Shell's Executive Committee and comprises LGBT+ colleagues and others at Shell seeking to help or who have a common interest in the advancement of LGBT+ inclusion. The forum is active in a number of areas. It is, for example, strengthening our approach to developing talent and cooperating across industry and non-governmental organisations.

Shell has established a global Diversity & Inclusion Council for Race, sponsored by our CEO Ben van Beurden. The council aims to build on our actions to advance diversity in our workforce so it better reflects communities where we work and from which we draw talent. While

seeking to drive change across the organisation, the council has identified the USA and the UK as the focus of much of its initial efforts to address diversity and inclusion challenges.

We use our Shell People Survey as a key measure of success for diversity and inclusion, striving each year for consistently high engagement scores from staff. In 2020, the survey results related to this topic showed an increase of one point to 84. For 2021, the survey questions will be updated so that employees can provide further feedback on diversity and inclusion.

#### NEW ENERGY SKILLS

As we grow our Renewables and Energy Solutions business (formerly New Energies), with investments in low-carbon technologies such as electric-vehicle charging and wind power, Shell and its employees will require new skills. We will focus on attracting and developing talented people with the right knowledge and skills, and will support staff to gain skills and retrain, for a world of increasing energy transition.

The Paris Agreement cites just transition as an essential part of climate action by governments, including a focus on the creation of decent work and quality jobs. You can read more about our approach to just transition on [www.shell.com/energy-and-innovation/the-energy-future/a-fair-and-just-transition](http://www.shell.com/energy-and-innovation/the-energy-future/a-fair-and-just-transition)

Read more in [Shell's response to COVID-19](#).



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

# RESPECTING HUMAN RIGHTS

## OUR APPROACH TO HUMAN RIGHTS

Human rights are fundamental to Shell's core values of honesty, integrity and respect for people, and critical to being trusted, valued and supported by society. We focus on four areas where human rights are essential to how we work and where we see the highest risk for a potential impact on human rights: communities, security, labour rights and supply chains.

Our approach is informed by the UN Universal Declaration of Human Rights, the International Labour Organization Declaration on Fundamental Principles and Rights at Work, and the UN Guiding Principles on Business and Human Rights. Human rights due diligence is embedded into our existing processes and frameworks, such as the Health, Safety, Security, Environment and Social Performance Control Framework. It applies to all our employees and contractors.

### Worker welfare

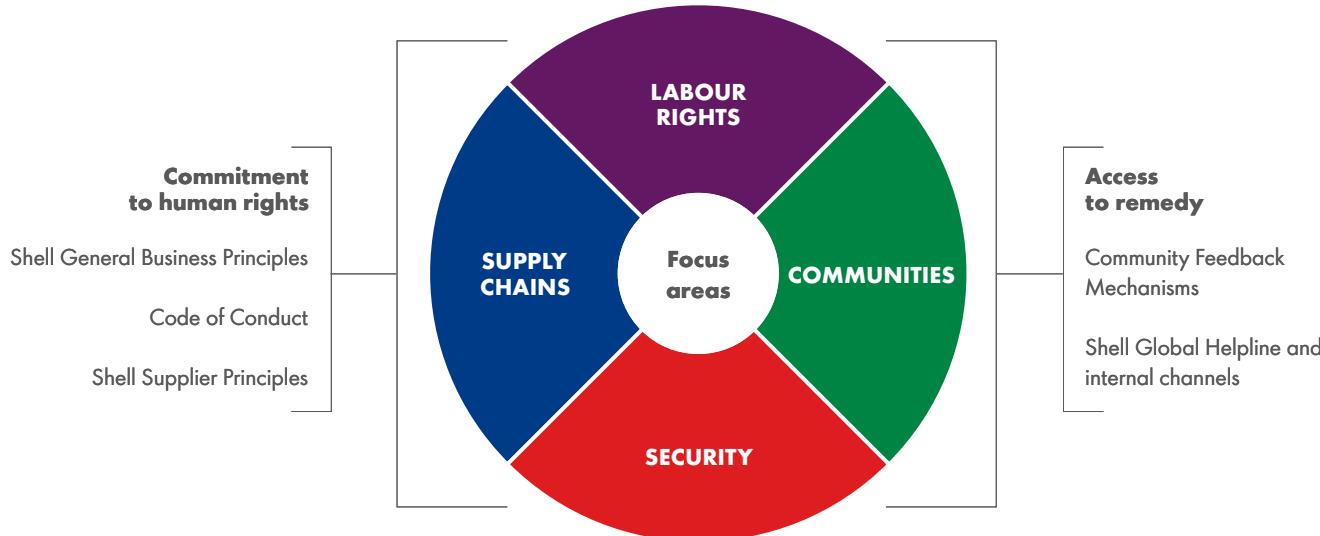
In 2020, we continued to take steps to improve our approach to human rights. This included launching a worker welfare manual which will help to better identify and manage worker welfare risks we face in high-risk countries. The manual builds on our previous work in this area and sets principles for our businesses to start implementing in 2021.

We worked closely with Building Responsibly, a group of leading engineering and construction companies, to promote their Worker Welfare Principles, standards and guidance across our businesses and with our contractors. Along with IPIECA, the global oil and gas industry association for advancing environmental and social performance, and the International Association of Oil & Gas Producers (IOGP), we are working to promote worker welfare across the energy industry as a whole.

In 2020, we joined the UN Global Compact Action Platform on Decent Work in Global Supply Chains to work with companies and non-governmental organisations to improve human rights and labour rights in global supply chains. This supports our efforts to promote decent work and economic growth, Goal 8 of the UN Sustainable Development Goals.

We also stepped up our efforts to maintain healthy working conditions and worker accommodation in response to the COVID-19 pandemic. We developed detailed guidelines aimed at minimising the potential impact of the pandemic on worker welfare and ensuring that Shell companies continued to meet our standards.

## APPROACH TO HUMAN RIGHTS



### LABOUR RIGHTS

We respect our employees' and contractors' rights, including freedom from forced labour and non-discrimination by working in line with the International Labour Organization's Declaration on Fundamental Principles and Rights at Work and the UN Global Compact. We respect the principles of freedom of association and the right to collective bargaining.

### COMMUNITIES

Our activities can impact the communities where we operate. Through careful project design and responsible management we aim to minimise those impacts and avoid human rights infringements. We do this in line with the International Finance Corporation's Performance Standards and the UN Guiding Principles on Business and Human Rights. We work with local communities to jointly identify solutions and opportunities.

### SECURITY

Shell aims to keep staff and facilities safe while respecting the human rights and security of local communities. We carefully assess the security threats and risks to our operations and work with governments and partners to provide a secure working environment. Shell only uses armed security in countries where the threats are most severe, or if it is a requirement under local laws.

### SUPPLY CHAINS

The Shell Supplier Principles outline what we expect from contractors and suppliers in areas such as human rights. This includes ensuring no use of forced, prison or compulsory labour or payment of recruitment fees by workers. The principles also ensure a safe, secure and healthy workplace for staff and contractors and payment of wages that meet or exceed national legal standards.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

## Listening to communities

The community feedback mechanisms we have implemented in our major operations and projects enable us to receive, track and respond to questions and complaints from community members (see [Engaging communities](#)). We continually assess and look for ways to increase their effectiveness in providing communities with access to remedy. Our approach for these assessments is informed by the UN Guiding Principles on Business and Human Rights.

In 2020, we strengthened our community feedback mechanisms to help ensure that we treat community feedback consistently across our operations, respect anonymity and allow communities to pursue other options if they disagree with the outcome of a complaint.

Learn more about our human rights policies and focus areas at [www.shell.com/human-rights](http://www.shell.com/human-rights)

## MODERN SLAVERY

Shell is opposed to all forms of modern slavery. Such exploitation is against our commitment to respect human rights as set out in the UN Universal Declaration of Human Rights and the International Labour Organization's Declaration on Fundamental Principles and Rights at Work.

We continually work to safeguard human rights in all aspects of doing business and have embedded human rights in our Shell General Business Principles, Code of Conduct and Shell Supplier Principles.

## Tackling modern slavery

Governments and regulators are increasing their focus on human rights in supply chains. For example, the Australian and UK governments require companies to explain the actions they take to assess, identify and reduce the risk of modern slavery in their supply chains.

We publish a statement under the UK Modern Slavery Act 2015 annually, setting out the steps we have taken against modern slavery in our business and supply chains. We will make our first statement under the Australian Modern Slavery Act in mid-2021. Governments including Canada and Norway are also considering regulations.

We are currently well positioned to deliver these regulatory statements and to act when needed. For instance, in response to the outbreak of COVID-19 in Australia, we worked to ensure that our main personal protective equipment supplier and its sub-suppliers for the country complied with labour and human rights requirements.

Read more about our approach in our [statement](#) under the UK Modern Slavery Act.

## SECURITY PRACTICES

We continually seek to improve how we manage security risks to help protect our employees, contractors, fence-line communities and the environment.

## INTERNAL VOICE



**TOYE FATOKI**  
Shell Nigeria

*Toye is the intelligence and external relations manager at the Shell Petroleum Development Company of Nigeria Limited.*

"Shell companies in Nigeria have been implementing the Voluntary Principles on Security and Human Rights for more than 20 years. The principles help us identify security-related human rights risks and ways we could address them.

"We work closely with Nigeria government security agents, who are vital to safeguarding our operations. We provide regular briefings on the principles to help agents who support our activities in their interactions with our staff and contractors, and local communities.

"In 2020, we took steps to help stop the spread of COVID-19 and ensure we continue to meet our responsibilities under the principles. Together with agents we developed new working procedures in line with national COVID-19 regulations and issued guidance on upholding the rule of law while respecting human rights and keeping agents and others safe. We also adjusted work patterns and the number of personnel rotations to reduce risks for agents."

We work to maintain the safety, security and human rights of our employees, contract staff and local communities. The Voluntary Principles on Security and Human Rights (VPSHR) are implemented across Shell where there are identified threats of infraction.

We include VPSHR and use-of-force clauses in our private security contract template and raise the principles in engagements with public security forces. We carry out annual risk assessments and develop plans to manage the identified risks.

Training and awareness briefings are carried out with the security forces that we rely on in our implementation countries. We annually report on our implementation of the VPSHR in this report. In line with our guidelines, we undertake assurance reviews of our implementation annually and work with country teams to assess our implementation.

Visit [www.shell.com/sustainability/transparency/human-rights](http://www.shell.com/sustainability/transparency/human-rights) for more on our approach to human rights and security. Read more about our implementation of the VPSHR at [www.shell.com/vpsh](http://www.shell.com/vpsh)



# MANAGING OUR IMPACT ON PEOPLE

## ENGAGING COMMUNITIES

Engaging with communities is essential to understanding their priorities and concerns. We listen to feedback people might have as well as ideas so these can be addressed in the planning and design of our projects.

Our Health, Safety, Security, Environment and Social Performance Control Framework expects us to first avoid or, where this is not possible, minimise our impacts on people through project design.

Our community feedback mechanisms enable us to receive, track and respond to questions and complaints from community members. They are also an important part of our approach to providing access to remedy. We regularly assess these mechanisms and look for ways to improve their effectiveness according to the UN Guiding Principles on Business and Human Rights. In 2020, we published an updated community feedback mechanism guide.

### Community liaison officers

We have a network of around 100 community liaison officers who are the bridge between Shell and our local communities.

The COVID-19 pandemic has had a severe impact on people's livelihoods and access to basic services, such as health and education. We are working to help people in the communities where we work and community liaison officers have used online platforms to maintain relations with communities and continue social investment programmes during lockdowns and quarantines.

For example, in Brazil, we used virtual engagement sessions and social media to connect with people from 21 communities in eight municipalities, and in the Philippines we held a virtual meeting to hear community concerns about the closure of our Tabangao refinery.

Early in 2020, we launched a new global community feedback tool. This enables us to globally track and respond to all queries that we receive. It allows our community liaison officers to document all types of feedback. It is accessible via a mobile app and can be used to send feedback received in the field to those who can act to resolve issues.

Asset managers can generate reports to help them analyse trends, detect underlying causes, and decide appropriate action.



Our community liaison officer visits local communities in Queensland, Australia, to help build relationships and gather feedback about operations nearby.

In Oman, we appointed two community liaison officers to manage community relations and social impact during a seismic survey conducted by our Shell-operated Block 42 joint venture (Shell interest 50%) from September 2019 to March 2020. The project's community feedback mechanism helped us to better understand concerns over safety and noise, among other things. We received 21 complaints and 165 requests and questions, as well as 13 positive comments, between March 2019 and March 2020, which our community liaison officers resolved working closely with the operations team.

We also launched social investment programmes delivered through a local non-governmental organisation in four schools. The road safety awareness sessions were attended by 489 students and 129 teachers attended the first aid training sessions.

## INDIGENOUS PEOPLES

Our activities can affect indigenous peoples who hold specific rights for the protection of their cultures, traditional ways of life and special connections to land and water. We seek the support and agreement of indigenous peoples potentially affected by our projects. We do this through dialogue and impact management processes.

Shell has also developed a public position statement on Free Prior and Informed Consent (FPIC), a principle recognised in the UN Declaration on the Rights of Indigenous Peoples. We work alongside governments and seek the support and agreement of potentially impacted indigenous peoples before starting a project that may affect their rights.

### Indigenous communities in the Americas

In Bolivia, we are working with the Weenhayek indigenous people and a local non-governmental organisation to develop a social investment project that aims to help preserve cultural practices and provide community benefits. This work includes improving food security and supporting income-generating projects for more than 1,000 community members. The Weenhayek people live and work in areas near our La Vertiente gas operations, which are being transferred to the government.

In 2020, we announced a joint reforestation project with Tsilhqot'in National Government in a region of Western Canada affected by recent wildfires. Shell-funded tree planting will be managed by Central Chilcotin Rehabilitation, a Tsilhqot'in forestry company. The project aims to plant around 840,000 trees in affected areas that have not regenerated naturally. Potential benefits of the project include indigenous employment opportunities and forest ecosystem rejuvenation. It may also lead to opportunities to generate carbon credits in future.

In Argentina, we continued our extensive engagement sessions with indigenous people, as well as local farmers and nearby communities, in the Vaca Muerta shales basin in Neuquén. This included incorporating community feedback into our operational plans and schedules. We also help indigenous community members improve agricultural production through technical assistance and our employee volunteer programme. Through this outreach, we have managed to develop strong relationships with the community in the basin, avoiding impact on other people and disruption to our activities.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

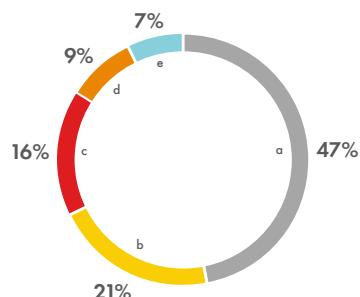
5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

## FEEDBACK RECEIVED

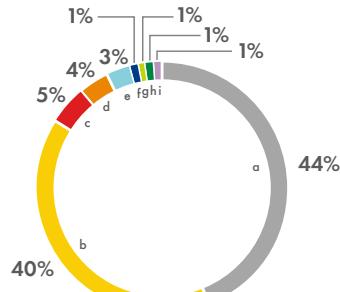
**COMMUNITY FEEDBACK**  
by type



a Complaints  
b Questions  
c Requests

d Other  
e Positive feedback

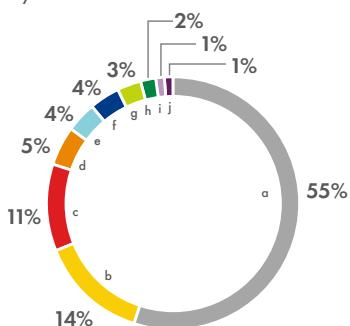
**COMPLAINTS RECEIVED GLOBALLY [A]**  
by category



a Social, including labour and local content  
b Environment  
c Safety  
d Uncategorised  
e Business integrity, contractual and commercial  
f Security  
g Unrelated to Shell  
h Other  
i Health

[A] Chart excludes clusters of complaints regarding earthquakes in the Netherlands, which are managed outside of Shell.

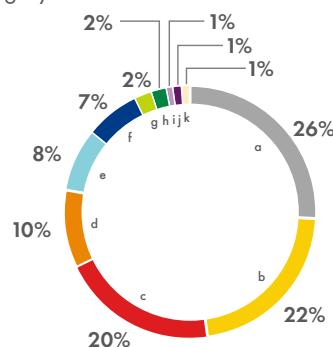
**ENVIRONMENTAL COMPLAINTS**  
by sub-category



a Flaring  
b Noise  
c Odour  
d Ecosystem, habitat, biodiversity  
e Soil and water contamination

f Other  
g Spills  
h Water quantity  
i Dust  
j Air quality

**SOCIAL COMPLAINTS**  
by sub-category



a Labour  
b Land and resettlement  
c Local content  
d Social investment  
e Engagement  
f Other  
g Infrastructure/services  
h Economic/cost of living  
i Royalties and revenues  
j Cultural heritage  
k Employee misbehaviour



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA



Representatives from Canada's Tsilhqot'in National Government and Central Chilcotin Rehabilitation forestry company survey wildfire damage to a forested area of Tsilhqot'in land.

## CULTURAL HERITAGE

Preserving cultural heritage is an important part of our efforts to manage our social impact.

Cultural heritage refers to places of archaeological, historical, cultural, artistic and religious significance. It also includes the preservation of unique environmental features, cultural knowledge and traditional lifestyles.

Our approach starts with considering how to avoid or minimise our impact on cultural heritage. This can involve carrying out archaeological assessments to inform, among other things, project design and site selection. We then develop chance find procedures to deal with previously unknown heritage resources that may be discovered during construction. We train staff and contractors to make them fully aware of these resources to give them the authority to halt work if necessary.

### Ancient sites in Oman

In 2020, Oman Shell Exploration and Production B.V. surveyed thousands of square kilometres in the Ash-Sharqiyah Region of Oman to understand and map its archaeology before starting seismic exploration activities. The surveys revealed more than 150 sites containing some 450 archaeological finds including tombs, monuments, graves and stone tools, many of which were not officially recorded previously. These finds are of great value for Oman's national identity, culture and heritage, and have now been handed over to the Omani government.

### The Great Wall of China

In 2020, we built an underground gas pipeline in Shaanxi province, which runs beneath the Great Wall of China. When planning the pipeline, we worked with local cultural heritage authorities to carry out an archaeological assessment. This revealed the potential for our planned construction to damage the wall's foundations and disturb unknown buried historical objects. As a result, we selected a crossing point with the least potential impact, performed all construction activities at least 150 metres away from the wall and used directional drilling to bury the pipeline at sufficient depth.

Read more about how we work with communities to preserve their cultural heritage at [www.shell.com/sustainability/communities/working-with-communities](http://www.shell.com/sustainability/communities/working-with-communities)

## INVOLUNTARY RESETTLEMENT

We sometimes require temporary or permanent access to areas of land or sea where people are living or working. Where resettlement is unavoidable, we work with local communities to help them resettle and maintain, or improve, their standard of living in accordance with international standards for resettlement (notably IFC Performance Standard 5 on land acquisition and involuntary resettlement). If necessary, we help support these communities to establish alternative livelihoods.

### Monitoring resettlement in Tanzania

We have a 60% interest in, and are the operator of, Blocks 1 and 4 offshore southern Tanzania. The Tanzania Liquefied Natural Gas project is a planned onshore facility that, together with our partners, we intend to operate, pending a final investment decision. In 2015, Tanzania Petroleum Development Corporation, the national oil company, acquired land for the facility and in 2020 paid compensation to the 496 affected families. The families will have to vacate the site in 2021, as required by law.

We are discussing options with our partners to ensure that the homes and livelihoods of families affected by the Tanzania project are restored in a new location. We have also hired an independent consultancy to monitor the compensation process and ensure compliance with international standards in future, should the project reach maturity.

### Helping families after resettlement

In the Philippines, we run several projects to help informal settlers improve their livelihoods and integrate with their new community, following their relocation in 2017 away from our nearby North Mindanao Import Facility. Resettlement affected 83 people due to noise from the facility's fire-water reservoir and the expansion of the port authority's berthing area.

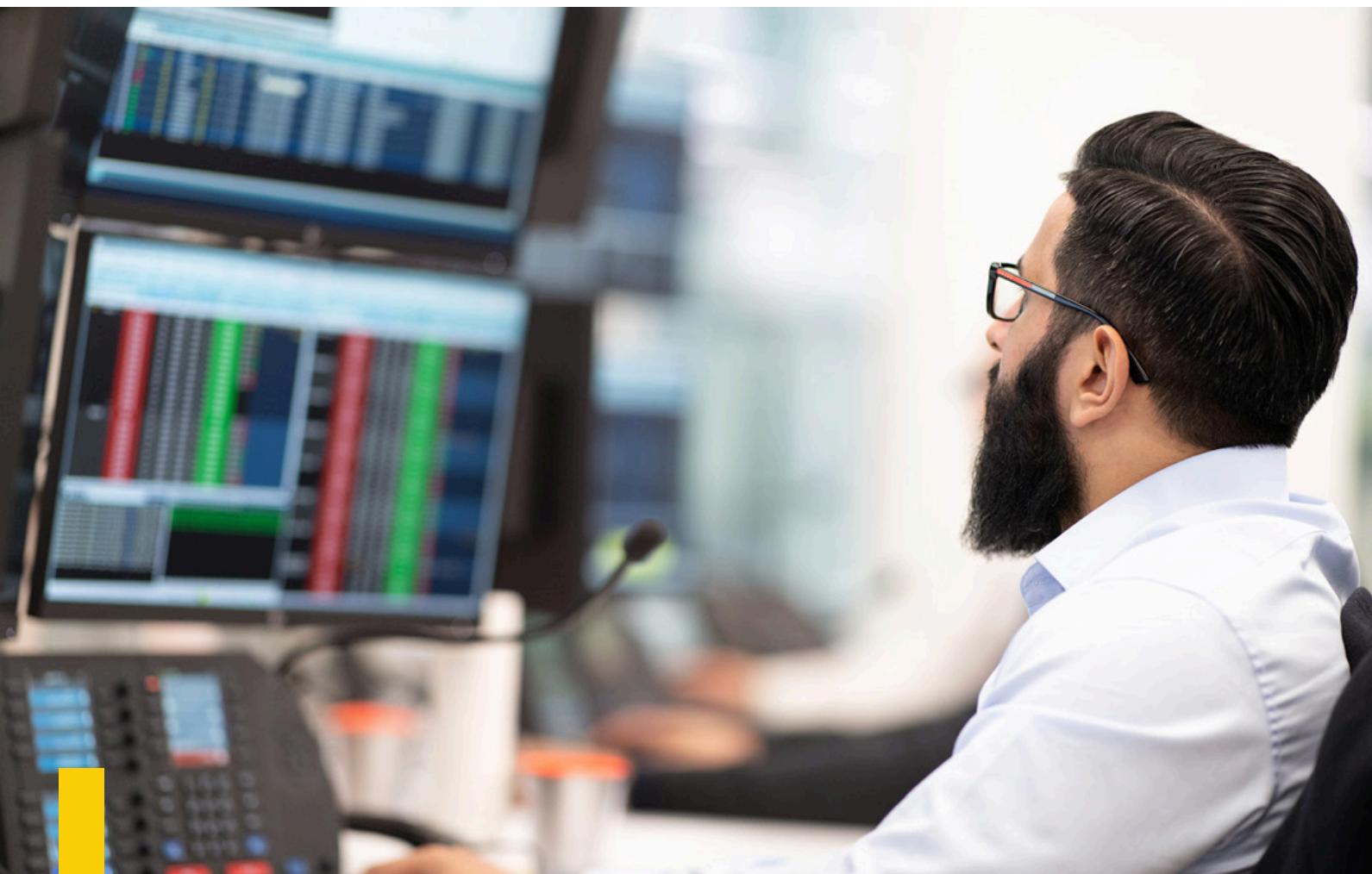


Shell's community coordinator follows up with residents who have moved to new homes following changes at an import terminal in the Philippines.

In Kazakhstan, Karachaganak Petroleum Operating B.V. (KPO) (Shell interest 29.25%) continues to support the 464 families it resettled in 2018. In 2020, this work included improving the new village's drainage system.

Read more about the KPO resettlement project at [www.shell.com/sustainability/communities/working-with-communities/building-new-lives-in-kazakhstan](http://www.shell.com/sustainability/communities/working-with-communities/building-new-lives-in-kazakhstan)

Read more at [www.shell.com/sustainability/communities/working-with-communities/laying-the-foundations-for-new-lives](http://www.shell.com/sustainability/communities/working-with-communities/laying-the-foundations-for-new-lives)

1. SUSTAINABILITY  
AT SHELL2. OUR CORE  
VALUES3. ACHIEVING  
NET-ZERO  
EMISSIONS4. RESPECTING  
NATURE5. POWERING  
LIVES**6. GENERATING  
SHAREHOLDER  
VALUE**7. OUR  
PERFORMANCE  
DATA

# GENERATING SHAREHOLDER VALUE

Our Powering Progress strategy generates value for our shareholders. It provides the financial strength to transform our company as the world makes the transition to cleaner energy.

**82** Our business activities

**84** Non-operated ventures

**84** Divesting responsibly



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

# OUR BUSINESS ACTIVITIES

Shell is a global group of energy and petrochemical companies with 87,000 employees in more than 70 countries.

We have expertise in the exploration, production, refining, marketing and trading of oil and natural gas, and the manufacturing and marketing of chemicals.

We use advanced technologies and take an innovative approach to help build a sustainable energy future. We also invest in power, including from renewable sources such as wind and solar, and new fuels for transport, such as advanced biofuels and hydrogen.

We serve more than 30 million customers at almost 46,000 retail service stations every day.

Our strategy is to accelerate the transition of our business to net-zero emissions, purposefully and profitably.

The integration of our businesses is one of our competitive advantages, allowing optimisations across our global portfolio.

## KEY STATISTICS

### OIL

**1.9%**

approximately of the world's oil provided by Shell

### CUSTOMERS

**30 million**

customers served at our retail sites on average every day

### CAPITAL EXPENDITURE

**\$16.5 billion**

in 2020

### NATURAL GAS

**2.5%**

approximately of the world's natural gas provided by Shell

### PRODUCTION

**3.4 million**

barrels of crude oil equivalent a day in 2020

### RESEARCH AND DEVELOPMENT

**\$907 million**

invested in research and development in 2020



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

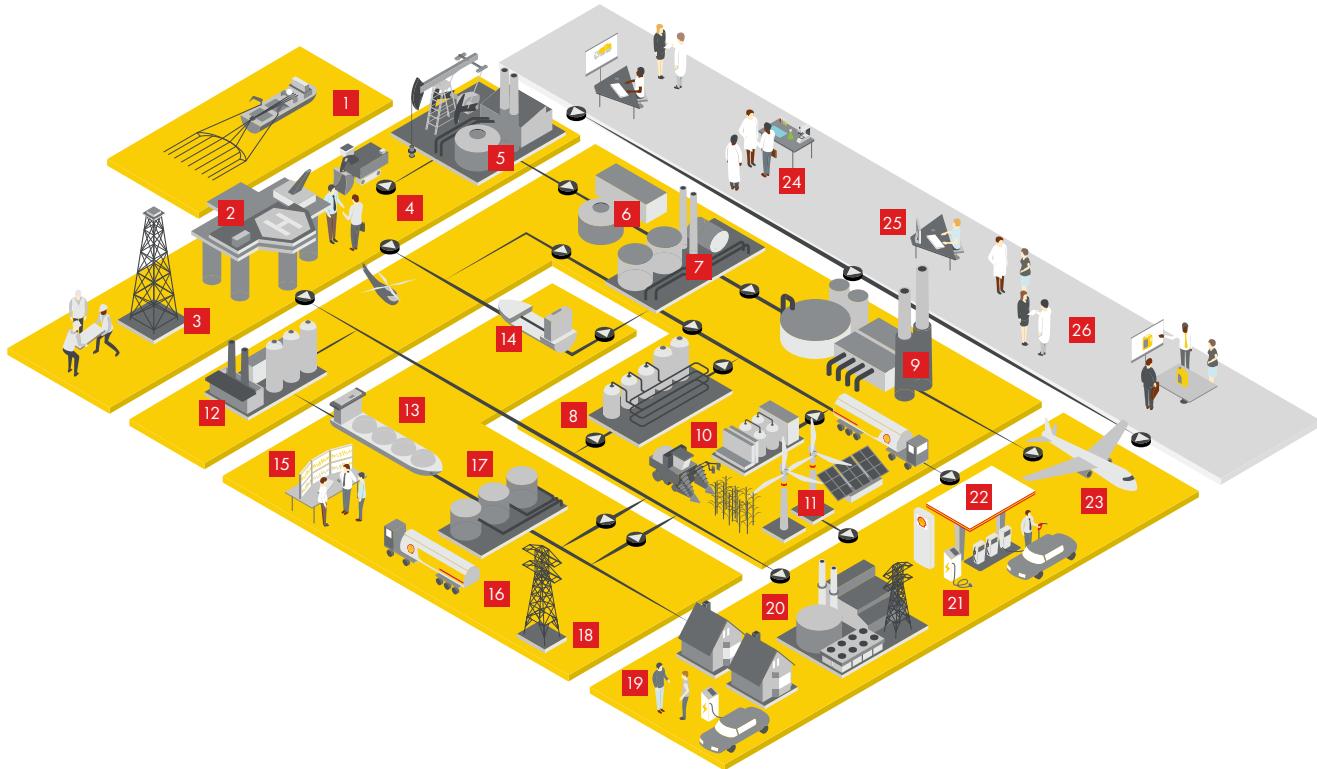
4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

## SHELL BUSINESS ACTIVITIES



### EXPLORATION

1. Exploring for oil and gas onshore and offshore
2. Developing onshore and offshore fields
3. Producing conventional, deep-water and shale oil and gas
4. Capturing carbon dioxide and storing it safely underground
5. Extracting bitumen

### MANUFACTURING AND ENERGY PRODUCTION

6. Upgrading bitumen
7. Refining oil into fuels and lubricants
8. Producing gas-to-liquids (GTL) products
9. Producing petrochemicals
10. Producing biofuels
11. Generating renewable power
12. Producing liquefied natural gas (LNG)

### TRANSPORT AND TRADING

13. Shipping gas to where it is needed
14. Shipping oil to where it is needed
15. Trading oil and gas
16. Supply and distribution of LNG for transport applications
17. Regasifying LNG
18. Trading power

### SALES AND MARKETING

19. Supplying domestic electricity
20. Supplying products to businesses, including gas for cooking, heating and electrical power
21. Progressing electric vehicle and hydrogen refuelling infrastructure
22. Providing mobility solutions for customers, including fuels and lubricants
23. Supplying aviation fuel

### TECHNICAL AND BUSINESS SERVICES

24. Researching and developing new technology solutions
25. Managing the delivery of major projects
26. Providing technical and supporting services



# NON-OPERATED VENTURES

Shell often works in joint ventures with national and other international energy companies. These organisations bring important skills and experience to a joint venture.

More than half of Shell's joint ventures are not operated by Shell. We do not have direct control over how these ventures embed sustainability in their operations but seek instead to offer our support and exert a positive influence on their operations.

For example, when entering a non-Shell-operated joint venture, we require our partners to agree to and adopt the Shell Commitment and Policy on Health, Safety, Security, Environment and Social Performance (HSSE & SP), or one substantially equivalent to our own.

When entering a non-Shell-operated joint venture, we expect our partners to apply standards and processes, or principles, that are materially equivalent to our own, specifically our:

- Shell General Business Principles;
- HSSE & SP Commitment & Policy; and
- Statement on Risk Management (or a materially equivalent approach to risk and internal control).

They are also expected to put in place standards to adequately address HSSE & SP risks.

We periodically evaluate the health, safety, environmental and community risks of our joint ventures. If a joint venture is falling below

expectations, plans will be put in place, in agreement with the other participants, to improve performance.

## HELPING OUR PARTNERS REDUCE EMISSIONS

In 2020, we helped North Caspian Operating Company (Shell interest 16.8%), which operates the Kashagan oil and gas field in Kazakhstan, assess energy use on site and develop an emissions reduction strategy. This work highlighted measures that could reduce emissions, including implementing a methane leak detection and repair programme, recovering energy from waste heat and flared gas, and powering parts of the site with renewable energy.

LNG Canada (Shell interest 40%) is building a liquefied natural gas (LNG) export facility at Kitimat, British Columbia, which is expected to have one of the lowest greenhouse gas emission profiles for a project of its kind. Shell was closely involved in the design of the facility, which will use energy-efficient gas turbines and hydropower to reduce carbon emissions by 35% compared with the world's best-performing LNG facilities. The project will improve the availability and affordability of natural gas for Asian markets.

In 2020, Petroleum Development Oman (PDO; Shell interest 34%) used our energy efficiency surveillance tool across its production sites and identified opportunities for operational improvements. This led to a reduction of carbon dioxide emissions, and also lowered PDO's operating expenses.

# DIVESTING RESPONSIBLY

In 2020, total divestment proceeds were \$4 billion. See the [Shell Annual Report 2020](#) for details. Divestments are a key part of our efforts to refresh and upgrade our portfolio as we drive towards our target to become a net-zero emissions energy business by 2050, in step with society.

We use well-established processes, applied in a systematic way, to guide our assessment of risk in divestments. We continually seek to strengthen our approach by building diverse perspectives into our decision-making process.

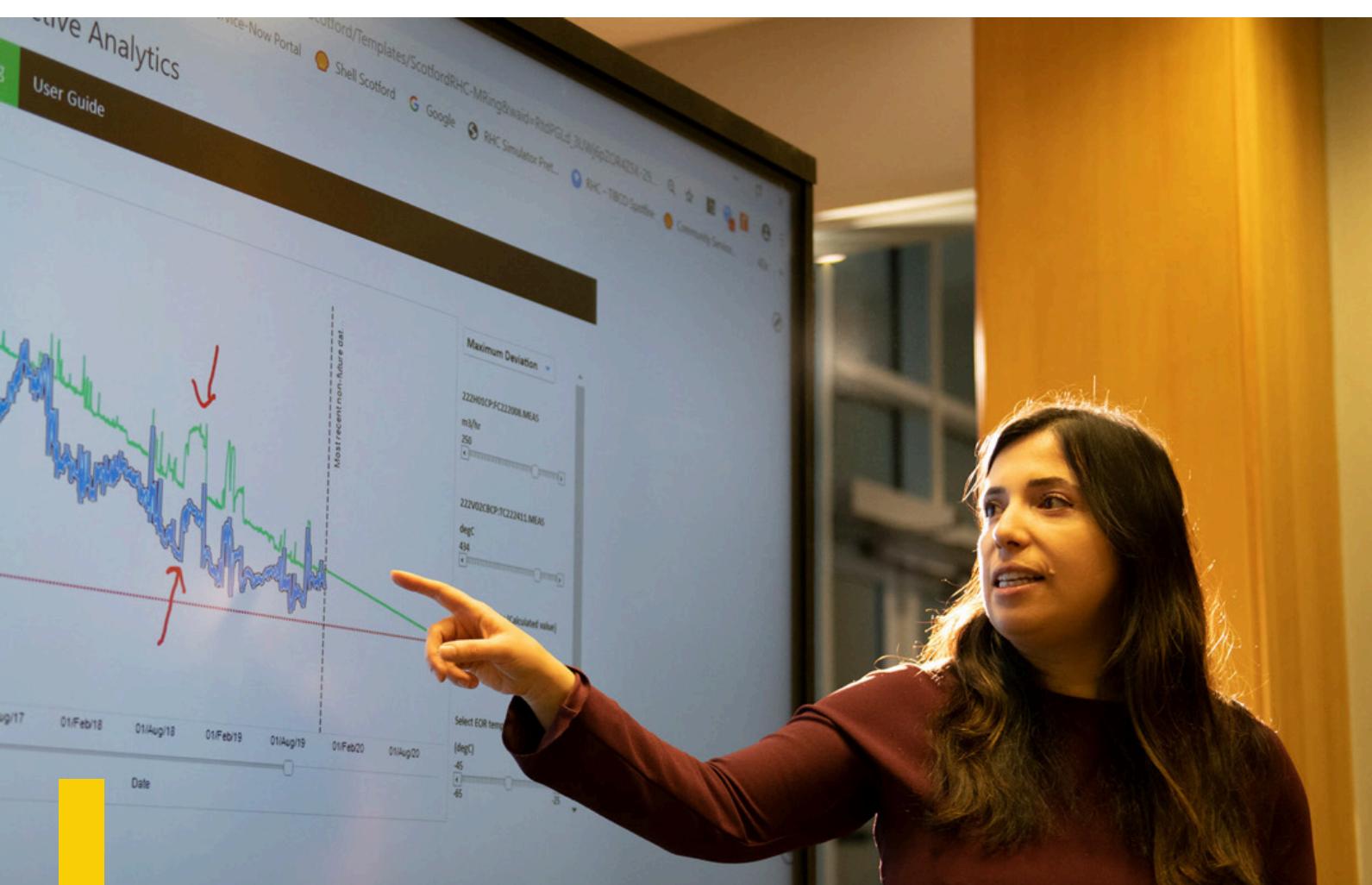
We carry out due diligence on potential buyers when divesting parts of our business. We collaborate with both in-house and external

experts, where appropriate, to conduct checks and examine key attributes of potential buyers.

These attributes may include their financial strength; operating culture; health, safety, security and environment (HSSE) policies; and approach to ethics and compliance. We also consider risk and people management processes and standards; community liaison practices; and social investment programmes.

Applicable attributes are assessed against Shell's policies, as well as the likely requirements of relevant laws and regulations.

Divestments are often subject to the approval of regulatory authorities, which includes potential buyers' HSSE capacity and capability.

1. SUSTAINABILITY  
AT SHELL2. OUR CORE  
VALUES3. ACHIEVING  
NET-ZERO  
EMISSIONS4. RESPECTING  
NATURE5. POWERING  
LIVES6. GENERATING  
SHAREHOLDER  
VALUE7. OUR  
PERFORMANCE  
DATA

# OUR PERFORMANCE DATA

Each year, we measure our ESG performance and report on the safety of our operations, our impact on the environment and our contribution to communities.

- 86** About our data
- 87** Our standards and policies
- 88** Our Powering Progress targets
- 89** Safety data
- 90** Greenhouse gas and energy data
- 95** Other environmental data
- 97** Social data



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

**7. OUR PERFORMANCE DATA**

# ABOUT OUR DATA

We began reporting voluntarily on our environmental, safety and social performance with the first Shell Report in 1997. We support transparency and share information and data in this report and on [www.shell.com](http://www.shell.com)

There are inherent limitations to the accuracy of environmental, safety and social performance data. We recognise that our data will be affected by these limitations, so we continue to improve data integrity by strengthening our internal controls.

We provide all non-financial data in this report on a 100% basis for companies and joint ventures where we are the operator unless otherwise stated, in line with industry practice. We believe that this boundary best reflects regulatory requirements, as well as internal policies, for the management of potential health, safety, environmental and social impacts. We refer to the number of people employed or contracted on a full-time equivalent basis.

Operations acquired or divested during 2020 are included only for the period in which we operated these assets. Other data are collected from external sources, employee surveys and other internal sources as indicated. Some data in the social performance data table come from an internal survey completed by the senior Shell representative in each country. The accuracy of environmental and social data may be lower than that of data obtained through our financial systems.

We only include data in this report for 2020 that were confirmed by the end of March 2021. If incidents are reclassified or confirmed, or if significant data changes occur after preparation of this report, they will be updated in the following year's publication.

## ASSURANCE

We have clear standards and reporting requirements for our health, safety, security, environment and social performance (HSSE & SP) data.

Shell companies are required to consider and adopt these standards, which define management roles and responsibilities, the scope of data at facilities and how data are calculated and collected. These standards are part of our HSSE & SP Control Framework.

To ensure we provide accurate information, our assurance process of HSSE & SP data is also a key element of the HSSE & SP Control Framework. Some examples of the assurance mechanisms in this process are:

- self-assessments at the facility level;
- internal audits at all levels of Shell;
- quarterly reviews and assessments of the data at all levels;
- an annual series of meetings between leaders at Group level and senior business managers to discuss outcomes and reporting parameters; and
- formal sign-off by Shell's senior country leaders.

The Report Review Panel of independent experts helps ensure our reporting is balanced, relevant and responsive to stakeholders' interests.

Lloyd's Register Quality Assurance Ltd has provided limited assurance of our Net Carbon Footprint and Scope 1 and Scope 2 greenhouse gas (GHG) emissions data under operational control for 2020. Limited assurance means nothing has come to the auditor's attention that would indicate that the GHG data and information as presented in the Greenhouse Gas Assertion were not materially correct. The most recent assurance statements are available at [www.shell.com/ghg](http://www.shell.com/ghg)

Conversions into US and Canadian dollars are based on the average exchange rates for 2020.



# OUR STANDARDS AND POLICIES

## SELECTED COMMITMENTS, POLICIES AND FRAMEWORKS

We have a comprehensive set of codes, policies and assurance processes that define how we aim to operate in socially and environmentally responsible ways.

- Shell General Business Principles
- Shell Code of Conduct
- Ethics and Compliance Manual
- Code of Ethics for Executive Directors and Senior Financial Officers
- Shell Supplier Principles
- Health, Safety, Security, Environment & Social Performance Commitment and Policy
- Health, Safety, Security, Environment & Social Performance Control Framework
- Health, Safety, Security, Environment & Social Performance assurance
- Human rights approach
- Voluntary Principles on Security and Human Rights
- Shell's ambition to be a net-zero emissions energy business
- Environmental framework
- Biodiversity commitments

- Purchasing statement: Sustainable sourcing of bio-components (PDF)
- Corporate political engagement (PDF)
- Shell's principles for producing tight/shale oil and gas

We also support a number of [external voluntary codes](#).

## VOLUNTARY REPORTING STANDARDS AND FRAMEWORKS

Our reporting is informed by a number of standards such as the IPIECA Sustainability Reporting Guidance and the Global Reporting Initiative (GRI). In addition, we map our disclosures against the Task Force on Climate-related Financial Disclosures and Sustainability Accounting Standards Board, and are a founding member of and a signatory to the United Nations Global Compact.

- Global Reporting Initiative
- Task Force on Climate-related Financial Disclosures
- Sustainability Accounting Standards Board
- CDP
- IPIECA
- United Nations Global Compact
- United Nations Sustainable Development Goals



# 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 2-3% by 2021, 3-4% by 2022, and 6-8% 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 6-8% by 2023, compared with 2016.
- We believe our annual oil production peaked in 2019, and we expect our total oil production to decline by 1-2% 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 25 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

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

### 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 net-zero 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 fresh-water consumption by 15% by 2025 compared with 2018 levels in areas where there is high pressure on fresh-water 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

Powering lives through our products and activities, and by supporting an inclusive society.

- 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.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

# SAFETY PERFORMANCE DATA

## SAFETY [A]

	Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
Fatalities [B]	Number	0	7	2	2	3	SHS-3	EM-EP-320a.1	403.9
Employees	Number	0	3	0	0	0	SHS-3	EM-EP-320a.1	403.9
Contractors	Number	0	4	2	2	3	SHS-3	EM-EP-320a.1	403.9
Fatal accident rate [C]	Number per 100 million hours	0.0	1.4	0.4	0.4	0.5	SHS-3	EM-EP-320a.1	403.9
Employees	Number per 100 million hours	0.0	1.6	0.0	0.0	0.0	SHS-3	EM-EP-320a.1	403.9
Contractors	Number per 100 million hours	0.0	1.2	0.6	0.6	0.8	SHS-3	EM-EP-320a.1	403.9
Total recordable case frequency (TRCF)	Number per million hours	0.7	0.9	0.9	0.8	1.0	SHS-3	EM-EP-320a.1	403.9
Employees	Number per million hours	0.3	0.6	0.7	0.6	0.7	SHS-3	EM-EP-320a.1	403.9
Contractors	Number per million hours	0.9	1.1	1.0	0.9	1.2	SHS-3	EM-EP-320a.1	403.9
Lost time injury frequency (LTIF)	Number per million hours	0.2	0.3	0.3	0.2	0.3	SHS-3	EM-EP-320a.1	403.9
Employees	Number per million hours	0.2	0.3	0.2	0.2	0.2	SHS-3	EM-EP-320a.1	403.9
Contractors	Number per million hours	0.3	0.3	0.3	0.2	0.3	SHS-3	EM-EP-320a.1	403.9
Road transport safety performance							SHS-4		
Severe motor vehicle incident frequency rate [D]	Number of severe motor vehicle incidents per 100 million kilometres driven	2.1	3.5	3.1	2.5	2.8	SHS-4	-	-
Number of road-transport-related fatalities (employees and contractors)	Number	0	2	0	1	1	SHS-4	-	-
Operational process safety events [E]	Number	103	130	121	166	151	SHS-6	EM-EP-540a.1	-
Tier 1	Number	34	41	35	49	41	SHS-6	EM-EP-540a.1	-
Tier 2	Number	69	89	86	117	110	SHS-6	EM-EP-540a.1	-

[A] In line with industry standards, we distinguish three contract modes. Mode 1: contractor/supplier performs work under Shell's HSSE Management System (HSSE MS); Mode 2: contractor/supplier performs work under its own HSSE MS, which is materially equivalent to Shell's HSSE MS; Mode 3: contractor/supplier performs work under its own HSSE MS. Also in line with industry standards, we report on safety performance only for contract modes 1 and 2.

[B] Includes fatal occupational injuries and illnesses except for those related to COVID-19. There were 2 COVID-19-related occupational illnesses in 2020 that resulted in death (0 employees, 2 contractors).

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

[D] Severe motor vehicle incident is defined as a motor vehicle incident resulting in a fatality, serious injury or a rollover of a vehicle.

[E] Process safety events classified according to guidance from the IOGP and API. In 2020, there was one Tier 1 sabotage-related event. The classification of sabotage-related process safety events is made on the best-endeavours basis.

## HEALTH

	Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
Total recordable occupational illness frequency (TROI) (employees only) [A]	Number per million hours	0.2	0.5	0.4	0.3	0.4	SHS-3	EM-EP-320a.1	403.10

[A] Does not include COVID-19-related occupational illnesses. There were 79 COVID-19-related employee occupational illnesses in 2020.

## SECURITY [A]

	Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
Using armed security	% of countries	14	20	21	14	17	SHS-7	-	-
Using armed company security	% of countries	1	1	3	1	1	SHS-7	-	-
Using armed contractor security	% of countries	8	11	10	3	7	SHS-7	-	-

[A] Data obtained from an internal survey completed by the senior Shell representative in each country.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

# GREENHOUSE GAS AND ENERGY DATA

## NET CARBON FOOTPRINT (NCF)

	Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
<b>NET CARBON FOOTPRINT [A]</b>									
Net Carbon Footprint	g CO <sub>2</sub> e/ MJ	75	78	79	79	79			
Estimated total energy delivered by Shell [B]	trillion (10 <sup>12</sup> ) MJ	18.40	21.05	22.00	21.44	20.93			
<b>Share of energy delivered per energy product type [C]</b>									
Oil products and GTL	%	47	56	55	54	54			
Gas	%	21	17	21	23	24			
LNG	%	19	18	16	15	14			
Biofuels	%	1	1	1	1	1			
Power	%	12	9	7	7	7			
Total estimated greenhouse gas emissions covered by the Net Carbon Footprint calculation [D]	million tonnes CO <sub>2</sub> e	1,384	1,646	1,731	1,688	1,645			
<b>Carbon intensity of energy products type</b>									
Oil products and GTL	g CO <sub>2</sub> e/MJ	89	89	88	89	89			
Gas	g CO <sub>2</sub> e/MJ	67	66	67	67	67			
LNG	g CO <sub>2</sub> e/MJ	70	71	71	71	71			
Biofuels	g CO <sub>2</sub> e/MJ	38	39	37	39	40			
Power	g CO <sub>2</sub> e/MJ	48	57	62	60	59			

[A] Retail 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 20-F and the Sustainability Report.

[C] Percentage of delivered energy may not add up to 100% because of rounding.

[D] Total CO<sub>2</sub>e 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 in 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.

## SALES OF GAS AND POWER PRODUCED BY THIRD PARTIES

	Unit	2020	2019 [A]	2018	2017	2016	IPIECA	SASB	GRI
Gas (tBtu)		3,009	2,720	3,246	3,276	3,298			
Power (TWh)		252	207	179	165	169			

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] From 2019, gas and power sales volumes are reported based on a revised methodology. Sales volumes reported exclude those related to pure trading activities.

**SCOPE 1 GHG EMISSIONS (OPERATIONAL CONTROL)**

	Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
Direct GHG emissions (Scope 1) [A] [B] [C] [D]	million tonnes CO <sub>2</sub> e	63	70	71	73	72	CCE-4	EM-EP-110a.1	305-1
Carbon dioxide (CO <sub>2</sub> )	million tonnes	61	67	69	70	68	CCE-4	EM-EP-110a.1	305-1
Methane (CH <sub>4</sub> )	thousand tonnes	67	91	92	123	138	CCE-4	EM-EP-110a.1	305-1
Nitrous oxide (N <sub>2</sub> O)	thousand tonnes	1	1	1	1	1	CCE-4	EM-EP-110a.1	305-1
Hydrofluorocarbons (HFCs)	tonnes	30	29	31	22	22	CCE-4	EM-EP-110a.1	305-1
Sulphur hexafluoride (SF <sub>6</sub> )	tonnes	0	0	0	0	2	CCE-4	EM-EP-110a.1	305-1
Perfluorocarbons (PFC)	tonnes	0	0	0	0	0	CCE-4	EM-EP-110a.1	305-1
Nitrogen trifluoride (NF <sub>3</sub> )	tonnes	0	0	0	0	0	CCE-4	EM-EP-110a.1	305-1
<b>Scope 1 emissions by business</b>									
Upstream	million tonnes CO <sub>2</sub> e	12.8	12.9	14.8	19.6	19.0	CCE-4	EM-EP-110a.1	305-1
Integrated Gas	million tonnes CO <sub>2</sub> e	14.1	16.3	13.0	12.0	13.7	CCE-4	EM-EP-110a.1	305-1
Downstream	million tonnes CO <sub>2</sub> e	35.7	40.3	42.7	41.1	38.8	CCE-4	EM-EP-110a.1	305-1
Other	million tonnes CO <sub>2</sub> e	0.2	0.2	0.8	0.2	0.1	CCE-4	EM-EP-110a.1	305-1
<b>Scope 1 emissions by country</b>									
USA	million tonnes CO <sub>2</sub> e	16	19	20	18	16	CCE-4	EM-EP-110a.1	305-1
Middle East	million tonnes CO <sub>2</sub> e	9	9	9	11	12	CCE-4	EM-EP-110a.1	305-1
Netherlands	million tonnes CO <sub>2</sub> e	7	7	7	7	7	CCE-4	EM-EP-110a.1	305-1
Singapore	million tonnes CO <sub>2</sub> e	6	6	7	7	5	CCE-4	EM-EP-110a.1	305-1
Canada	million tonnes CO <sub>2</sub> e	5	6	6	7	8	CCE-4	EM-EP-110a.1	305-1
Nigeria	million tonnes CO <sub>2</sub> e	5	4	4	5	4	CCE-4	EM-EP-110a.1	305-1
Australia	million tonnes CO <sub>2</sub> e	4	6	4	3	3	CCE-4	EM-EP-110a.1	305-1
Germany	million tonnes CO <sub>2</sub> e	3	3	4	4	4	CCE-4	EM-EP-110a.1	305-1
Malaysia	million tonnes CO <sub>2</sub> e	3	2	3	3	4	CCE-4	EM-EP-110a.1	305-1
United Kingdom	million tonnes CO <sub>2</sub> e	2	2	2	3	3	CCE-4	EM-EP-110a.1	305-1
International waters	million tonnes CO <sub>2</sub> e	1	2	2	1	1	CCE-4	EM-EP-110a.1	305-1
Rest of the world	million tonnes CO <sub>2</sub> e	3	3	5	5	6	CCE-4	EM-EP-110a.1	305-1
<b>Scope 1 emissions by source</b>									
CO <sub>2</sub> emissions	million tonnes	61	67	69	70	68	CCE-4	EM-EP-110a.2	305-1
Combustion	million tonnes	50	53	54	53	53	CCE-4	EM-EP-110a.2	305-1
Flaring	million tonnes	4	7	6	9	8	CCE-4	EM-EP-110a.2	305-1
Venting and process	million tonnes	6	8	9	8	7	CCE-4	EM-EP-110a.2	305-1
Fugitives	million tonnes	0	0	0	0	0	CCE-4	EM-EP-110a.2	305-1
CH <sub>4</sub> emissions	thousand tonnes	67	91	92	123	138	CCE-4	EM-EP-110a.2	305-1
Combustion	thousand tonnes	11	13	13	12	10	CCE-4	EM-EP-110a.2	305-1
Flaring	thousand tonnes	15	19	18	27	23	CCE-4	EM-EP-110a.2	305-1
Venting and process	thousand tonnes	29	44	45	62	72	CCE-4	EM-EP-110a.2	305-1
Fugitives	thousand tonnes	12	15	16	23	32	CCE-4	EM-EP-110a.2	305-1
Other greenhouse gases	million tonnes CO <sub>2</sub> e	0.3	0.3	0.3	0.3	0.3	CCE-4	EM-EP-110a.2	305-1
<b>Methane (CH<sub>4</sub>) emissions</b>									
Methane emissions in CO <sub>2</sub> equivalent [E]	million tonnes CO <sub>2</sub> e	1.7	2.3	2.3	3.1	3.5	CCE-4	EM-EP-110a.1	305-1
Methane emissions intensity - assets with marketed gas	%	0.06	0.08	0.08			CCE-4	EM-EP-110a.1	305-1
Methane emissions intensity - assets without marketed gas	%	0.01	0.01	0.01			CCE-4	EM-EP-110a.1	305-1

**SCOPE 1 GHG EMISSIONS (OPERATIONAL CONTROL) CONTINUED**

Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
<b>Upstream flaring [F]</b>								
GHG emissions from flaring	million tonnes CO <sub>2</sub> e	3.8	5.9	5.2	8.2	7.6	CCE-4	EM-EP-110a.2 305-1
Total hydrocarbons flared	million tonnes	1.1	1.8	1.5	2.5	2.3	CCE-4	EM-EP-110a.2 305-1
Nigeria	million tonnes	0.6	0.7	0.6	0.8	0.5	CCE-4	EM-EP-110a.2 305-1
Rest of the world	million tonnes	0.5	1.2	1.0	1.7	1.8	CCE-4	EM-EP-110a.2 305-1
GHG emissions from exported energy [G]	million tonnes CO <sub>2</sub> e	3	3	3	3	3	CCE-4	EM-EP-110a.2 305-1

[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 methods where they exist. Where there is no locally regulated method, the data are calculated using the 2009 API Compendium, 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 (IPIECA/API/IOGP) indicate that several sources of uncertainty can contribute to the overall uncertainty of a corporate emissions inventory. We have estimated the overall uncertainty for our direct GHG emissions to be around 2%.

[B] GHG emissions are calculated using Global Warming Potential factors from the IPCC's Fourth Assessment Report. For comparison, our Scope 1 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 CO<sub>2</sub> equivalents using global warming potentials (GWP) from the IPCC's Fourth Assessment Report. For comparison, our methane emissions would have been 1.9 million tonnes in CO<sub>2</sub> 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.

[G] GHG emissions related to energy production (in the form of electricity, heat or steam) that was exported to another facility or public grid. This is a subset of our Scope 1 GHG emissions.

**SCOPE 2 GHG EMISSIONS (OPERATIONAL CONTROL)**

Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
Scope 2 emissions - market-based method	million tonnes CO <sub>2</sub> e	9	10	11	12	11	CCE-4	- 305-2
Scope 2 emissions - location-based method	million tonnes CO <sub>2</sub> e	11	11	11	11	11	CCE-4	- 305-2
<b>Scope 2 emissions by business (market-based method)</b>								
Upstream	million tonnes CO <sub>2</sub> e	0.6	1.1	1.4	1.4	1.4	CCE-4	- 305-2
Integrated Gas	million tonnes CO <sub>2</sub> e	1.5	1.6	2.4	2.4	2.0	CCE-4	- 305-2
Downstream	million tonnes CO <sub>2</sub> e	7.0	7.3	6.8	7.5	7.5	CCE-4	- 305-2
Other	million tonnes CO <sub>2</sub> e	0.1	0.2	0.2	0.2	0.2	CCE-4	- 305-2
<b>Scope 2 emissions by country (market-based method)</b>								
USA	million tonnes CO <sub>2</sub> e	3.1	3.1	3.2	3.1	2.7	CCE-4	- 305-2
Netherlands	million tonnes CO <sub>2</sub> e	1.8	2.1	1.8	1.9	1.8	CCE-4	- 305-2
Canada	million tonnes CO <sub>2</sub> e	1.8	2.3	2.0	2.7	3.2	CCE-4	- 305-2
Australia	million tonnes CO <sub>2</sub> e	1.4	1.6	2.4	2.3	1.9	CCE-4	- 305-2
Singapore	million tonnes CO <sub>2</sub> e	0.5	0.5	0.5	0.6	0.6	CCE-4	- 305-2
Germany	million tonnes CO <sub>2</sub> e	0.3	0.3	0.4	0.7	0.6	CCE-4	- 305-2
Rest of the world	million tonnes CO <sub>2</sub> e	0.3	0.3	0.4	0.3	0.5	CCE-4	- 305-2
<b>Scope 2 emissions by business (location-based method)</b>								
Upstream	million tonnes CO <sub>2</sub> e	0.6	1.1	1.2	1.4	1.4	CCE-4	- 305-2
Integrated Gas	million tonnes CO <sub>2</sub> e	2.6	2.7	2.4	2.3	2.0	CCE-4	- 305-2
Downstream	million tonnes CO <sub>2</sub> e	7.2	7.5	6.8	7.4	7.3	CCE-4	- 305-2
Other	million tonnes CO <sub>2</sub> e	0.2	0.2	0.2	0.2	0.2	CCE-4	- 305-2
<b>Scope 2 emissions by country (location-based method)</b>								
USA	million tonnes CO <sub>2</sub> e	3.1	3.4	3.4	3.1	2.7	CCE-4	- 305-2
Netherlands	million tonnes CO <sub>2</sub> e	1.8	2.0	1.7	1.9	1.8	CCE-4	- 305-2
Canada	million tonnes CO <sub>2</sub> e	1.9	2.3	2.0	2.7	3.2	CCE-4	- 305-2
Australia	million tonnes CO <sub>2</sub> e	2.6	2.6	2.4	2.3	1.9	CCE-4	- 305-2
Singapore	million tonnes CO <sub>2</sub> e	0.5	0.5	0.5	0.6	0.6	CCE-4	- 305-2
Germany	million tonnes CO <sub>2</sub> e	0.3	0.4	0.3	0.4	0.3	CCE-4	- 305-2
Rest of the world	million tonnes CO <sub>2</sub> e	0.4	0.4	0.4	0.3	0.5	CCE-4	- 305-2



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

## GHG INTENSITIES (OPERATIONAL CONTROL)

	Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
Upstream and Integrated Gas GHG intensity [A]	tonne CO <sub>2</sub> e/tonne production	0.159	0.168	0.158	0.166	0.166	CCE-4	-	305.4
Upstream and Integrated Gas GHG intensity [B]	kg CO <sub>2</sub> e/boe	21	22	21	22	23	CCE-4	-	305.4
Refinery GHG intensity [C]	tonne CO <sub>2</sub> e/UEDC <sup>TM</sup>	1.05	1.06	1.05	1.14	1.18	CCE-4	-	305.4
Chemical GHG intensity [D]	tonne CO <sub>2</sub> e/tonne production	0.98	1.04	0.96	0.95	0.99	CCE-4	-	305.4

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

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

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

## SCOPE 1 AND 2 GHG EMISSIONS (EQUITY BOUNDARY)

	Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
Direct GHG emissions (Scope 1)	million tonnes CO <sub>2</sub> e	98	105	102	97	100	CCE-4	EM-EP-110a.1	305.1
Upstream	million tonnes CO <sub>2</sub> e	20.1	21.7	22.2	25.4	25.1	CCE-4	EM-EP-110a.1	305.1
Integrated Gas	million tonnes CO <sub>2</sub> e	24.2	25.9	25.2	24.1	24.6	CCE-4	EM-EP-110a.1	305.1
Downstream	million tonnes CO <sub>2</sub> e	53.2	57.3	53.8	47.1	47.8	CCE-4	EM-EP-110a.1	305.1
Other	million tonnes CO <sub>2</sub> e	0.2	0.2	0.8	0.3	2.4	CCE-4	EM-EP-110a.1	305.1
Scope 2 emissions (market-based method)		9	11	11	13	13	CCE-4	-	305.2
Upstream	million tonnes CO <sub>2</sub> e	0.7	1.2	1.3	1.3	1.5	CCE-4	-	305.2
Integrated Gas	million tonnes CO <sub>2</sub> e	1.0	1.1	1.8	2.0	1.6	CCE-4	-	305.2
Downstream	million tonnes CO <sub>2</sub> e	7.1	8.0	7.7	9.2	8.4	CCE-4	-	305.2
Other	million tonnes CO <sub>2</sub> e	0.1	0.2	0.2	0.2	1.3	CCE-4	-	305.2
Scope 2 emissions (location-based method)		10	12	11	13	n/c			
Upstream	million tonnes CO <sub>2</sub> e	0.8	1.2	1.2	1.3	n/c	CCE-4	-	305.2
Integrated Gas	million tonnes CO <sub>2</sub> e	1.7	1.8	1.8	2.0	n/c	CCE-4	-	305.2
Downstream	million tonnes CO <sub>2</sub> e	7.5	8.3	7.6	9.5	n/c	CCE-4	-	305.2
Other	million tonnes CO <sub>2</sub> e	0.2	0.2	0.3	0.2	n/c	CCE-4	-	305.2

n/c - not collected

## SCOPE 3 GHG EMISSIONS

	Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
Purchased goods and services (Category 1)									
Third-party products [C]	million tonnes CO <sub>2</sub> e	147	178	190	186	172	CCE-4	-	305.3
Fuel and energy-related activities (not included in Scope 1 or Scope 2) (Category 3)	million tonnes CO <sub>2</sub> e								
Third-party power [D]	million tonnes CO <sub>2</sub> e	103	102	96	87	89	CCE-4	-	305.3
Use of sold products (Category 11)									
Use of sold products [E] [F]	million tonnes CO <sub>2</sub> e	1,054	1,271	1,351	1,318	1,284	CCE-4	-	305.3
Own production [G]	million tonnes CO <sub>2</sub> e	452	564	594	582	593	CCE-4	-	305.3
Third-party products [H]	million tonnes CO <sub>2</sub> e	602	708	757	736	681	CCE-4	-	305.3

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

[B] Estimated emissions from other Scope 3 categories are published on [www.shell.com/ghg](http://www.shell.com/ghg). 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.

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

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

[G] This category includes estimated emissions from our refinery production, natural gas, LNG and GTL products.

[H] Estimated as the difference between own production and total sold products.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

## OTHER GREENHOUSE GAS DATA (OPERATIONAL CONTROL)

Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
Carbon capture and storage and CO <sub>2</sub> transfer out								
CO <sub>2</sub> captured and stored	million tonnes	0.94	1.13	1.07	1.14	1.11	CCE-3	EM-EP-530a.1
CO <sub>2</sub> transferred out [A]	million tonnes	0.30	0.43	0.46	0.45	0.58	CCE-3	EM-EP-530a.1

[A] CO<sub>2</sub> captured and transferred to another organisation (for example, sold or given for free) as product or feedstock. It is not included in our Scope 1 emissions.

## CARBON OFFSETS

Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
Total carbon offsets retired	million tonnes							
Included in Net Carbon Footprint	million tonnes	3.9	2.2	0.0	0.0	0.0	-	EM-EP-530a.1
Other carbon offsets	million tonnes	0.4	0.5	n/c	n/c	n/c	-	EM-EP-530a.1

n/c - not collected

## ENERGY USE (OPERATIONAL CONTROL)

Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
Total energy use	million MWh	240	264	268	269	266	CCE-6	-
Own energy generated	million MWh	219	236	240	241	238	CCE-6	-
Imported electricity	million MWh	22	27	26	26	23	CCE-6	-
Imported steam and heat	million MWh	17	17	15	17	20	CCE-6	-
Exported electricity	million MWh	12	10	10	10	8	CCE-6	-
Exported steam and heat	million MWh	5	6	3	5	7	CCE-6	-
Consumption of energy from renewable sources	million MWh							
Renewable sources - onsite energy generation consumed	million MWh	0.01	n/c	n/c	n/c	n/c	CCE-6	-
Renewable sources - purchased electricity	million MWh	1.8	1.5	0.03	0.03	0.03	CCE-6	-
Renewable sources - purchased steam	million MWh	0.0	n/c	n/c	n/c	n/c	CCE-6	-
Renewable sources - electricity exported to grid	million MWh	0.4	0.4	n/c	n/c	n/c	CCE-6	-
Energy intensity								
Upstream excl. oil sands, LNG and GTL	GJ/ tonne production	1.14	1.07	1.06	1.05	1.02	CCE-6	-
Refineries: Refinery Energy Index [A]	Index	96.1	94.4	94.3	94.8	95.4	CCE-6	-
Chemical plants: chemicals energy intensity	GJ/ tonne production	18.7	19.7	18.3	17.6	18.9	CCE-6	-

n/c - not collected

[A] Data are indexed to 2002, based on Solomon Associates Energy Intensity Index methodology.



# OTHER ENVIRONMENTAL DATA

## AIR EMISSIONS

	Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
<b>Acid gases and VOCs</b>									
Sulphur oxides (SOx)	Thousand tonnes	36	65	74	81	83	ENV-5	EM-EP-120a.1	305.7
Nitrogen oxides (NOx)	Thousand tonnes	118	108	111	107	113	ENV-5	EM-EP-120a.1	305.7
Volatile organic compounds (VOCs)	Thousand tonnes	47	55	59	95	153	ENV-5	EM-EP-120a.1	305.7
<b>Ozone-depleting emissions</b>									
CFCs/halons/trichloroethane	Tonnes	0.0	0.0	0.0	0.0	0.0	ENV-5	-	305.6
Hydrochlorofluorocarbons (HCFCs)	Tonnes	6	8	9	7	8	ENV-5	-	305.6

## SPILLS

	Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
<b>Spills [A] [B]</b>									
Sabotage spills – volume [C]	Thousand tonnes	1.4	2.3	1.8	1.4	4.0	ENV-6	EM-EP-160a.2	306.3
Sabotage spills – number	Number	122	156	109	62	49	ENV-6	EM-EP-160a.2	306.3
Operational spills - volume	Thousand tonnes	0.4	0.2	0.9	0.4	0.8	ENV-6	EM-EP-160a.2	306.3
Nigeria [D]	Thousand tonnes	0.02	0.03	0.4	0.1	0.3	ENV-6	EM-EP-160a.2	306.3
Rest of the world	Thousand tonnes	0.4	0.2	0.5	0.3	0.5	ENV-6	EM-EP-160a.2	306.3
Operational spills – number	Number	69	67	93	102	69	ENV-6	EM-EP-160a.2	306.3
Nigeria [E]	Number	11	7	15	10	8	ENV-6	EM-EP-160a.2	306.3
Rest of the world	Number	58	60	78	92	61	ENV-6	EM-EP-160a.2	306.3
Hurricane spills – volume [F]	Thousand tonnes	0.0	0.0	0.0	0.3	0.0	ENV-6	EM-EP-160a.2	306.3

[A] All spill volumes and numbers are for hydrocarbon spills of more than 100 kilograms. We have updated some of our historical figures following a review of the data.

[B] As of the end of March 2021, there were 2 spills under investigation in Nigeria that may result in adjustments.

[C] All sabotage- and theft-related spills have occurred in Nigeria except in 2016 (0.001 thousand tonnes).

[D] Nigeria includes SPDC onshore operations and SNEPCo offshore operations.

[E] Nigeria includes SPDC onshore operations (11 operational spills in 2020) and SNEPCo offshore operations (zero operational spills in 2020).

[F] 2017 data reflect four spills caused by Hurricane Harvey in the USA.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

## WATER USE AND DISCHARGE

	Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
<b>Water use and discharge [A] [B]</b>									
Fresh water withdrawn	Million cubic metres	171	192	199	204	198	ENV-I	EM-EP-140a.1	303-3
Fresh water consumed	Million cubic metres	127	145	147	154	154	ENV-I	EM-EP-140a.1	303-5
Fresh water returned [B]	Million cubic metres	45	46	53	51	44	ENV-I	EM-EP-140a.1	303-3
<b>Fresh water withdrawn by business</b>									
Upstream	Million cubic metres	6	8	11	11	10	ENV-I	EM-EP-140a.1	303-3
Integrated Gas	Million cubic metres	3	4	4	6	3	ENV-I	EM-EP-140a.1	303-3
Downstream	Million cubic metres	159	177	182	185	183	ENV-I	EM-EP-140a.1	303-3
Other	Million cubic metres	3	3	3	2	2	ENV-I	EM-EP-140a.1	303-3
<b>Fresh water withdrawn by country</b>									
USA	Million cubic metres	92	108	109	98	81	ENV-I	EM-EP-140a.1	303-3
Canada	Million cubic metres	21	23	24	37	57	ENV-I	EM-EP-140a.1	303-3
Singapore	Million cubic metres	19	22	22	23	15	ENV-I	EM-EP-140a.1	303-3
Netherlands	Million cubic metres	16	17	16	16	16	ENV-I	EM-EP-140a.1	303-3
Germany	Million cubic metres	13	12	14	14	13	ENV-I	EM-EP-140a.1	303-3
Rest of the world	Million cubic metres	10	11	15	16	16	ENV-I	EM-EP-140a.1	303-3
<b>Fresh water withdrawn by source</b>									
Surface	Million cubic metres	94	98	102	100	92	ENV-I	EM-EP-140a.1	303-3
Ground	Million cubic metres	18	18	21	24	29	ENV-I	EM-EP-140a.1	303-3
Public utilities [C]	Million cubic metres	60	76	77	79	71	ENV-I	EM-EP-140a.1	303-3
Other [E]	Million cubic metres	0	0	0	2	7	ENV-I	EM-EP-140a.1	303-3
<b>Produced water disposed</b>	Million cubic metres	88	92	96	100	99	ENV-I	EM-EP-140a.2	-
Produced water reinjected	Million cubic metres	21	21	22	26	23	ENV-I	EM-EP-140a.2	-
Produced water discharged	Million cubic metres	51	51	49	54	55	ENV-I	EM-EP-140a.2	-
Produced water exported for disposal or reuse	Million cubic metres	16	19	25	20	21	ENV-I	EM-EP-140a.2	-
<b>Oil in effluents to surface environment</b>	Thousand tonnes	1.4	1.3	1.4	1.2	1.0	ENV-2	EM-EP-140a.2	-
Oil in produced water	Thousand tonnes	0.9	0.9	0.9	0.9	0.8	ENV-2	EM-EP-140a.2	-

[A] Fresh water figures do not include once-through cooling water.

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

[C] Defined as fresh water returned back to a freshwater source.

[D] Includes imported steam.

[E] Includes harvested rainwater and surface run-off collected for usage.

## WASTE MANAGEMENT

	Unit	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
<b>Waste</b>									
<b>Total waste disposed</b>	Thousand tonnes	2,020	2,113	1,999	2,020	2,148	ENV-7	-	306-3
Hazardous waste disposed	Thousand tonnes	555	698	592	638	658	ENV-7	-	306-3
Non-hazardous waste disposed	Thousand tonnes	1,465	1,414	1,407	1,382	1,491	ENV-7	-	306-3
Waste beneficially reused, recycled or recovered [A]	Thousand tonnes	465	441	419	533	653	ENV-7	-	306-4

[A] Not included in total waste disposed.



1. SUSTAINABILITY AT SHELL

2. OUR CORE VALUES

3. ACHIEVING NET-ZERO EMISSIONS

4. RESPECTING NATURE

5. POWERING LIVES

6. GENERATING SHAREHOLDER VALUE

7. OUR PERFORMANCE DATA

# SOCIAL PERFORMANCE DATA

## SOCIAL

	2020	2019	2018	2017	2016	IPIECA	SASB	GRI
<b>Gender diversity [A]</b>								
In supervisory/professional positions (% women)	33.1	30.8	29.9	29.1	28.0	SOC-5	-	405-1
In management positions (% women)	25.5	24.5	23.7	22.3	21.0	SOC-5	-	405-1
In senior leadership positions (% women)	27.8	26.4	24.0	22.2	20.0	SOC-5	-	405-1
<b>i Staff forums and grievance procedures</b>								
% countries with staff access to staff forum, grievance procedure or other support system	100	100	100	100	100	SOC-12	EM-EP-210a.3.	103-2
<b>i Child labour (% countries with procedures in place)</b>								
Own operations	100	100	100	100	100	SOC-4	EM-EP-210a.3.	408-1
Contractors and suppliers	100	100	100	100	100	SOC-4	EM-EP-210a.3.	408-1
<b>i Forced labour (% countries with procedures in place)</b>								
Own operations	100	100	100	100	100	SOC-2	EM-EP-210a.3	409-1
Contractors and suppliers	100	100	100	100	100	SOC-2	EM-EP-210a.3	409-1
<b>Integrity</b>								
<b>Code of Conduct violations [B]</b>	216	263	370	261	341	GOV-1	EM-EP-540a.2	102-17
<b>\$ Contracting and procurement</b>								
Estimated expenditure on goods and services in lower-income countries (\$ billion) [C] [D]	4.5	5.7	4.1	4.9	4.4	SOC-14	-	204-1
<b>Social investment [E]</b>								
<b>\$ Estimated voluntary social investment (equity share) (\$ million)</b>	156	116	113	111	103	SOC-13	-	203-1
<b>\$ Estimated social investment spend (equity share) in lower-income countries (\$ million) [F]</b>	87	84	102	107	96	SOC-13	-	203-1

[A] Diversity data obtained from our human resources system.

[B] Code of Conduct violations represent the number of reported incidents in the Shell Global Helpline (excluding queries or customer service queries) that have been investigated and closed during the relevant period and where the allegation was found to be (at least partially) true.

[C] Estimated expenditure in countries where gross domestic product amounts to less than \$15,000 per year per person (source: UNDP Human Development Index 2019).

[D] From 2013 onwards, this figure only includes the amount spent on goods and services by Shell Group companies.

[E] Social investment spending varies from year to year depending on business climate, locations and types of activities under way. This is voluntary social investment and does not include social investments made through contractual agreements with host governments, voluntary work by Shell employees or donations of equipment.

[F] Estimated voluntary social investment spending in countries where gross domestic product amounts to less than \$15,000 a year per person (source: UNDP Human Development Index 2019).

[\$] Social investment and contracting and procurement data collected via our financial system since 2007.

[i] Data obtained from an internal survey completed by the senior Shell representative in each country.

n/c = not calculated

# 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 Integrated Gas, Upstream and Downstream investments in equity securities, adjusted onto an accruals 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 entities while retaining control (for example, proceeds from sale of interests in Shell Midstream Partners, L.P.).

The companies in which Royal Dutch Shell plc directly and indirectly owns investments are separate legal entities. In this Sustainability 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 Sustainability Report refer to entities over 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 for convenience to indicate the direct and/or indirect ownership interest held by Shell in an entity or unincorporated joint arrangement, after exclusion of all third-party interest.

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

Also, in this report we may 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 their use of the energy products we sell. Shell only controls its own emissions. But, to support society in achieving the Paris Agreement goals, we aim to help such suppliers and consumers to likewise lower their emissions. The use of the term Shell's "Net Carbon Footprint" is for convenience only and 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 towards 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", "objectives", "outlook", "plan", "probably", "project", "risks", "schedule", "seek", "should", "target", "will" and similar terms and phrases. There are a number of factors that could affect the future operations of Shell and could cause those results to differ materially from those expressed in the forward-looking statements included in this Sustainability Report, including (without limitation): (a) price fluctuations in crude oil and natural gas; (b) changes in demand for Shell's products; (c) currency fluctuations; (d) drilling and production results; (e) reserves estimates; (f) loss of market share and industry competition; (g) environmental and physical risks; (h) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, fiscal and regulatory developments including regulatory measures addressing climate change; (k) economic and financial market conditions in various countries and regions; (l) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; (m) risks associated with the impact of pandemics, such as the COVID-19 (coronavirus) outbreak; and (n) changes in trading conditions. No assurance is provided that future dividend payments will match or exceed previous dividend payments. All forward-looking statements contained in this Sustainability Report are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Additional risk factors that may affect future results are contained in Royal Dutch Shell plc's Form 20-F for the year ended December 31, 2020 (available at [www.shell.com/investor](http://www.shell.com/investor) and [www.sec.gov](http://www.sec.gov)). These risk factors also expressly qualify all forward-looking statements contained in this Sustainability Report and should be considered by the reader. Each forward-looking statement speaks only as of the date of this Sustainability Report, April 7, 2021. Neither Royal Dutch Shell plc nor any of its subsidiaries undertake any obligation to publicly update or revise any forward-looking statement as a result of new information, future events or other information. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this Sustainability Report.

The content of websites referred to in this Sustainability Report does not form part of this Sustainability Report.

We may have used certain terms, such as resources, in this Sustainability 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 20-F, File No 1-32575, available on the SEC website [www.sec.gov](http://www.sec.gov).

Shell PurePlus, Shell Helix, Shell Rimula, Shell Alexia, Shell V-Power, Shell Recharge, Shell GameChanger, Shell LiveWIRE and NXplorers are Shell trademarks.

CHECK OUR LATEST NEWS

# @SHELL

 Follow @Shell on Twitter

 [www.facebook.com/shell](http://www.facebook.com/shell)



ALL OUR REPORTS ARE AVAILABLE AT  
**[HTTP://REPORTS.SHELL.COM](http://REPORTS.SHELL.COM)**

- Comprehensive financial information on our activities throughout 2020
- Detailed information on Shell's taxes
- Report on our progress in contributing to sustainable development

