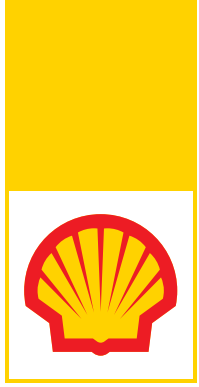

ANNUAL REPORT AND ACCOUNTS
FOR THE YEAR ENDED DECEMBER 31, 2019
ROYAL DUTCH SHELL PLC

ENERGY FOR A BETTER FUTURE

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Cover image: The Pecten is the key symbol of the Shell Brand. It is sometimes referred to as our icon, logo or emblem, and is one of the world's most recognised symbols. It is an asset with enormous value, and a key enabler of successful business through our customers, governments, business partners, contractors and staff. It has been at the core of our branding for over 100 years.

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TERMS AND ABBREVIATIONS

Currencies	
$	US dollar
€	euro
£	sterling

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

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

Miscellaneous	
ADS	American Depositary Share
AGM	Annual General Meeting
API	American Petroleum Institute
CCS	carbon capture and storage
CCS earnings	earnings on a current cost of supplies basis
CO_2	carbon dioxide
EMTN	Euro medium-term note
EPS	earnings per share
FCF	free cash flow
FID	final investment decision
GAAP	generally accepted accounting principles
GHG	greenhouse gas
HSSE	health, safety, security and environment
IAS	International Accounting Standard
IEA	International Energy Agency
IFRS	International Financial Reporting Standard(s)
IOGP	International Association of Oil & Gas Producers
IPIECA	International Petroleum Industry Environmental Conservation Association (global oil and gas industry association for environmental and social issues)
LTIP	Long-term Incentive Plan
OECD	Organisation for Economic Co-operation and Development
OML	oil mining lease
OPEC	Organization of the Petroleum Exporting Countries
OPL	oil prospecting licence
PSC	production-sharing contract
PSP	Performance Share Plan
REMCO	Remuneration Committee
SEC	US Securities and Exchange Commission
TRCF	total recordable case frequency
TSR	total shareholder return
WTI	West Texas Intermediate

"Shell's business strategy provides the continuity, resilience and growth we will need to deliver change: to play an essential role in the move to a cleaner, lower-carbon world."

CHAD HOLLIDAY
Chair

"When I look at Shell, I see people with high hopes and social commitment. We wholeheartedly support the goal of the Paris Agreement."

BEN VAN BEURDEN
Chief Executive Officer

ABOUT THIS REPORT

The Royal Dutch Shell plc Annual Report (this Report) serves as the Annual Report and Accounts in accordance with UK requirements for the year ended December 31, 2019, for Royal Dutch Shell plc (the Company) and its subsidiaries (collectively referred to as Shell). This Report presents the Consolidated Financial Statements of Shell (pages 190-238), the Parent Company Financial Statements of Shell (pages 258-265) and the Financial Statements of the Royal Dutch Shell Dividend Access Trust (pages 269-271). Except for these Financial Statements, the numbers presented throughout this Report may not sum precisely to the totals provided and percentages may not precisely reflect the absolute figures due to rounding.

The financial statements contained in this Report have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the IASB. IFRS as defined above includes interpretations issued by the IFRS Interpretations Committee. Financial reporting terms used in this Report are in accordance with IFRS.

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

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

This Report contains data and analysis from Shell's Sky scenario. Unlike Shell's previously published Mountains and Oceans exploratory scenarios, the Sky scenario is based on the assumption that society reaches the Paris Agreement's goal of holding the rise in global average temperatures this century to well below two degrees Celsius (2°C) above pre-industrial levels. Unlike Shell's Mountains and Oceans scenarios which unfolded in an open-ended way based upon plausible assumptions and quantifications, the Sky scenario was specifically designed to reach the Paris Agreement's goal in a technically possible manner. These scenarios are a part of an ongoing process used in Shell for over 40 years to challenge executives' perspectives on the future business environment. They are designed to stretch management to consider even events that may only be remotely possible. Scenarios, therefore, are not intended to be predictions of likely future events or outcomes and investors should not rely on them when making an investment decision with regard to Royal Dutch Shell plc securities.

It is important to note that Shell's existing portfolio has been decades in development. While we believe our portfolio is resilient under a wide range of outlooks, including the IEA's 450 scenario (World Energy Outlook 2016), it includes assets across a spectrum of energy intensities including some with above-average intensity. While we seek to enhance our operations' average energy intensity through both the development of new projects and divestments, we have no immediate plans to move to a net-zero emissions portfolio over our investment horizon of 10-20 years. Although we have no immediate plans to move to a net-zero emissions portfolio, in November of 2017, we announced our ambition to reduce our Net Carbon Footprint in step with society's progress towards the Paris Agreement's goal of holding the rise in global average temperatures this century to well below 2°C above pre-industrial levels. Accordingly, assuming society aligns itself with the Paris Agreement's goals, we aim to reduce our Net Carbon Footprint, which includes not only our direct and indirect carbon emissions, associated with producing the energy products which we sell, but also our customers' emissions from their use of the energy products that we sell, by around 20% in 2035 and by around 50% in 2050.

Shell's "Net Carbon Footprint" referred to in this Report 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 Net Carbon Footprint" is for convenience only and not intended to suggest these emissions are those of Shell or its subsidiaries.

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

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

This Report contains forward-looking statements 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 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; and (m) changes in trading conditions.

Also see "Risk factors" on pages 27-36 for additional risks and further discussion. No assurance is provided that future dividend payments will match or exceed previous dividend payments. All forward-looking statements contained in this Report are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Each forward-looking statement speaks only as of the date of this Report. Neither the Company nor any of its subsidiaries undertake any obligation to publicly update or revise any forward-looking statement as a result of new information, future events or other information. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this Report.

This Report contains references to Shell's website, the Shell Sustainability Report, Tax Contribution Report, Shell Industry Association Report and our report on Payments to Governments. These references are for the readers' convenience only. Shell is not incorporating by reference any information posted on www.shell.com or in the Shell Sustainability Report, Tax Contribution Report, Shell Industry Association Report and our report on Payments to Government.

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DOCUMENTS ON DISPLAY

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

STRATEGIC REPORT

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MORE AND CLEANER ENERGY

CHAD HOLLIDAY
Chair

As the world changes, it challenges us all to make choices. We can stay the same and risk being left behind. Or we can change, while building on what we know is long-lasting and valuable.

In 2019, people all over the world, many of them very young, demanded change. They demanded urgent action to protect the climate: change to our lifestyles, change to how the world produces and uses energy. As John F. Kennedy said, "Time and the world do not stand still. Change is the law of life." He added a vital point for anyone wanting to thrive in such a world: "Those who look only to the past or the present are certain to miss the future."

In business, the smartest way to change is to build on your strengths, not abandon them. Shell's business strategy provides the continuity, resilience and growth we will need to deliver change: to play an essential role in the move to a cleaner, lower-carbon world. We are working to become one of the world's best investment cases. We must also keep making a positive contribution to people's lives, to maintain what we call our strong societal licence to operate. By getting this right, we will seek to thrive through the transition to a lower-carbon future. We will always abide by our core values – honesty, integrity, and respect for people. Our belief in trust, and the need to nurture it, will also stay as strong as ever.

In 2019, we took significant steps to build trust through greater transparency. We published our Tax Contribution Report, detailing for the first time the corporate income tax we paid in countries and locations where we have a taxable presence. In our Industry Associations Climate Review, we assessed Shell's alignment with 19 industry associations on climate change, deciding to leave one of them as a result. In business, we will only succeed if we stay in step with society and provide products our customers will buy.

In the coming years, as the urgency around climate change grows, our customers will want cleaner energy to power their homes, businesses, and transport. We intend to move with them, investing in power from natural gas and renewable sources such as wind and solar, building charging networks for electric cars, developing lower-carbon biofuels that will not compete with crops for land.

But global demand for energy is still growing, as population increases and more people seek a better quality of life. Among those seeking to improve their living standards are almost a billion who have no electricity supply at all, 2 billion who lack a toilet connected to a proper sewer system, and 785 million – around one-tenth of the world's population – who have no easy access to safe drinking water. There is much more to be done, although we have also seen remarkable progress in improving lives. In 1900, the average newborn baby had a life expectancy of 32 years. Today, worldwide average life expectancy is 73 years. Access to energy played a part in this, for example reinforcing advances in health care by powering life-saving machinery, from refrigerators to store drugs through to incubators for newborn babies.

As the world seeks to make more progress, renewable sources will meet a growing share of rising energy demand, but the need for oil and gas will remain for decades to come. In Shell, as we shape our businesses to deliver more and cleaner energy, we must also continue to invest responsibly in developing conventional oil and gas resources. This generates billions of dollars in revenue, allowing us to reward our investors with dividends. Crucially, it also provides the financial muscle to invest in cleaner forms of energy.

COMMUNITIES BENEFITING FROM OIL AND GAS

Building that financial muscle often requires considerable ingenuity. In the North Sea off Scotland, for instance, we are developing some of the most difficult natural gas fields, such as Fram, operated by Shell and owned as a joint venture with Esso. By developing Fram, we can unlock the full potential of other fields too. Discovered in 1969, Fram was left undeveloped for more than 50 years because there seemed to be no cost-effective way to produce its resources. Until now. To keep costs down, Shell intends to turn a field reaching the last of its gas, Starling, into a staging post. An underwater pipeline laid in 2019 will start taking 41 million standard cubic feet of natural gas a day, plus condensates, from Fram to Starling. From Starling, it can flow through an existing pipeline to our Shearwater platform, before coming ashore at our St Fergus gas plant.

"Those who look only to the past or the present are certain to miss the future."

– John F. Kennedy

The Shearwater platform in the UK North Sea is now expected to be able to keep supplying energy into the 2030s.

Shell has invested in the Silicon Ranch Corporation, a US solar power generator.

HELPING DESIGN WORLD'S FIRST VESSEL TO TRANSPORT LIQUEFIED HYDROGEN AT

-253°C

The Suiso Frontier is expected to be the first ship to transport liquefied hydrogen across oceans.

This should also help secure Shearwater's future, allowing it to keep supplying the UK with energy into the 2030s. Local communities stand to benefit. Our North Sea oil and gas operations employ 1,000 people directly, but generate economic activity that supports a further 28,000 jobs outside Shell [A].

In Nigeria, gas from our Assa North field, which is expected to start production around 2022, will improve the reliability of the country's electricity supplies. Nearby communities are already benefiting from a Shell programme that has so far helped more than 11,000 local children and adults get free health care.

These are just two examples of how Shell delivers the oil and gas needed to strengthen economies and offer opportunities for local people. But as we focus on delivering today, we must be sure not to miss the future.

TAPPING THE POTENTIAL OF HYDROGEN

Hydrogen, for example, could play a vital role in helping the move towards a lower-carbon world. Hydrogen can be extracted using the electricity generated by wind and solar power. It can then be stored, ready to be converted back to electricity with only one by-product, water. Shell is already working to increase the use of hydrogen, for example with refuelling sites for hydrogen-powered vehicles in Europe and North America. But we would like to open up more possibilities for using hydrogen, across heating, power and transport, helping it to become a significant fuel of the future.

We are contributing to the development of a ship called the Suiso Frontier, which launched in December 2019, in Kobe, Japan. By 2021 it is expected to be the world's first vessel to transport liquefied hydrogen across oceans, at temperatures of minus-253 Celsius.

Shell is working with Kawasaki Heavy Industries and others to design the tank holding the liquefied hydrogen and develop further novel technologies for the ship. Those we have consulted include the USA's National Aeronautics and Space Administration (NASA). They know how to handle liquefied hydrogen. They use it as rocket fuel.

The Suiso Frontier is expected to allow us to develop and demonstrate the technologies needed for a commercial-scale hydrogen supply chain by around 2030. It shows the critical importance of technology – one of Shell's core strengths – in the energy transition. By building on our strengths while embracing change as "the law of life", we can help address those calls for more urgent action on climate change. With more and cleaner energy, we can make a better future.

CHAD HOLLIDAY
Chair

[A] University of Strathclyde Fraser of Allander Institute and Aberdeen & Grampian Chamber of Commerce.

INVESTING FOR THE FUTURE, DELIVERING TODAY

BEN VAN BEURDEN
Chief Executive Officer

In a tough year, Shell demonstrated its resilience by delivering credible results on several fronts. We made progress in the face of economic headwinds such as low oil and gas prices, limited global growth, and reduced chemical and refining margins.

Our cash flow from operating activities was strong compared to our industry peers, at $42.2 billion. We distributed more than $25 billion to shareholders: $15.2 billion in dividends, and $10.2 billion in share buybacks. By the end of January 2020, we had delivered $14.75 billion of our $25 billion buyback programme, which began in 2018.

The headwinds did contribute to some negative factors in our financial performance. Gearing increased from 20% to 29%, which is equivalent to 25% on an IAS 17 accounting basis. Income was $16.4 billion, down from $23.9 billion in 2018. Earnings on a current cost of supplies (CCS) basis were $15.8 billion, down from $24.4 billion in 2018.

Overall, though, Shell's financial foundations remained strong. We continued to show financial discipline by limiting our cash capital expenditure to $24 billion, at the lower end of the range that we said we would spend. We improved the resilience and quality of our portfolio by making around $5 billion-worth of divestments.

SAFETY

I am, however, deeply saddened that seven people died while working for Shell in 2019. This is unacceptable. Each death inflicts unimaginable grief on the bereaved family. In Shell, work colleagues mourn. Every person lost is a tragedy. When it comes to safety, we have much more to do. We have responded by introducing a new approach alongside our continuing efforts to review and improve accident-prevention procedures wherever possible.

Our new approach acknowledges that people occasionally make mistakes, and that sometimes the dangerous and unexpected happens even after you follow every safety procedure.

This is not to make excuses. It is to be realistic, and to enable us to do more about it. We can look more closely at how people perform in the moment when things go wrong: when they make mistakes, or processes fail. We can train our people to be even better at dealing with the unexpected. This is demanding, but we want to get to a place where even if there is an incident, everyone emerges unhurt. They go home, alive and well, to their family.

CLIMATE CHANGE

I believe Shell has a constructive approach to the greatest global challenge of our times. In 2019, many protested about climate change, sometimes directly targeting Shell. This may feel uncomfortable, but the spotlight thrown on Shell also gives us an opportunity to explain to a wider audience how we can be an important part of the solution. Perhaps this starts with acknowledging our common humanity. When I look at climate change protesters, I see people who, in the overwhelming majority, act from a wholly justified determination to safeguard our planet. I share many of their frustrations that some things do not seem to be moving fast enough.

I welcome all peaceful efforts to encourage society to shift towards lower-carbon energy, as it must. And when I look at Shell, I see people with equally high hopes and social commitment. We wholeheartedly support the goal of the Paris Agreement to limit the global average temperature rise to well below two degrees Celsius above pre-industrial levels. We also know the energy transition is unfolding, and we must be part of it if we are to survive as a business. As I have often said, those companies that do not stay in step with society will be left behind. Those who are not trusted will be left behind too. Shell must and will be transparent.

In 2019, for example, we published our first Tax Contribution Report, detailing the corporate income tax we paid in countries and locations where we have a taxable presence. We also published our Industry Associations Climate Review, leaving one group because its position on climate change diverged too much from ours.

In 2019, Shell published its first Tax Contribution Report.

Shell UK is working with Forestry and Land Scotland to preserve and extend the ancient forest of Glengarry, in the Scottish Highlands.

Production has started at Shell's Appomattox deep-water asset in the US Gulf of Mexico.

OUR STRATEGY

Shell's strategy sets out our three clear ambitions: to thrive in the energy transition, provide a world-class investment case, and sustain a strong societal licence to operate. In 2019, to help achieve all three ambitions, we refreshed our strategy to focus more strongly on developing our Power business.

If the world is to tackle climate change, it must consume more of its energy in the form of electricity. This is a huge potential growth opportunity for Shell, one we are well positioned to seize. Shell has the brand, the global presence, the retail and marketing expertise that you need when buying and selling electricity and interacting with customers. We are a worldwide supplier of natural gas, a cleaner alternative to coal for electricity generation.

We are actively seeking to increase our investments in renewable power. In 2019, for example, Shell acquired ERM Power, one of Australia's leading commercial and industrial electricity retailers.

We continued to work towards delivering on our Net Carbon Footprint ambition to cut the intensity of the greenhouse gas emissions of the energy products we sell by around 50% by 2050, and as an interim step by 20% by 2035.

As part of this ambition, we launched a worldwide programme that uses trees and other plants to remove carbon dioxide from the atmosphere. We will be protecting, planting or regenerating forests, grasslands and wetlands, in what we call our nature-based solutions programme. Carbon-neutral driving schemes are allied to this. Motorists in the Netherlands and the UK can now offset their fuel emissions by having Shell purchase nature-based carbon credits on their behalf.

While investing for the future, we must also meet the energy demand of today. Our core oil and gas business delivered significant projects in 2019. In March, production started at our Appomattox floating production system in the Gulf of Mexico, which is expected to produce 175,000 barrels of oil equivalent a day at its peak. In June, the first shipment of liquefied natural gas left the Prelude floating liquefied natural gas facility off Australia.

As we look forward to 2020 and beyond, we must be firm in our belief that our business strategy is sound and our financial foundations strong. We believe Shell's underlying resilience will stand us in good stead for the challenges to come.

BEN VAN BEURDEN
Chief Executive Officer

SELECTED FINANCIAL DATA

The selected financial data set out below are derived, in part, from the "Consolidated Financial Statements". These data should be read in conjunction with the "Consolidated Financial Statements" and related Notes, as well as with this Strategic Report.

Consolidated Statement of Income and of Comprehensive Income data

344,877
Revenue ($ million)

16,432
Income for the period ($ million)

590
Income attributable to non-controlling interest ($ million)

15,842
Income attributable to Royal Dutch Shell plc shareholders ($ million)

13,773
Comprehensive income attributable to Royal Dutch Shell plc shareholders ($ million)

$ million	2019	2018	2017	2016	2015
Revenue	344,877	388,379	305,179	233,591	264,960
Income for the period	16,432	23,906	13,435	4,777	2,200
Income attributable to non-controlling interest	590	554	458	202	261
Income attributable to Royal Dutch Shell plc shareholders	15,842	23,352	12,977	4,575	1,939
Comprehensive income/(loss) attributable to Royal Dutch Shell plc shareholders	13,773	24,475	18,828	(1,374)	(811)

Consolidated Balance Sheet data

404,336
Total assets ($ million)

96,424
Total debt ($ million)

657
Share capital ($ million)

186,476
Equity attributable to Royal Dutch Shell plc shareholders ($ million)

3,987
Non-controlling interest ($ million)

$ million	2019	2018	2017	2016	2015
Total assets	404,336	399,194	407,097	411,275	340,157
Total debt	96,424	76,824	85,665	92,476	58,379
Share capital	657	685	696	683	546
Equity attributable to Royal Dutch Shell plc shareholders	186,476	198,646	194,356	186,646	162,876
Non-controlling interest	3,987	3,888	3,456	1,865	1,245

Consolidated Statement of Cash Flows data

42,178
Cash flow from operating activities ($ million)

22,971
Capital expenditure ($ million)

15,779
Cash flow from investing activities ($ million)

15,198
Cash dividends paid to Royal Dutch Shell plc shareholders ($ million)

10,188
Repurchases of shares ($ million)

$ million	2019	2018	2017	2016	2015
Cash flow from operating activities	42,178	53,085	35,650	20,615	29,810
Capital expenditure	22,971	23,011	20,845	22,116	26,131
Cash flow from investing activities	15,779	13,659	8,029	30,963	22,407
Cash dividends paid to Royal Dutch Shell plc shareholders	15,198	15,675	10,877	9,677	9,370
Repurchases of shares	10,188	3,947	–	–	409

Earnings per share

1.97
Basic earnings per €0.07 ordinary share ($)

1.95
Diluted earnings per €0.07 ordinary share ($)

$	2019	2018	2017	2016	2015
Basic earnings per €0.07 ordinary share	1.97	2.82	1.58	0.58	0.31
Diluted earnings per €0.07 ordinary share	1.95	2.80	1.56	0.58	0.30

Dividend per share

1.88
Dividend per share ($)

$	2019	2018	2017	2016	2015
Dividend per share	1.88	1.88	1.88	1.88	1.88

Shares

8,058.3
Basic weighted average number of A and B shares (million)

8,112.5
Diluted weighted average number of A and B shares (million)

Million	2019	2018	2017	2016	2015
Basic weighted average number of A and B shares	8,058.3	8,282.8	8,223.4	7,833.7	6,320.3
Diluted weighted average number of A and B shares	8,112.5	8,348.7	8,299.0	7,891.7	6,393.8

SHELL STORY: WHO WE ARE

Shell is a global group of energy and petrochemical companies with 83,000 employees in more than 70 countries.

We have expertise in the exploration, production, refining and marketing 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 low-carbon sources such as wind and solar; and new fuels for transport, such as advanced biofuels and hydrogen.

Our Context

The rising standard of living of a growing global population is likely to continue to drive demand for energy, including oil and gas, for years to come. At the same time, technological changes and the need to tackle climate change mean there is a transition under way to a lower-carbon, multi-source energy system with increasing customer choice.

Our stakeholders include:

Our investor community
Our customers
Our employees/pensioners
Our strategic partners/suppliers
Communities
Governments/NGOs/regulators

See "Section 172(1) statement" on **pages 23-26**, "Environment and society" on **pages 84-90**, "Our people" on **pages 99-101** and "Governance" on **pages 104-171**. For more detailed discussions around our context and stakeholders.

Our Purpose

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

See "Strategy and outlook" on **page 19** for more detailed discussion around our purpose.

Our Core Values

Honesty
Integrity
Respect for people

The Shell General Business Principles, Code of Conduct, and Code of Ethics help everyone at Shell act in line with these values and comply with relevant laws and regulations. We also strive to build and maintain a diverse and inclusive culture within our company.

See "Our people" on **pages 99-101** for more detailed discussion around our core values.

Our strategic ambitions

Thrive in the energy transition

to thrive in the energy transition by responding to society's desire for more and cleaner, convenient and competitive energy;

World-class investment case

to provide a world-class investment case. This involves growing organic free cash flow and increasing returns, all built upon a strong financial framework and resilient portfolio; and

Strong licence to operate

to sustain a strong societal licence to operate and make a positive contribution to society through our activities.

See "Strategy and outlook" on **page 20** for more detailed discussion around our strategic ambitions.

Our strategy by theme

Core Upstream themes

- Deep Water
- Shales
- Conventional Oil and Gas

Leading Transition themes

- Integrated Gas
- Oil Products
- Chemicals

Emerging Power theme

- Power

See "Strategy and outlook" on **page 21** for more detailed discussion around our strategic themes.

Our strategy is to strengthen our position as a leading energy company by providing oil, gas and low-carbon energy as the world's energy system transforms. Safety and social responsibility are fundamental to our business approach.

SHELL STORY: WHAT WE DO

We aim to meet the world's growing need for more and cleaner energy solutions in ways that are economically, environmentally and socially responsible.

Our Inputs [A]

Financial

291,142
Average capital employed ($ million)

23,919
Cash capital expenditure ($ million)

Read more in "Performance indicators" on **pages 42-44** and "Non-GAAP measures reconciliations" on **pages 279-280**.

Operations

90.8%
Refinery and chemical plant availability

90%
Project delivery on schedule

99%
Project delivery on budget

Read more in "Performance indicators" on **pages 42-44.**

Innovation

962
Investments in research and development ($ million)

9,449
Patents [B]

Read more in "Technology and Innovation" on **page 18**.

Human capital

83,000
Employees [B]

373,000
Training days

Read more in "Our people" on **pages 99-101**.

Relationships

Customers
Joint arrangements
Governments relations
Suppliers

>70
Operating countries [B]

Read more in "Section 172(1) statement" on **pages 23-26**, "Environment and society" on **pages 84-90** and "Governance" on **pages 104-171**.

Natural resources

11,096
Proved oil and gas reserves (million boe) [B]

1,338
Oil and gas production available for sale (million boe)

192
Fresh water withdrawn (million cubic metres)

Read more in "Oil and gas information" on **pages 61-69** and "Environment and society" on **pages 84-90**.

[A] In 2019 except stated otherwise. [B] At 31.12.2019.

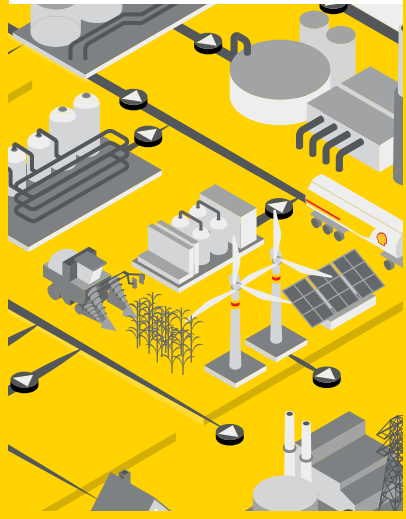
Our Business Model

We seek to create shareholder value by:

- exploring for crude oil and natural gas worldwide;
- developing new crude oil and natural gas supplies from major fields and extracting bitumen from oil sands;
- cooling natural gas to produce liquefied natural gas (LNG) and converting gas to liquids (GTL);
- supplying and trading oil, gas and other energy-related products, such as electricity and carbon-emissions rights; and
- having a portfolio of refineries and chemical plants producing a wide range of products including gasoline, diesel, aviation and marine fuel, lubricants and petrochemicals.

The integration of our businesses is one of our competitive advantages, allowing optimisations across our global portfolio.

See **page 16** for more detailed discussion around our Business Model.



Our Outcome and Impact [A]

Thriving in the energy transition

Energy transition and climate change

78
Net Carbon Footprint (grams of CO_2 equivalent per megajoule)

70
Direct greenhouse gas (GHG) emissions (million tonnes of CO_2 equivalent)

Read more in "Climate change and energy transition" on **pages 91-98**.

World-class investment case

Financial performance

6.7%
Return on average capital employed (ROACE)

25,386
Shareholder distribution ($ million)

Read more in "Performance indicators" on **pages 42-44** and "Non-GAAP measures reconciliations" on **pages 279-280**.

Resilience of business model

26,399
Free cash flow ($ million)

29.3%
Gearing [B]

Read more in "Performance indicators" on **pages 42-44** and "Liquidity and capital resources" on **pages 80-83**.

Shell Catalysts & Technologies staff in Port Allen, Louisiana, USA.

Strong licence to operate

Environmental impacts

70
Operational spills of more than 100kg

0.2
Weight of operational spills (in '000 tonnes)

Read more in "Environment and society" on **pages 84-90**.

Trust and Transparency

47.5
Brand value ($ billion) [C]

1,686
Shell Global Helpline (reports to the helpline)

Publication of the first **Shell Tax Contribution Report**

Read more in "Corporate" on **page 79** and "Our people" on **pages 99-101**.

Health, Safety and Security

0.9
Total recordable case frequency (injuries per million working hours)

130
Operational Tier 1 and 2 process safety events

Read more in "Environment and society" on **pages 84-90**.

Contribution to countries of operation

61.3
Taxes paid and collected ($ billion)

44.9
Total spend on goods and services ($ billion)

Read more in "Environment and society" on **pages 84-90**.

Our people

26.4%
Women in senior leadership positions [B]

78
Average employee engagement score (points)

Read more in "Our people" on **pages 99-101**.

[A] In 2019 except stated otherwise. [B] At 31.12.2019. [C] Source: Brand Finance Global 500 2020 Report.

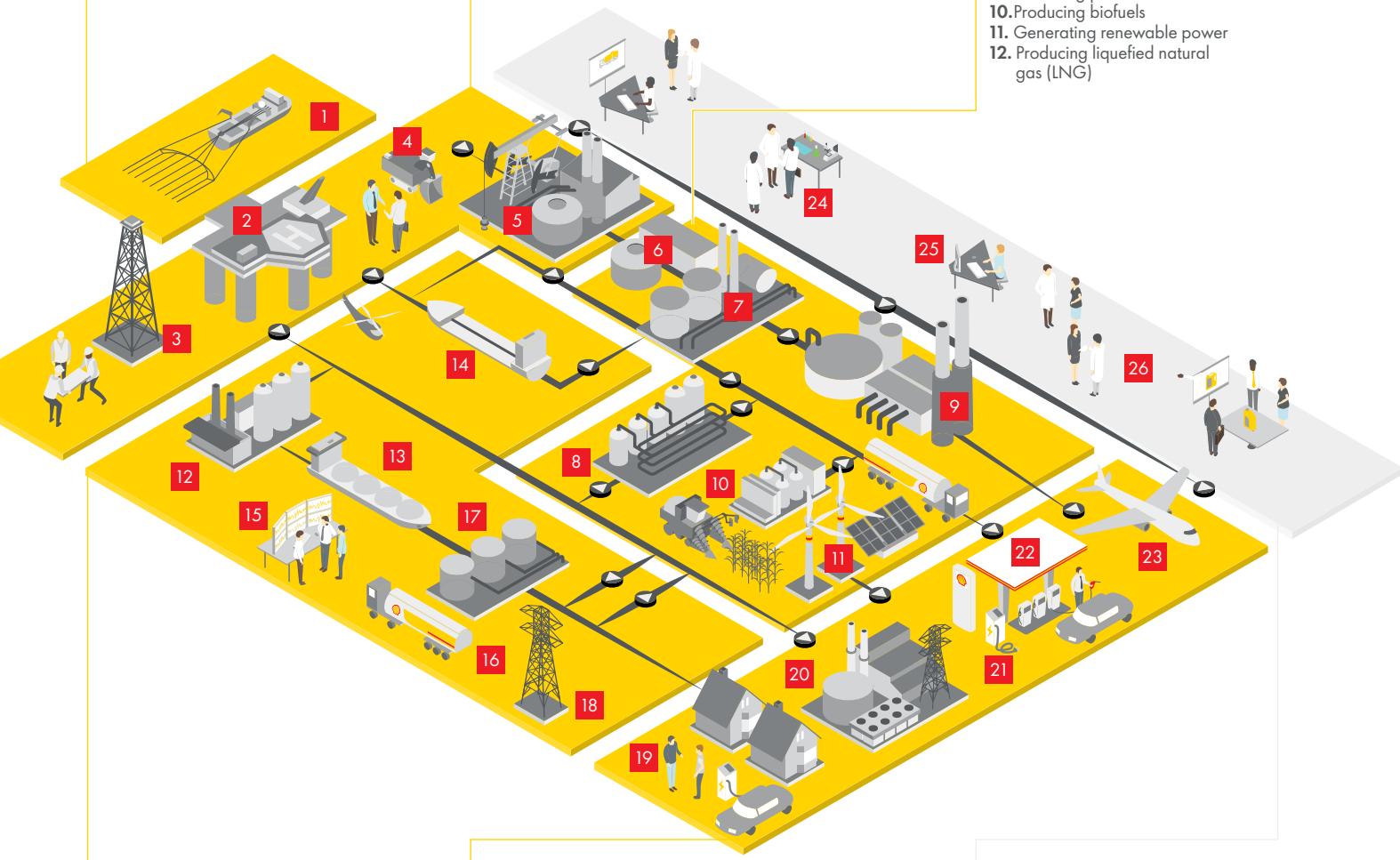
OUR BUSINESS MODEL EXPLAINED

Business activities

Exploration
1. Exploring for oil and gas onshore and offshore

Development and extraction
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

Organisation

We describe below how our activities are organised. Integrated Gas, Upstream and Downstream focus on our seven strategic themes (see "Strategy and outlook" on page 21). Our Projects & Technology organisation manages the delivery of Shell's major projects and drives research and innovation to develop new technology solutions.

Integrated Gas (including New Energies)

This organisation covers two strategic themes: Integrated Gas, which is a Leading Transition theme; and New Energies, which includes the Emerging Power theme.

Integrated Gas manages LNG activities and the conversion of natural gas into GTL fuels and other products. It includes natural gas exploration and extraction, and the operation of upstream and midstream infrastructure necessary to deliver gas to market. It markets and trades natural gas, LNG, electricity and carbon-emission rights and also markets and sells LNG as a fuel for heavy-duty vehicles and marine vessels.

In New Energies, we are exploring emerging opportunities and investing in those where we believe sufficient commercial value is available. We focus on new fuels for transport, such as advanced biofuels, hydrogen and charging for battery-electric vehicles; and power, including from natural gas and low-carbon sources such as wind and solar.

Upstream

Our Upstream organisation covers the core Upstream themes: Conventional Oil and Gas, Deep Water and Shales.

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

Painting Shell's logo, the Pecten.

Downstream

Our Downstream organisation comprises two strategic themes: Oil Products and Chemicals, both of which are Leading Transition themes.

It manages different Oil Products and Chemicals activities as part of an integrated value chain, that trades and refines crude oil, and other feedstocks into a range of products which are moved and marketed around the world for domestic, industrial and transport use. The products we sell include gasoline, diesel, heating oil, aviation fuel, marine fuel, biofuel, lubricants, bitumen and sulphur. We also produce and sell petrochemicals for industrial use worldwide. Our Downstream organisation also manages Oil Sands activities (the extraction of bitumen from mined oil sands and its conversion into synthetic crude oil).

Projects & Technology

Our Projects & Technology organisation manages the delivery of our major projects and drives research and innovation to develop new technology solutions. It provides technical services and technology capability for our Integrated Gas, Upstream and Downstream activities. It is also responsible for providing functional leadership across Shell in the areas of safety and environment, contracting and procurement, wells activities and greenhouse gas management.

Our future hydrocarbon production depends on the delivery of large and integrated projects (see "Risk factors" on pages 27-36). Systematic management of life-cycle technical and non-technical risks is in place for each opportunity, with assurance and control activities embedded throughout the project life cycle. We focus on the cost-effective delivery of projects through commercial agreements, supply-chain management, and construction and engineering productivity through effective planning and simplification of delivery processes. Development of our employees' project management competencies is underpinned by project principles, standards and processes. A dedicated competence framework, training, standards and processes exist for various technical disciplines. We also provide governance support for our non-Shell-operated ventures or projects.

Segmental Reporting

Our reporting segments are Integrated Gas, Upstream, Downstream and Corporate. Upstream combines the operating segments Upstream (managed by our Upstream organisation) and Oil Sands (managed by our Downstream organisation), which have similar economic characteristics. Integrated Gas, Upstream and Downstream include their respective elements of our Projects & Technology organisation. The Corporate segment comprises our holdings and treasury organisation, self-insurance activities, and headquarters and central functions. See Note 4 to the "Consolidated Financial Statements" on pages 206-208.

With effect from 2020, our reporting segments were amended with the change in the way the CEO reviews and assesses performance of the group and consist of Integrated Gas, Upstream, Oil Products, Chemicals and Corporate.

Revenue by business segment (including inter-segment sales)

$ million

	2019	2018	2017
Integrated Gas			
Third parties	41,322	43,764	32,674
Inter-segment	4,280	5,031	4,096
Total	**45,602**	**48,795**	**36,770**
Upstream			
Third parties	9,965	9,892	7,723
Inter-segment	36,448	37,841	32,469
Total	**46,413**	**47,733**	**40,192**
Downstream			
Third parties	293,545	334,680	264,731
Inter-segment	1,132	917	1,090
Total	**294,677**	**335,597**	**265,821**
Corporate			
Third parties	45	43	51
Total	**45**	**43**	**51**

Revenue by geographical area (excluding inter-segment sales)

$ million

	2019	2018	2017
Europe	98,455	118,960	100,609
Asia, Oceania, Africa	139,916	153,716	114,683
USA	83,212	89,876	66,854
Other Americas	23,294	25,827	23,033
Total	**344,877**	**388,379**	**305,179**

Technology and Innovation

Technology and innovation are essential to our efforts to meet the world's energy needs in a competitive way. If we do not develop the right technology, do not have access to it or do not deploy it effectively, this could have a material adverse effect on the delivery of our strategy and our licence to operate (see "risk factors" on pages 27-36). We continuously look for technologies and innovations of potential relevance to our business. Our Chief Technology Officer oversees the development and deployment of new and differentiating technologies and innovations across Shell, seeking to align business and technology requirements throughout our technology maturation process.

In 2019, research and development expenses were $962 million, compared with $986 million in 2018, and $922 million in 2017. Our main technology centres are in India, the Netherlands and the USA, with other centres in Brazil, China, Germany, Oman, and Qatar. A strong patent portfolio underlies the technology that we employ in our various businesses. In total, we have around 9,449 granted patents and pending patent applications.

OUR STRATEGY

Shell's purpose is to power progress together by providing more and cleaner energy solutions.

Our strategy is to strengthen our position as a leading energy company by providing oil, gas and low-carbon energy products and services as the world's energy system transforms. Safety and social responsibility are fundamental to our business approach. Shell will only succeed by working collaboratively with customers, governments, business partners, investors and other stakeholders.

Our strategy is founded on our outlook for the energy sector and the chance to grasp the opportunities arising from the substantial changes in the world around us. The rising standard of living of a growing global population is likely to continue to drive demand for energy for years to come. The world will need to find a way to meet this growing demand, while transitioning to a lower-carbon energy system to counter climate change. While liquid and gaseous fuels, including biofuels and hydrogen, will continue to be an important part of the energy mix, over time electricity needs to play a bigger part in the world if it is to meet the goals of the Paris Agreement. Technological advances and the need to tackle climate change mean there is a transition under way to a lower-carbon, multi-source energy system with increasing customer choice. We recognise that the pace and the path forward are uncertain and so require agile decision-making.

FPSO P68, Offshore Brazil. Photo from Petrobras.

"We know the energy transition is unfolding, and we must be part of it if we are to survive as a business. Those companies that do not stay in step with society will be left behind."

BEN VAN BEURDEN
Chief Executive Officer

The field of the future: One of Shell's iShale® well pads is fully solar-powered, and able to run for 14 days with no sun. Permian Basin, USA.

Our strategic ambitions

Against this backdrop, we have the following strategic ambitions to guide us in pursuing our purpose:

to thrive in the energy transition by responding to society's desire for more and cleaner, convenient and competitive energy;

to provide a world-class investment case. This involves growing organic free cash flow and increasing returns, all built upon a strong financial framework and resilient portfolio; and

to sustain a strong societal licence to operate and make a positive contribution to society through our activities.

The execution of our strategy is founded on becoming a more customer-centric and simpler, more streamlined organisation, focused on growing returns and organic free cash flow. By investing in competitive projects, delivering increases in cash flow from operations, and driving down costs, we are continually reshaping our portfolio to become a more resilient and focused company.

Our ability to achieve our strategic ambitions depends on how we respond to competitive forces. We continually assess the external environment – the markets and the underlying economic, political, social and environmental drivers that shape them – to evaluate changes in competitive forces and business models. We use multiple future scenarios to assess the resilience of our strategy. We regularly review the markets we operate in, assessing our competitive position by analysing trends and uncertainties, and the strengths and weaknesses of our traditional and non-traditional competitors.

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

See "Risk factors" on **pages 27-36**.

Our Executive Directors' remuneration is linked to the successful delivery of our strategy, based on performance indicators that are aligned with shareholder interests. Long-term incentives form the majority of the Executive Directors' remuneration for above-target performance. In 2019, the Long-term Incentive Plan (LTIP) included cash generation, capital discipline, value created for shareholders, and a measure focused on Shell's strategic ambition to thrive in the energy transition.

See the "Directors' Remuneration Report" on **pages 135-138**.

Our strategic themes

As part of our strategy, we divide our portfolio into strategic themes, each with distinctive capabilities, growth strategies and risk management.

Organising our businesses into seven strategic themes has helped us focus our investment priorities and drive delivery of our long-term ambitions. Due to the evolution of our businesses and the external environment, in 2019 we refreshed the way we group the strategic themes to better communicate our portfolio strategy and long-term outlook:

Core Upstream themes

Core Upstream themes are central to Shell and we will sustain their strong cash generation through the coming decades.

Deep Water
- Leading portfolio, strong growth funnel
- Sustained high-margin production

Shales
- Growing production in high-margin basins
- Competitive delivery

Conventional Oil and Gas
- High-graded portfolio with longevity
- Growth potential in deep resource base

Leading Transition themes

Leading transition themes are businesses where we already have a leading position in the industry and are critical for us to capitalise on the energy transition to a lower-carbon future.

Integrated Gas
- Extend market leadership
- Unique portfolio optimisation capability

Oil Products
- Most successful mobility retailer, #1 in lubricants
- Competitive/high-quality refining backbone

Chemicals
- Strong demand growth despite growing recycling
- Focus on base, derivative and performance chemicals

Emerging Power theme

Emerging Power theme is focused on creating business models to support the evolving customer demands for more electricity through the energy transition to a lower-carbon future. Shell aims to become an integrated power player and grow, over time, a significant new business.

Power
- New sources of value emerging
- Returns drive pace of scaling up

World-class asset operatorship + **Trading optimisation through integration** + **Leverage customer proximity and intimacy**

OUTLOOK FOR 2020 AND BEYOND

We continually seek to improve our operating performance and maximise sustainable organic free cash flow, with an emphasis on health, safety, security, environment and asset performance, as well as our ethics and compliance principles. To do this, we are committed to attracting, developing and retaining a diverse, talented and motivated workforce.

We launched our $25 billion share buyback programme in 2018, and we have completed about $15 billion of buybacks as of February 20, 2020. Our intention to complete the $25 billion share buyback programme remains unchanged, but the pace remains subject to macro conditions and further debt reduction.

Our cash capital expenditure is expected to be at the lower end of the $24 billion to $29 billion range in 2020. Following the successful delivery of our $30 billion divestment programme during 2016-18, divestments are expected to amount to more than $10 billion over the 2019-2020 period.

We fully support the Paris Agreement's goal to keep the rise in global average temperature this century to well below two degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. We have set a long-term ambition to reduce the Net Carbon Footprint of our energy products, measured in grams of carbon dioxide equivalent per megajoule consumed, by around 20% by 2035 and by around 50% by 2050, in pace with society. While our ambition is long term, we believe we must act today if we are to help society progress more quickly. In early 2019 we set an unconditional three-year target to reduce our Net Carbon Footprint by 2% to 3% compared to 2016. For the 2020 award, the target range is a 3-4% reduction in our Net Carbon Footprint against the 2016 baseline. It is intended that this target setting will be done annually, with each year's target covering either a three-year or five-year period.

Further details are in the "Climate Change and Energy Transition" on **pages 91-98**.

Since the start of 2020 there has been a developing outbreak of the COVID-19 (coronavirus). To date, we have not seen a material impact on our operations. As a result of COVID-19, we have seen macro-economic uncertainty with regards to prices and demand for oil, gas and products. Furthermore, recent global developments and uncertainty in oil supply in March have caused further volatility in commodity markets. The scale and duration of these developments remain uncertain but could impact our earnings, cash flow and financial condition.

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

See "About this Report" on **pages 2-3** and "Risk factors" on **pages 27-36.**

Aerial view of road and Glengarry forest, Scotland, UK.
Forestry and Land Scotland is working with Shell UK to preserve and extend native woodland.

SECTION 172(1) STATEMENT

The revised UK Corporate Governance Code ('2018 Code') was published in July 2018 and applies to accounting periods beginning on or after January 1, 2019. The Companies (Miscellaneous Reporting) Regulations 2018 ('2018 MRR') require Directors to explain how they considered the interests of key stakeholders and the broader matters set out in section 172(1) (A) to (F) of the Companies Act 2006 ('S172') when performing their duty to promote the success of the Company under S172. This includes considering the interest of other stakeholders which will have an impact on the long-term success of the company. The Board welcomes the direction of the UK Financial Reporting Council (the 'FRC'). This S172 statement, which is reported for the first time, explains how Shell Directors:

- have engaged with employees, suppliers, customers and others; and
- have had regard to employee interests, the need to foster the company's business relationships with suppliers, customers and other, and the effect of that regards, including on the principal decisions taken by the company during the financial year.

The S172 statement focuses on matters of strategic importance to Shell, and the level of information disclosed is consistent with the size and the complexity of the business.

GENERAL CONFIRMATION OF DIRECTORS' DUTIES

Shell's Board has a clear framework for determining the matters within its remit and has approved Terms of Reference for the matters delegated to its Committees. Certain financial and strategic thresholds have been determined to identify matters requiring Board consideration and approval. The Manual of Authority sets out the delegation and approval process across the broader business. More information on Shell's Controls and Procedures can be found within the Other regulatory and statutory information page 168.

When making decisions, each Director ensures that he/she acts in the way he/she considers, in good faith, would most likely promote the Company's success for the benefit of its members as a whole, and in doing so have regard (among other matters) to:

S172(1) (A) "THE LIKELY CONSEQUENCES OF ANY DECISION IN THE LONG TERM"

The Directors understand the business and the evolving environment in which we operate, including the challenges of navigating through the energy transition. Based on Shell's purpose to power progress together by providing more and cleaner energy solutions, the strategy set by the Board is intended to strengthen our position as a leading energy company by providing oil, gas and low-carbon energy products and services as the world's energy system transforms while keeping safety and social responsibility fundamental to our business approach. In 2019, to help achieve all three strategic ambitions, the Board refreshed our strategy to further focus on developing Shell's Power business. However, while investing for the future, the Board also recognise we must meet today's energy demand.

As outlined in Our Context in the Shell Story pages 12-18, the rising standard of living of a growing global population is likely to continue to drive demand for energy, including oil and gas, for years to come. At the same time, technological changes and the need to tackle climate change mean there is a transition under way to a lower-carbon, multi-source energy system with increasing customer choice. The three strategic ambitions: thrive in the energy transition, world-class investment case and strong licence to operate pages 19-21 have been set in that context with the objective to increase long-term value for shareholders recognising that the long-term success of our business is dependent on our stakeholders and the external impact of our business activities on society.

The Directors recognise how our operations are viewed by different parts of society and that some decisions they take today may not align with all stakeholder interests. Given the complexity of the energy transition, the Directors have taken the decisions they believe best support Shell's three strategic ambitions.

S172(1) (B) "THE INTERESTS OF THE COMPANY'S EMPLOYEES"

The Directors recognise that Shell employees are fundamental and core to our business and delivery of our strategic ambitions. The success of our business depends on attracting, retaining and motivating employees. From ensuring that we remain a responsible employer, from pay and benefits to our health, safety and workplace environment, the Directors factor the implications of decisions on employees and the wider workforce, where relevant and feasible. The Directors recognise that our pensioners, though no longer employees, also remain important stakeholders.

More information on this can be found within our report on workforce engagement on **page 124**.

S172(1) (C) "THE NEED TO FOSTER THE COMPANY'S BUSINESS RELATIONSHIPS WITH SUPPLIERS, CUSTOMERS AND OTHERS"

Delivering our strategy requires strong mutually beneficial relationships with suppliers, customers, governments, national oil companies and joint-venture partners. Shell seeks the promotion and application of certain general principles in such relationships. The ability to promote these principles effectively is an important factor in the decision to enter into or remain in such relationships and this alongside other standards are described in The Shell General Business Principles, which are reviewed and approved by the Board periodically. The Board also reviews and approves Shell's approach to suppliers which is set out in the Shell Supplier Principles. The businesses continuously assess the priorities related to customers and those with whom we do business, and the Board engages with the businesses on these topics, for example, within the context of business strategy updates and investment proposals.

Moreover, the Directors receive information updates on a variety of topics that indicate and inform how these stakeholders have been engaged. These range from information provided from the Projects & Technology function (on suppliers and joint-venture partners related to items such as project updates and supplier contract management topics) to information provided by the businesses (on customers and joint-venture partners related to, for example, business strategies, projects and investment or divestment proposals).

S172(1) (D) "THE IMPACT OF THE COMPANY'S OPERATIONS ON THE COMMUNITY AND THE ENVIRONMENT"

This aspect is inherent in our strategic ambitions, most notably on our ambitions to thrive through the energy transition and to sustain a strong societal licence to operate. As such, the Board receives information on these topics to both provide relevant information for specific Board decisions (e.g. those related to specific strategic initiatives such as the Net Carbon Footprint ambition, our nature-based solutions programme and projects, investment or divestment proposals, business strategy reviews and country entry considerations) and to provide ongoing overviews at the Shell group level (e.g., regular Safety & Environment Performance Updates, reports from the Chief Ethics & Compliance Officer and Chief Internal Auditor). In 2019, certain Board Committees and Non-executive Directors conducted site visits of various Shell operations and overseas offices and held external stakeholder engagements, where feasible. More information on this can be found in Understanding and engaging with our stakeholders page 122.

SECTION 172(1) STATEMENT continued

S172(1) (E) "THE DESIRABILITY OF THE COMPANY MAINTAINING A REPUTATION FOR HIGH STANDARDS OF BUSINESS CONDUCT"

Shell aims to meet the world's growing need for more and cleaner energy solutions in ways which are economically, environmentally and socially responsible. The Board periodically reviews and approves clear frameworks, such as The Shell General Business Principles, Shell's Code of Conduct, specific Ethics & Compliance manuals, and its Modern Slavery Statements, to ensure that its high standards are maintained both within Shell businesses and the business relationships we maintain. This, complemented by the ways the Board is informed and monitors compliance with relevant governance standards help assure its decisions are taken and that Shell companies act in ways that promote high standards of business conduct.

S172(1) (F) "THE NEED TO ACT FAIRLY AS BETWEEN MEMBERS OF THE COMPANY"

After weighing up all relevant factors, the Directors consider which course of action best enables delivery of our strategy through the long-term, taking into consideration the impact on stakeholders. In doing so, our Directors act fairly as between the Company's members but are not required to balance the Company's interest with those of other stakeholders, and this can sometimes mean that certain stakeholder interests may not be fully aligned.

CULTURE

The Board recognises that it has an important role in assessing and monitoring that our desired culture is embedded in the values, attitudes and behaviours we demonstrate, including in our activities and stakeholder relationships. The Board has established honesty, integrity and respect for people as Shell's core values. The General Business Principles, Code of Conduct, and Code of Ethics help everyone at Shell act in line with these values and comply with relevant laws and regulations. The Shell Commitment and Policy on Health, Safety, Security, Environment & Social Performance applies across Shell and is designed to help protect people and the environment. We relentlessly pursue Goal Zero, our safety goal to achieve no harm and no leaks across all our operations. We also strive to maintain a diverse and inclusive culture.

The Board considers the Shell People Survey to be one of its principal tools to measure employee engagement, motivation, affiliation and commitment to Shell. It provides insights into employee views and has a consistently high response rate. The Board also utilises this engagement to understand how survey outcomes are being leveraged to strengthen Shell culture and values.

STAKEHOLDER ENGAGEMENT (INCLUDING EMPLOYEE ENGAGEMENT)

The Board recognises the important role Shell has to play in society and is deeply committed to public collaboration and stakeholder engagement. This commitment is at the heart of Shell's strategic ambitions. The Board strongly believes that Shell will only succeed by working with customers, governments, business partners, investors and other stakeholders. Working together is critical, particularly at a time when society, including businesses, governments and consumers, faces issues as complex and challenging as climate change.

We continue to build on our long track record of working with others, such as investors, industry and trade groups, universities, governments, NGOs and in some instances our competitors through our joint-venture operations or industry bodies. We believe that working together and sharing knowledge and experience with others offers us greater insight into our business. We also appreciate our long-term relationships with our investors and acknowledge the positive impact of ongoing engagement and dialogue.

To support strengthening the Board's knowledge of the significant levels of engagement undertaken by the broader business, guidance on information, proposals or discussion items provided to the Board was updated in 2019 to further promote and focus considerations of the views, interests and concerns of our stakeholders and how these were considered by Management. Board minutes have also reflected key points on stakeholder considerations, where appropriate. Further, the Terms of Reference for our Safety, Environment and Sustainability Committee were updated to include, within the Committee's remit, the review and consideration of external stakeholder perspectives and how major issues of public concern that could affect the Shell group's reputation and licence to operate were, or are, being addressed.

The Board also engaged with certain stakeholders directly, to understand their views. More on this engagement is provided in the Understanding and engaging with our stakeholders on page 122.

Information on how the Directors have engaged with employees can be found on page 124 and in the Our people section on pages 99-101. Examples of how Directors have taken the interests of Shell employees into consideration and the consequent outcome on related decisions is incorporated in the table below.

PRINCIPAL DECISIONS

In the table below, we outline some of the principal decisions made by the Board over the year, explain how the Directors have engaged with, or in relation to, the different key stakeholder groups and how stakeholder interests were considered over the course of decision-making.

To remain concise, we have categorised our key stakeholders into six groups. Where appropriate, each group is considered to include both current and potential stakeholders.

- A Investor Community
- B Employees/Workforce/Pensioners
- C Regulators/Governments/NGOs
- D Communities
- E Customers
- F Suppliers/Strategic Partners

Principal decisions

We define principal decisions taken by the Board as those decisions in 2019 that are of a strategic nature and that are significant to any of our key stakeholder groups. As outlined in the FRC Guidance on the Strategic Report, we include decisions related to capital allocation and dividend policy.

How were stakeholders considered

We describe how regard was given to likely long-term consequences of the decision including how stakeholders were considered during the decision-making process.

What was the outcome

We describe which accommodations/ mitigations were made, if any, and how Directors have considered different interests and the factors taken into account.

Approval of Shell's Operating Plan 2020-2022 (OP19)	What was the outcome
The approval of OP19 followed an in-depth review by the Board of proposals on capital allocation, capital investment outlook, competitive outlook, operating expenses, return on average capital employed and shareholder distributions. This includes reviews in October 2019 as an advance engagement on OP19 while it was under preparation, and in December 2019 for final approval. **How were stakeholders considered** OP19 discussions included a full review against Shell's three strategic ambitions: thriving in the energy transition, world-class investment case, and strong societal licence to operate. The Directors and Executive Committee balanced the priorities in the operational plan versus the strategy by using feedback received as part of continuous engagement with investors, discussions with equity and debt market analysts and commitments made regarding share buybacks, gearing and organic free cash flow. The plan was discussed extensively and included commitment to continue investing in the energy transition, which is a reflection of the importance that communities and interest groups were likely to place on key societal contributions/efforts regarding carbon-neutral offerings for mobility customers, growth in Nature-Based Solutions, support for Net Carbon Footprint ambition reductions and published government plans related to the energy transition. In the assessment, the interests of investors and capital markets received particular focus and featured heavily in many discussions, and potential differing interests of debt and equity investors was observed. This was balanced against the importance of the value placed on Shell by society (including communities, employees, customers, suppliers) for the services provided by the business and the way in which we conduct business. Information on employees and our organisational structure featured as part of OP19. The plan maintained the approach to salaries, benefits, health, worker welfare, focus on employee experience and training. Metrics agreed within OP19 underpin the 2020 organisational scorecard, against which all employee bonuses are calculated. Both the Board and the Remuneration Committee discussed these metrics at length to ensure they are suitably stretching and motivating, support the right culture within the business and align to the strategic ambitions.	Following the review of the draft plan, the Board requested further information on specific matters such as capital allocation, new energies and organisational aspects, several of which included certain stakeholder groups. Responses were provided on these items and changes were incorporated into the plan where appropriate. The early review of the plan identified weaker macroeconomic conditions and challenging outlooks. Although an unwelcome message for stakeholders, this was communicated to the market at the end of the third quarter and reiterated it in the fourth quarter results. The overall outcome of this decision is an operating plan that the Board believes underpins Shell's strategic ambitions and has taken into account different stakeholder views, realising that not all stakeholder views can nor will completely align with OP19. While stakeholder opinion may differ on Shell's approach, OP19 is based on the demand for products and services by society. OP19 supports the Company maintaining a reputation for high standards of business conduct, Health, Safety, Security and Environment and maintained the approach to employee remuneration and benefits to pensioners. OP19 seeks to reward our investors with returns and maintaining long-term financial strength to invest in more and cleaner forms of energy and meet the current and future needs of society.
Investing in new business and acquisitions	**What was the outcome**
Over the course of the year, the Board discussed and approved several new opportunities and projects across the different segments. The Board focused on Power and discussed and approved the continued implementation of the Power Strategy. It made certain recommendations to Management and appraised potential investment opportunities which comprised wholly-owned acquisitions and joint-venture opportunities. The Board receives regular updates and maintains oversight of the operations of the New Energies business even though many of the investments in this area are below the threshold for Board decision. **How were stakeholders considered** The Board obtained a clearer perspective on the pace of local energy transitions, regulation, changing customer needs and technology. This enhanced awareness was used to evaluate the possible impact on stakeholders and risks to its reputation in relation to certain stakeholder groups. **Oil and Gas** – During the year Shell has secured new opportunities in a number of regions, some of which were considered and approved by the Board. The Directors carefully reviewed new significant entries and risk and rewards of new projects. During these discussions, the Board was cognisant that some stakeholders may not agree with Shell's strategy to continue to invest in oil and gas during the energy transition. **Purchase of ERM** – Although below the normal threshold of investments for Board approval, the discussion was the result of earlier Board requests to enhance its understanding of the New Energies investments, customer demand, the alignment with the Shell strategy and the Board's commitments to its stakeholders including investors. During discussions, particular attention was paid to the alignment of assets owned by ERM with Shell's overall long-term ambitions, and stakeholder views. The discussions and considerations for the purchase of this listed entity covered its business model and people, assets and synergies, fit with the Shell Power strategy and the ability to generate returns while playing a role in the transition to a lower-carbon future. The Board also reflected on the Shell brand and its ability to retain ERM customers under new ownership. **Eneco** – The attempted purchase of Eneco is a clear example of the Board's reflections on feedback received from equity and debt market analysts and its statements made regarding the share buybacks, gearing and organic free cash flow. Further, it reflects Shell's desire to increase its operations in this area. Significant engagement was undertaken as part of the bid preparation, which included understanding customer sentiment, government and local municipality opinion and the ability to retain Eneco employees following transfer of ownership in the event of a winning bid. The outcome of this engagement was provided to the Board. For both proposals, the Board considered the interests of investment partners and potential organisational cultural differences. Customer relationships, local regulatory knowledge and other stakeholder relationships including local community views were also discussed. The Board also discussed how the potential deal(s) could be received by investors and the equity analyst community. The Board was particularly cognisant that investors would want to understand how acquisitions would fit within the existing financial framework and the impact if any on: expected outturns, the share buyback programme, cashflow; and capital investment.	As a result of discussion and decisions in this area, the Board obtained insights on renewables growth, customers' priorities (around price and interest in clean power), as well as information on anticipated market direction and regulatory frameworks. The Board also committed a large part of its annual strategy event and committed further time later in the years to enhancing its understanding of New Energies and the opportunities in Power through, for instance, site visits with companies, governments, regulators, academics and potential customers. (Read more on page 122) **Oil and Gas** – The Board recognises that societal views vary widely in this area. However, it must also bear in mind that global demand for energy is still growing. Although renewable resources will meet a growing share of the rising energy demand, Shell and other experts believe there continues to be a need for oil and gas for many years to come through the energy transition. The Directors also appreciate that it is this business that provides the capital to invest in the energy transition. **Purchase of ERM** – Following discussion in the early part of the year, the Board was keen to better understand the New Energies' investments, their alignment with the Power Strategy and the new opportunities being potentially pursued. It now receives summary information of smaller deals and clarifications on the strategic and business alignment of the larger deals. The Directors asked questions and shared their expertise when provided with these updates. **Eneco** – The Eneco discussion covered many Board meetings, with questions coming from each discussion and further research and understanding provided back to the Board. As Management and the Board have been clear that they will only pursue ambitions in this area at the right cost, the bid from the Shell consortium was lower than that of its competitors and therefore unsuccessful.

SECTION 172(1) STATEMENT continued

Divestments and exits from markets	What was the outcome
Selected assets were divested in 2019. More information on these can be found further within the Strategic Report. An example divestment is the sale of the Martinez refinery based in California, which was fully completed in February 2020. **How were stakeholders considered** Given the size of the Martinez asset, the sale was discussed by the Board. The divestment aligned with Shell's strategy to reshape refining efforts towards a smaller, smarter refining portfolio focused on further integration with Shell Trading hubs, Chemicals, and Marketing. The Board considered how the Martinez divestment would be received by local communities and the potential reputational implications. Further, the Board observed that other retained businesses may feel at risk and more widely considered the potential impact on value chain cash generation. The future prospects, environment liabilities and the impact on employees were considered by the Board and included expectations around employee retention by the new buyer. Agreements were put in place regarding certain employee benefits which would be met by Shell for a period of time following the divestment.	Announcements and communications relating to divestments are drafted proactively. The stakeholder engagement plan included local government and communities. The plan focused on supporting community confidence in operations post-divestment. Engagement related to employees was undertaken, and agreement was reached regarding certain Shell-paid benefits. Community concerns regarding Shell's exit were addressed.

Shareholder Distributions	What was the outcome
Every quarter, the Board assessed the continuation of the share buyback programme as well as the ongoing payment and rate of dividend per share payable to shareholders. **How were stakeholders considered** A number of metrics underpinned each decision, including the BG intention statement regarding the equity issued in connection with the combination with the BG Group. At the time of each decision, the Board received an update on investor views based on equity and debt market opinions, Executive Committee and Investor Relations engagements, Chair engagements and rating agency views. Along with the other investor meetings undertaken by the Board and outlined within the stakeholder engagement section of this report (see page 122), towards the end of the year, the Senior Independent Director undertook a number of engagements to discuss the proposed remuneration policy, this provided investors a further opportunity to share views on other matters. In making decisions, the Board considered investor expectations, the BG intention statement regarding share buybacks, and the flexibility afforded by Operating Plans, which included known and anticipated organic free cash flow and were reflective of the actual and expected business performance at the time of the decisions.	As the macroeconomic environment changed during the year, further considerations were given to differing stakeholder opinion and balanced against prior intention statements. In the later part of the year, as part of the paper requesting approval for the share buyback and dividend payment, the Board received potential market reaction from equity and debt holders on pacing options related to the share buyback in consideration of the prevailing macroeconomic environment, including lower oil and gas prices. At the third quarter results announcement, the Company communicated the potential impact of these conditions on the pace of the share buyback programme and gearing reduction.

RISK FACTORS

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

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

The Board's responsibility for identifying, evaluating and managing our significant risks is discussed in "Other Regulatory and Statutory Information" pages 168-171.

Risk description	How this risk is managed
We are exposed to macroeconomic risks including fluctuating prices of crude oil, natural gas, oil products and chemicals The prices of crude oil, natural gas, oil products and chemicals are affected by supply and demand, both globally and regionally. Furthermore, macroeconomic risks can affect demand for our products. Government actions may also affect the prices of crude oil, natural gas, oil products and chemicals. This could happen, for example, by promoting the sale of lower-carbon electric vehicles or even through the future prohibition of sales of new diesel or gasoline vehicles, such as the prohibition in the United Kingdom (UK) beginning in 2035. Prices for oil and gas can also move independently of each other. Factors that influence supply and demand include operational issues, natural disasters, weather, pandemics, such as the COVID-19 (coronavirus) outbreak, political instability, conflicts, economic conditions and actions by major oil and gas producing countries. In a low oil and gas price environment, we would generate less revenue from our Upstream and Integrated Gas businesses, and, as a result, parts of those businesses could become less profitable, or could incur losses. Low oil and gas prices have also resulted and could continue to result in the debooking of proved oil or gas reserves, if they become uneconomic in this type of price environment. Prolonged periods of low oil and gas prices, or rising costs, have resulted and could continue to result in projects being delayed or cancelled. Assets have also been impaired in the past, and there could be impairments in the future. Low oil and gas prices could also affect our ability to maintain our long-term capital investment programme and dividend payments. Prolonged periods of low oil and gas prices could adversely affect the financial, fiscal, legal, political and social stability of countries that rely significantly on oil and gas revenue. In a high oil and gas price environment, we could experience sharp increases in costs, and, under some production-sharing contracts, our entitlement to proved reserves would be reduced. Higher prices could also reduce demand for our products, which could result in lower profitability, particularly in our Downstream business. Also, higher prices can result in more capacity being built which results in an oversupply of products that can negatively impact our LNG and Chemicals business. Accordingly, price fluctuations could have a material adverse effect on our earnings, cash flows and financial condition. See "Market overview" on **page 37**.	We maintain a diversified portfolio to mitigate the impact of price volatility. We test the resilience of our projects and other opportunities against a range of crude oil, natural gas, oil product and chemical prices and costs. We prepare annual strategic and financial plans that consider and analyse the impact of different pricing scenarios on our businesses and company as a whole. These plans are appraised regularly throughout the year. We also aim to maintain a strong balance sheet to provide resilience against weak market prices.
Our ability to deliver competitive returns and pursue commercial opportunities depends in part on the accuracy of our price assumptions. We use a range of oil and gas price assumptions, which we review on a periodic basis, to evaluate projects and commercial opportunities. If our assumptions prove to be incorrect, it could have a material adverse effect on our earnings, cash flows and financial condition. See "Market overview" on **page 39**.	The range of commodity prices used in our project and portfolio evaluations is subject to a rigorous assessment of short, medium and long-term market drivers.
Our ability to achieve our strategic objectives depends on how we react to competitive forces. We face competition in each of our businesses. We seek to differentiate our products; however, many of them are competing in commodity-type markets. Accordingly, failure to manage our costs as well as our operational performance could result in a material adverse effect on our earnings, cash flows and financial condition. We also compete with state-owned oil and gas entities with access to vast financial resources. State-owned entities could be motivated by political or other factors in making their business decisions. Accordingly, when bidding on new leases or projects, we could find ourselves at a competitive disadvantage as these state-owned entities may not require a competitive return. If we are unable to obtain competitive returns when bidding on new leases or projects, it could have a material adverse effect on our earnings, cash flows and financial condition. See "Strategy and outlook" on **page 20**.	We continually assess the external environment – the markets and the underlying economic, political, social and environmental drivers that shape them – to evaluate changes in competitive forces and business models. We use multiple future scenarios to assess the resilience of our strategy. We maintain business strategies and plans that focus on actions and capabilities to create and sustain competitive advantage.

RISK FACTORS continued

Risk description

We seek to execute divestments in the pursuit of our strategy. We may not be able to successfully divest these assets in line with our strategy.

We may not be able to successfully divest assets at acceptable prices or within the timeline envisaged due to market conditions or credit risk. This would result in increased pressure on our cash position and potential impairments. In some cases, we have also retained certain liabilities following a divestment. Even in cases where we have not expressly retained certain liabilities, we may still be held liable for past acts, failures to act or liabilities that are different from those foreseen. We may also face liabilities if a purchaser fails to honour their commitments. Accordingly, if we are unable to divest assets at acceptable prices or within our envisaged timeframe, this could have a material adverse effect on our earnings, cash flows and financial condition

See "Strategy and outlook" on **page 22**.

How this risk is managed

We carefully tailor our sales processes against buyers' perceived expectations to deliver the most competitive outcomes. As a general principle, the sales processes are set up so that buyers will acquire the assets including all related liabilities. For some assets, Shell may agree to retain certain liabilities, which are closely monitored and for which appropriate provisions are made.

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

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

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

Oil and gas production available for sale

Million boe [A]

	2019	2018	2017
Shell subsidiaries	1,182	1,179	1,168
Shell share of joint ventures and associates	156	159	170
Total	**1,338**	**1,338**	**1,338**

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

Proved developed and undeveloped oil and gas reserves [A][B] (at December 31)

Million boe [C]

	2019	2018	2017
Shell subsidiaries	9,980	10,294	10,177
Shell share of joint ventures and associates	1,116	1,285	2,056
Total	**11,096**	**11,578**	**12,233**
Attributable to non-controlling interest in Shell subsidiaries	304	331	325

[A] We manage our total proved reserves base without distinguishing between proved reserves from subsidiaries and those from joint ventures and associates.
[B] Includes proved reserves associated with future production that will be consumed in operations.
[C] Natural gas volumes are converted into oil equivalents using a factor of 5,800 scf per barrel.

See "Shell Story" on **page 17**.

How this risk is managed

We continue to explore for, and mature, hydrocarbons across our Deep Water, Conventional Oil and Gas, Shales and Integrated Gas strategic themes. We use our subsurface, project and technical expertise and actively manage non-technical risks across a diversified portfolio of opportunities and projects. This is done with an integrated approach from basin choice through to development, where we employ a number of competitive techniques and benchmark our approach internally and externally.

Risk description	How this risk is managed
The estimation of proved oil and gas reserves involves subjective judgements based on available information and the application of complex rules; therefore, subsequent downward adjustments are possible. The estimation of proved oil and gas reserves involves subjective judgements and determinations based on available geological, technical, contractual and economic information. Estimates could change because of new information from production or drilling activities, or changes in economic factors, including changes in the price of oil or gas and changes in the regulatory policies of host governments, or other events. Estimates could also be altered by acquisitions and divestments, new discoveries, and extensions of existing fields and mines, as well as the application of improved recovery techniques. Published proved oil and gas reserves estimates could also be subject to correction due to errors in the application of published rules and changes in guidance. Downward adjustments could indicate lower future production volumes and could also lead to impairment of assets. This could have a material adverse effect on our earnings, cash flows and financial condition. See "Supplementary information – oil and gas (unaudited)" on **page 239**.	A central group of reserves experts undertake the primary assurance of the proved reserves bookings. A multidisciplinary committee reviews and endorses all major proved reserves bookings. All proved reserves bookings are reviewed by Shell's Audit Committee, with final approval residing with Shell's Executive Committee. The Internal Audit function also provides further assurance through audits of the control framework.
Rising climate change concerns have led and could lead to additional legal and/or regulatory measures which could result in project delays or cancellations, a decrease in demand for fossil fuels, potential litigation and additional compliance obligations. In December 2015, 195 nations adopted the Paris Agreement, which we fully support. The Paris Agreement aims to limit increases in global temperatures to well below two degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. As a result, we expect continued and increased attention to climate change from all sectors of society. This attention has led, and we expect it to continue to lead, to additional regulations designed to reduce greenhouse gas (GHG) emissions. We expect that a growing share of our GHG emissions will be subject to regulation, resulting in increased compliance costs and operational restrictions. If our GHG emissions rise alongside our ambitions to increase the scale of our business, our regulatory burden will increase proportionally. We also expect that GHG regulation, as well as emission reduction actions by customers, will continue to result in suppression of demand for fossil fuels, either through taxes, fees and/or incentives to promote the sale of lower-carbon electric vehicles or even through the future prohibition of sales of new diesel or gasoline vehicles, such as the prohibition in the United Kingdom (UK) beginning in 2035. This could result in lower revenue and, in the long term, potential impairment of certain assets. In addition, the physical effects of climate change such as, but not limited to, rise in temperature, sea-level rise and fluctuations in water levels could adversely impact both our operations and supply chains. In some countries, governments, regulators, organisations and individuals have filed lawsuits seeking to hold fossil fuel companies liable for costs associated with climate change. While we believe these lawsuits to be without merit, losing any of these lawsuits could have a material adverse effect on our earnings, cash flows and financial condition. Additionally, some groups are pressuring certain investors to divest their investments in fossil fuel companies. If this were to continue, it could have a material adverse effect on the price of our securities and our ability to access capital markets. Additionally, some groups are pressuring commercial and investment banks from financing fossil fuel companies. Furthermore, according to press reports, some financial institutions also appear to be considering limiting their exposure to certain fossil fuel projects. Accordingly, our ability to use financing for future projects may be adversely impacted. This could also adversely impact our potential partners' ability to finance their portion of costs, either through equity or debt. If we are unable to find economically viable, as well as publicly acceptable, solutions that reduce our GHG emissions and/or GHG intensity for new and existing projects or for the products we sell, we could experience additional costs or financial penalties, delayed or cancelled projects, and/or reduced production and reduced demand for hydrocarbons. This could have a material adverse effect on our earnings, cash flows and financial condition. If we are unable to keep pace with society's energy transition or we are unable to provide the desired low-GHG-emissions products needed to facilitate society's energy transition, it could have a material adverse effect on our earnings, cash flows and financial condition. See "Climate change and energy transition" on **page 93**.	The risk is actively monitored and reviewed by the Executive Committee. These regular reviews lead to actions designed to address all the different components of the risk. Overall the mitigation of the risk is addressed through our strategy to thrive in the energy transition. This is made up of three components: ▪ reducing the GHG emissions intensity of our operations; ▪ demonstrating resilience by adopting the guidance on disclosure by the Task Force on Climate-related Financial Disclosures; and ▪ working towards our ambition to reduce the Net Carbon Footprint of the energy products we sell, in step with society's drive to reduce GHG emissions. Please refer to the risk factor "The nature of our operations exposes us, and the communities in which we work, to a wide range of health, safety, security and environment risks" for further explanation of how the physical effects of climate change on our operations and supply chains are managed.

RISK FACTORS continued

Risk description	How this risk is managed
Our business exposes us to risks of social instability, criminality, civil unrest, terrorism, piracy, cyber-disruption, acts of war and pandemic diseases, such as the COVID-19 (coronavirus) outbreak, that could have a material adverse effect on our operations. As seen in recent years, these risks can manifest themselves in the countries in which we operate and elsewhere. These risks affect people and assets. Potential risks include: acts of terrorism; acts of criminality including maritime piracy; cyber-espionage or disruptive cyber-attacks; conflicts including war, civil unrest and environmental and climate activism (including disruptions by non-governmental and political organisations); and pandemic diseases, such as the COVID-19 (coronavirus) outbreak. The above risks can threaten the safe operation of our facilities and transport of our products, cause disruption of operational activities, environmental harm, loss of life, injuries and impact the well-being of our people. These risks could have a material adverse effect on our earnings, cash flows and financial condition. See "Environment and society" on **page 84**.	We seek to obtain the best possible information to enable us to assess threats and risks. We conduct detailed assessments for all our sites and activities, and implement appropriate measures to deter, detect and respond to security risks. Further mitigations include the strengthening of the security of sites, reduction of our exposure as appropriate, journey management, information risk management as well as crisis management and business continuity measures. We conduct training and awareness campaigns for staff and provide travel and health advice and 24/7 assistance while travelling.
We operate in more than 70 countries that have differing degrees of political, legal and fiscal stability. This exposes us to a wide range of political developments that could result in changes to contractual terms, laws and regulations. In addition, we and our joint arrangements and associates face the risk of litigation and disputes worldwide. Developments in politics, laws and regulations can and do affect our operations. Potential impacts include: forced divestment of assets; expropriation of property; cancellation or forced renegotiation of contract rights; additional taxes including windfall taxes, restrictions on deductions and retroactive tax claims; antitrust claims; changes to trade compliance regulations; price controls; local content requirements; foreign exchange controls; changes to environmental regulations; changes to regulatory interpretations and enforcement; and changes to disclosure requirements. Any of these, individually or in aggregate, could have a material adverse effect on our earnings, cash flows and financial condition. In addition to the above risks, the UK left the European Union (EU) on January 31, 2020 and enters into a period of transition which ends on December 31, 2020. The UK has stated that it will not extend the period of transition, and has confirmed plans to introduce import controls on EU goods at the border after the period of transition ends. Whatever the outcome of negotiations, we may experience delays in moving our products and employees between the UK and EU. Also, additional tariffs and taxes could impact the demand for some of our products. This potential delay and reduced demand for our products, combined with the potential adverse changes in macroeconomic conditions in both the EU and UK, could have a material adverse effect on our earnings and cash flows. From time to time, social and political factors play a role in unprecedented and unanticipated judicial outcomes that could adversely affect Shell. Non-compliance with policies and regulations could result in regulatory investigations, litigation and, ultimately, sanctions. Certain governments and regulatory bodies have, in Shell's opinion, exceeded their constitutional authority by: attempting unilaterally to amend or cancel existing agreements or arrangements; failing to honour existing contractual commitments; and seeking to adjudicate disputes between private litigants. Additionally, certain governments have adopted laws and regulations that could potentially conflict with other countries' laws and regulations, potentially subjecting us to both criminal and civil sanctions. Such developments and outcomes could have a material adverse effect on our earnings, cash flows and financial condition. See "Other Regulatory and Statutory Information" on **page 134**.	We continuously monitor geopolitical developments and societal issues relevant to our interests. Our Legal and Tax functions are organised globally and support the business lines in ensuring compliance with local laws and fiscal regulations. Our Government Relations department engages with governments in countries where we operate to understand and influence local policies and to advocate Shell's position on topics relevant to our industry. We are prepared to exit a country if we believe we can no longer operate in that country in accordance with our standards and applicable law, and we have done so in the past.

Risk description	How this risk is managed
The nature of our operations exposes us, and the communities in which we work, to a wide range of health, safety, security and environment risks. The health, safety, security and environment (HSSE) risks to which we, and the communities in which we work, are potentially exposed cover a wide spectrum, given the geographic range, operational diversity and technical complexity of our operations. These risks include the effects of natural disasters (including weather events), earthquakes, social unrest, personal health and safety lapses, and crime. If a major risk materialises, such as an explosion or hydrocarbon spill, this could result in injuries, loss of life, environmental harm, disruption of business activities, and loss or suspension of our licence to operate or ability to bid on mineral rights. Accordingly, this could have a material adverse effect on our earnings, cash flows and financial condition. Our operations are subject to extensive HSSE regulatory requirements that often change and are likely to become more stringent over time. Governments could require operators to adjust their future production plans, as has been done in the Netherlands, affecting production and costs. We could incur significant additional costs in the future due to compliance with these requirements or as a result of violations of, or liabilities under, laws and regulations, such as fines, penalties, clean-up costs and third-party claims. Therefore, HSSE risks, should they materialise, could have a material adverse effect on our earnings, cash flows and financial condition. See "Environment and society" on **page 84**.	We have standards and a clear governance structure to help manage potential impacts. They are defined in our Health, Safety, Security, Environment and Social Performance (HSSE & SP) control framework and supporting guidance documents. The process safety and HSSE & SP assurance team provides assurance on the effectiveness of HSSE & SP controls to the Board. We also routinely prepare and practise our emergency response to potential incidents such as a spill or a fire.
A further erosion of the business and operating environment in Nigeria could have a material adverse effect on us. In our Nigerian operations, we face various risks and adverse conditions. These include: security issues surrounding the safety of our people, host communities and operations; sabotage and theft; our ability to enforce existing contractual rights; litigation; limited infrastructure; potential legislation that could increase our taxes or costs of operations; the effect of lower oil and gas prices on the government budget; and regional instability created by militant activities. These risks or adverse conditions could have a material adverse effect on our earnings, cash flows and financial condition. See "Upstream" on **page 57**.	We test the economic and operational resilience of our Nigerian projects against a wide range of assumptions and scenarios. We seek to proportionally share risks and funding commitments with joint-venture partners. We monitor the security situation, and liaise with host communities, governmental and non-governmental organisations to help promote peaceful and safe operations.
Production from the Groningen field in the Netherlands causes earthquakes that affect local communities. Shell and ExxonMobil are 50:50 shareholders in Nederlandse Aardolie Maatschappij B.V. (NAM). An important part of NAM's gas production comes from the onshore Groningen gas field, in which EBN, a Dutch government entity, has a 40% interest and NAM a 60% interest. The gas field is in the process of being closed down due to gas-production-induced earthquakes. Some of these earthquakes have caused damage to houses and other structures in the region, resulting in complaints and lawsuits from the local community. The Government has announced their intent for an accelerated close-down to reduce Groningen production to zero by mid-2022. The exact date is still to be decided. While we are hopeful the closing down of the Groningen gas field will reduce the number and strength of earthquakes in the region, any additional earthquakes and lawsuits could have further adverse impacts on our earnings, cash flows and financial condition. See "Upstream" on **page 54**.	NAM is working with the Dutch government and other stakeholders to fulfil its obligations to residents of the area, which include compensation for damage caused by the earthquakes. Negotiations with the state are ongoing to determine how the accelerated close-down should be managed. Specific remediations within the agreed scope of responsibilities are planned. NAM's joint-venture partners will review its financial robustness against different scenarios for Groningen's liabilities and costs, with the objective that the venture can self-fund any additional expenses and claims.

RISK FACTORS continued

Risk description	How this risk is managed
Our future performance depends on the successful development and deployment of new technologies and new products. Technology and innovation are essential to our efforts to meet the world's energy demands in a competitive way. If we do not continue to develop or deploy technology and new products, or fully leverage our data effectively in a timely and cost-effective manner, there could be a material adverse effect on the delivery of our strategy and our licence to operate. We operate in environments where advanced technologies are utilised. In developing new technologies and new products, unknown or unforeseeable technological failures or environmental and health effects could harm our reputation and licence to operate or expose us to litigation or sanctions. The associated costs of new technology are sometimes underestimated, or delays occur. If we are unable to develop the right technology and products in a timely and cost-effective manner, or if we develop technologies and products that adversely impact the environment or health of individuals, there could be a material adverse effect on our earnings, cash flows and financial condition. See "Shell Story" on **page 18**.	Shell's Technology organisation and the relevant lines of business work together to determine the content, scope and budget for developing new technology that supports our activities. The new technology is developed to ensure portfolio alignment with Shell's strategic ambitions and deployment commitments. A significant proportion of Shell's technology contributes to Shell's New Energies portfolio and Net Carbon Footprint ambition, and is built around key relationships with leading academic research institutes and universities. We also benefit from working with start-ups. In our Shell GameChanger programme, we help companies to mature early-stage technologies. In our Shell Ventures scheme, we invest in and partner with start-ups and small and medium-sized enterprises that are in the early stages of developing new technologies.
We are exposed to treasury and trading risks, including liquidity risk, interest rate risk, foreign exchange risk and credit risk. We are affected by the global macroeconomic environment as well as financial and commodity market conditions. Our subsidiaries, joint arrangements and associates are subject to differing economic and financial market conditions around the world. Political or economic instability affects such markets. We use debt instruments, such as bonds and commercial paper, to raise significant amounts of capital. Should our access to debt markets become more difficult, the potential impact on our liquidity could have a material adverse effect on our operations. Our financing costs could also be affected by interest rate fluctuations or any credit rating deterioration. We are exposed to changes in currency values and to exchange controls as a result of our substantial international operations. Our reporting currency is the US dollar. However, to a material extent, we hold assets and are exposed to liabilities in other currencies. While we undertake some foreign exchange hedging, we do not do so for all our activities. Furthermore, even where hedging is in place, it may not function as expected. We are exposed to credit risk; our counterparties could fail or could be unable to meet their payment and/or performance obligations under contractual arrangements. Although we do not have significant direct exposure to sovereign debt, it is possible that our partners and customers may have exposure which could impair their ability to meet their obligations. In addition, our pension plans invest in government bonds, and therefore could be affected by a sovereign debt downgrade or other default. If any of the risks set out above materialise, they could have a material adverse effect on our earnings, cash flows and financial condition. See "Liquidity and capital resources" on **page 80** and Note 19 to the "Consolidated Financial Statements" on **pages 227-231**.	We utilise various financial instruments for managing exposure to foreign exchange and interest rate movements. Our treasury operations are highly centralised and seek to manage credit exposures associated with our substantial cash, foreign exchange and interest rate positions. Our portfolio of cash investments is diversified to avoid concentrating risk in any one instrument, country or counterparty. Other than in exceptional cases, the use of external derivative instruments is confined to specialist central treasury organisations that have appropriate skills, experience, supervision, control and reporting systems. Credit risk policies are in place to ensure that sales of products are made to customers with appropriate creditworthiness, and include detailed credit analysis and monitoring of customers against counterparty credit limits. Where appropriate, netting arrangements, credit insurance, prepayments and collateral are used to manage credit risk. We maintain a committed credit facility. Management believes it has access to sufficient debt funding sources (capital markets) and to undrawn committed borrowing facilities to meet foreseeable requirements.

Risk description	How this risk is managed
We are exposed to commodity trading risks, including market and operational risks. Commodity trading is an important component of our Upstream, Integrated Gas and Downstream businesses and is integrated with our supply business. Processing, managing and monitoring a large number of trading transactions across the world, some of which are complex, exposes us to operational and market risks, including commodity price risks. We use derivative instruments such as futures and contracts for differences to hedge market risks. However, we do not hedge all our activities and where hedging is in place, it may not function as expected. The risk of ineffective controls and oversight of trading activities and the risk that traders, individually or as a group, could act intentionally outside of the limits and controls, could have material adverse effect on our earnings, cash flows and financial condition. See "Liquidity and capital resources" on **page 80** and Note 19 to the "Consolidated Financial Statements" on **pages 227-231**.	In effecting commodity trades and derivative contracts, the Company operates within procedures and policies designed to ensure that risks are managed within authorised limits. For example, the use of external derivative instruments is confined to specialist trading organisations that have appropriate skills, experience, supervision, control and reporting systems. There is regular review of mandated trading limits by senior management, daily monitoring of market risk exposure using value-at-risk (VAR) techniques, daily monitoring of trading positions against limits, and marking-to-fair value of trading exposures with a department independent of traders reviewing the market values applied. Our trading organisation has a compliance manual addressing our operational risks which all staff are required to follow.
We have substantial pension commitments, funding of which is subject to capital market risks and other factors. Liabilities associated with defined benefit pension plans are significant, as can be cash funding requirement of such plans; both depend on various assumptions. Volatility in capital markets or government policies, and the resulting consequences for investment performance and interest rates, as well as changes in assumptions for mortality, retirement age or pensionable remuneration at retirement, could result in significant changes to the funding level of future liabilities. We operate a number of defined benefit pension plans and, in case of a shortfall, we could be required to make substantial cash contributions (depending on the applicable local regulations) resulting in a material adverse effect on our earnings, cash flows and financial condition. See "Liquidity and capital resources" on **page 81**.	A pensions forum, chaired by the Chief Financial Officer oversees Shell's input to pension strategy, policy and operation. The forum is supported by a risk committee in reviewing the results of assurance processes with respect to pension risks. Local trustees manage the funded defined benefit pension plans, with contributions paid based on independent actuarial valuations in accordance with local regulations.
We mainly self-insure our risk exposure. We could incur significant losses from different types of risks that are not covered by insurance from third-party insurers. Our insurance subsidiaries provide hazard insurance coverage to other Shell entities and only reinsure a portion of their risk exposures. Such reinsurance would not provide any material coverage in the event of a large-scale safety and environmental incident. Accordingly, in the event of a material incident, there would not be any material proceeds available from third-party insurance companies to meet our obligations. Therefore, we may incur significant losses from different types of risks that are not covered by insurance from third-party insurers, potentially resulting in a material adverse effect on our earnings, cash flows and financial condition. See "Corporate" on **page 79**.	We continuously assess the safety performance of our operations and make risk mitigation recommendations, where relevant, to reduce the risk of an accident to as low as possible. Our insurance subsidiaries are adequately capitalised and transfer risks to third-party insurers where economical, effective and relevant.

RISK FACTORS continued

Risk description	How this risk is managed
An erosion of our business reputation could have a material adverse effect on our brand, our ability to secure new resources or access capital markets, and on our licence to operate. Our reputation is an important asset. The Shell General Business Principles (Principles) govern how Shell and its individual companies conduct their affairs, and the Shell Code of Conduct instructs employees and contract staff on how to behave in line with the Principles. Our challenge is to ensure that all employees and contract staff, more than 100,000 in total, comply with the Principles and the Code of Conduct. Real or perceived failures of governance or regulatory compliance or a perceived lack of understanding of how our operations affect surrounding communities could harm our reputation. Societal expectations of businesses are increasing, with a focus on business ethics, quality of products, contribution to society, minimising environmental impacts, and safety. There is increasing focus on the role of oil and gas in the context of climate change and energy transition. This could negatively affect our brand, reputation and licence to operate, which could impact our ability to deliver our strategy, consumer demand for our branded and non-branded products, harm our ability to secure new resources and contracts, and limit our ability to access capital markets or attract staff. Many other factors, including the materialisation of the risks discussed in several of the other risk factors, could negatively impact our reputation and could have a material adverse effect on our earnings, cash flows and financial condition. See "Other Regulatory and Statutory Information" on **page 167** and "Our people" on **page 100**.	We continuously assess and monitor the external environment for potential risks to our reputation. We have mitigation plans in place for identified brand and reputation risks at the Group, country and line of business level. Our country chairs are responsible for the implementation of country reputation plans which are updated annually. We continuously develop and defend our brand in line with Shell's purpose and promises, and target our investments to drive brand differentiation, relevance and preference.
Many of our major projects and operations are conducted in joint arrangements or with associates. This could reduce our degree of control, as well as our ability to identify and manage risks. In cases where we are not the operator, we have limited influence over, and control of, the behaviour, performance and costs of operation of such joint arrangements or associates. Despite not having control, we could still be exposed to the risks associated with these operations, including reputational, litigation (where joint and several liability could apply) and government sanction risks. For example, our partners or members of a joint arrangement or an associate (particularly local partners in developing countries) may not be able to meet their financial or other obligations to the projects, threatening the viability of a given project. Where we are the operator of a joint arrangement, the other partner(s) could still be able to veto or block certain decisions, which could be to our overall detriment. Accordingly, where we have limited influence, we are exposed to operational risks that could have a material adverse effect on our earnings, cash flows and financial condition. See "Other Regulatory and Statutory Information" on **page 169**.	Shell appoints a Joint Venture Asset Manager, whose responsibility is to manage performance (create and protect value for Shell) by influencing operators and other partners to adapt their operating practices to appropriately drive value and mitigate identified risks. An annual assurance review takes place on the alignment of standards and processes in joint ventures with the standards applicable to Shell. Any gaps identified are followed up by the Joint Venture Asset Manager.
We rely heavily on information technology systems in our operations. The operation of many of our business processes depends on reliable information technology (IT) systems. Our IT systems are increasingly concentrated in terms of geography, number of systems, and dependent on key contractors supporting the delivery of IT services. Shell is the target of attempts to gain unauthorised access to our IT systems and our data through various channels, including more sophisticated and coordinated attempts often referred to as advanced persistent threats. Breaches have occurred, including to our UK LiveWIRE application where approximately 196,000 accounts and personal data were compromised. Where systems, customers' accounts and data have been compromised, we undertake to notify all relevant regulators and impacted customers, in accordance with countries' laws and regulations, including privacy requirements. Timely detection is becoming increasingly complex, but we seek to detect and investigate all such security incidents, aiming to prevent their recurrence. Disruption of critical IT services, or breaches of information security, could harm our reputation and have a material adverse effect on our earnings, cash flows and financial condition. See "Corporate" on **pages 79**.	We continuously measure and improve our cyber-security capabilities. To reduce the likelihood of successful cyberattacks our cyber-security capabilities are embedded into our IT systems. Our IT landscape is protected by various detective and protective technologies. The identification and assessment capabilities are built into our IT support processes and adhere to industry best practices. The security of IT services, operated by external IT companies, is managed through contractual clauses and through formal supplier assurance reports. Shell invests constantly in efforts to embed and improve our controls and monitoring activities. In case of breaches, all entities, including the ones not yet fully integrated into Shell's systems and processes, are required to report and leverage Shell's information security capabilities.

Risk description	How this risk is managed
Violations of antitrust and competition laws carry fines and expose us and/or our employees to criminal sanctions and civil suits. Antitrust and competition laws apply to Shell and its joint ventures and associates in the vast majority of countries where we do business. Shell and its joint ventures and associates have been fined for violations of antitrust and competition laws in the past. These include a number of fines by the European Commission Directorate-General for Competition (DG COMP). Due to DG COMP's fining guidelines, any future conviction of Shell or any of its joint ventures or associates for violation of EU competition law could result in significantly larger fines and have a material adverse effect on us. Violation of antitrust laws is a criminal offence in many countries, and individuals can be imprisoned or fined. In certain circumstances, directors may receive director disqualification orders. It is also now common for persons or corporations allegedly injured by antitrust violations to sue for damages. Any violation of these laws can harm our reputation and could have a material adverse effect on our earnings, cash flows and financial condition. See "Other Regulatory and Statutory Information" on **page 167**.	We maintain an antitrust programme with adequate resources, a comprehensive governance structure and established reporting lines. Clear guidance is provided to staff, which includes requirements in Shell's Ethics & Compliance manual, an antitrust specific website, training modules where completion is monitored and regular messages from Shell leaders on the importance of managing antitrust risks. Staff must understand and comply with the "Protect Shell Policy", which explains Shell's position on managing competitively sensitive information.
Violations of anti-bribery, tax-evasion and anti-money laundering laws carry fines and expose us and/or our employees to criminal sanctions, civil suits and ancillary consequences (such as debarment and the revocation of licences). Anti-bribery, tax-evasion and anti-money laundering laws apply to Shell, its joint ventures and associates in all countries where we do business. Shell and its joint ventures and associates have in the past settled with the US Securities and Exchange Commission regarding violations of the US Foreign Corrupt Practices Act. Any violation of anti-bribery, tax-evasion or anti-money laundering laws, including those potential violations associated with Shell Nigeria Exploration and Production Company Limited's investment in Nigerian oil block OPL 245 and the 2011 settlement of litigation pertaining to that block, could have a material adverse effect on our earnings, cash flows and financial condition. See "Our people" on **pages 100**, "Other Regulatory and Statutory Information" on **page 167** and Note 25 to the "Consolidated Financial Statements" on **pages 235-237**.	We maintain an anti-bribery and anti-money laundering (ABC/AML) programme with adequate resources, a comprehensive governance structure and established reporting lines in place. Clear guidance is provided to staff, which includes requirements in Shell's Ethics & Compliance manual, an ABC/AML specific website, training modules where completion is monitored and regular messages from Shell leaders on the importance of management of ABC/AML risks. As to OPL 245, the 2011 settlement was a fully legal transaction with Eni and the Federal Government of Nigeria, represented by the most senior officials of the relevant ministries. We maintain our view that there is no basis to convict Shell, or any of our former employees who are also on trial, in Milan.
Violations of data protection laws carry fines and expose us and/or our employees to criminal sanctions and civil suits. Data protection laws apply to Shell and its joint ventures and associates in the vast majority of countries where we do business. Most of the countries we operate in have data protection laws and regulations. Additionally, the EU General Data Protection Regulation (GDPR) came into effect in May 2018, which increased penalties up to a maximum of 4% of global annual turnover for breach of the regulation. The GDPR requires mandatory breach notification, the standard for which is also followed outside the EU (particularly in Asia). Non-compliance with data protection laws could expose us to regulatory investigations, which could result in fines and penalties and harm our reputation. In the past we have breached the GDPR and some investigations are still ongoing with European regulators. To date no material fines have been imposed, however, no assurance can be provided that future breaches would have similar outcomes. In addition to imposing fines, regulators may also issue orders to stop processing personal data, which could disrupt operations. We could also be subject to litigation from persons or entities allegedly affected by data protection violations. Violation of data protection laws is a criminal offence in some countries, and individuals can be imprisoned or fined. Any violation of these laws or harm to our reputation could have a material adverse effect on our earnings, cash flows and financial condition. See "Other Regulatory and Statutory Information" on **page 167**.	We maintain a data privacy programme with adequate resources, a comprehensive governance structure and established reporting lines. Clear guidance is provided to staff, which includes requirements in Shell's Ethics & Compliance manual, a data privacy specific website, training modules where completion is monitored and regular messages from Shell leaders on the importance of managing data privacy risks. The requirements for incident management, set forth in our Binding Corporate Rules have been revised to comply with reporting requirements under GDPR, as has our approach to privacy impact assessments. In 2020 we have established a Privacy by Design programme to enhance our controls in this area.

RISK FACTORS continued

Risk description	How this risk is managed
Violations of trade compliance laws and regulations, including sanctions, carry fines and expose us and our employees to criminal sanctions and civil suits. We use "trade compliance" as an umbrella term for various national and international laws designed to regulate the movement of items across national boundaries and restrict or prohibit trade and other dealings with certain parties. The number and breadth of such laws continue to expand. For example, the EU and the USA continue to impose restrictions and prohibitions on certain transactions involving countries such as Syria, Venezuela, Russia and Cuba. In addition, the USA continues to have comprehensive sanctions in place against Iran, while the EU and other nations continue to maintain targeted sanctions. Additional restrictions and controls directed at defined oil and gas activities in Russia, which were imposed by the EU and the USA in 2014, remain in force. Further restrictions regarding Russia were introduced by the USA in 2017 and expanded in 2018. Both the EU and the USA introduced sectoral sanctions against Venezuela in 2017, which the USA expanded in 2018 and 2019. The US sanctions primarily target the government of Venezuela and the oil industry. Many other nations are also adopting trade-control programmes similar to those administered by the EU and the USA. This expansion of sanctions, including the frequent additions of prohibited parties, combined with the number of markets in which we operate and the large number of transactions we process, make compliance with all sanctions complex and at times challenging. Shell has voluntarily self-disclosed potential violations of sanctions in the past. Any violation of one or more of these regimes could lead to loss of import or export privileges, significant penalties on or prosecution of Shell or its employees and could harm our reputation and have a material adverse effect on our earnings, cash flows and financial condition. See "Other Regulatory and Statutory Information" on **page 167**.	We continue to develop and maintain a trade compliance programme with adequate resources, a comprehensive governance structure and established reporting lines. Clear guidance is provided to staff, which includes requirements in Shell's Ethics & Compliance manual, a trade compliance specific website, training modules where completion is monitored and regular messages from Shell leaders on the importance of managing trade compliance risks. The effectiveness of the trade compliance programme is assessed annually (or more frequently if necessary).

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

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

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

MARKET OVERVIEW

We maintain a large business portfolio across an integrated value chain and are exposed to crude oil, natural gas, oil product and chemical prices (see "Risk factors" on page 27). This diversified portfolio helps us mitigate the impact of price volatility. Our annual planning cycle and periodic portfolio reviews aim to ensure that our levels of capital investment and operating expenses are appropriate in the context of a volatile price environment. We test the resilience of our projects and other opportunities against a range of crude oil, natural gas, oil product and chemical prices and costs. We also aim to maintain a strong balance sheet to provide resilience against weak market prices.

GLOBAL ECONOMIC GROWTH

Economic activity is one of the key drivers of demand for oil, natural gas and oil products. Widespread economic and geopolitical uncertainty meant the global business environment remained challenging in 2019. According to the World Economic Outlook released by the International Monetary Fund (IMF) in January 2020, global economic growth for 2019 is estimated to have fallen to 2.9% from 3.6% in 2018.

A common feature in the weakening of many countries' GDP was a slowdown in industrial output. According to the IMF, this slowdown was caused by weak business confidence amid growing trade-related tensions between the USA and China. Industrial production also slowed due to changes in technology and emissions standards leading to a fall in car production and many potential vehicle buyers delaying their purchase in favour of a wait-and-see attitude.

The IMF also noted a slowdown in economic growth in China and other large Asian economies, driven by China's regulatory efforts to limit its debt, and exacerbated by increased trade tensions with the USA.

With lingering trade policy and geopolitical uncertainties, the global economic outlook for 2020 remains precarious. A key uncertainty for the global economy will be the impact of the COVID-19 (coronavirus) outbreak in China and elsewhere.

GLOBAL PRICES, DEMAND AND SUPPLY

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

Oil and gas average industry prices [A]

	2019	2018	2017
Brent ($/b)	64	71	54
West Texas Intermediate ($/b)	57	65	51
Henry Hub ($/MMBtu)	2.5	3.1	3.0
UK National Balancing Point (pence/therm)	35	60	45
Japan Customs-cleared Crude ($/b)	67	73	54

[A] Yearly average prices are based on daily spot prices. The 2019 average price for Japan Customs-cleared Crude excludes December data.

CRUDE OIL

Brent crude oil, an international benchmark, traded between $53 per barrel (/b) and $75/b in 2019, ending the year at $67/b. Brent crude oil prices averaged $64/b for the year, 10% (or $7/b) lower than in 2018.

At the beginning of 2019, global oil demand for the year was expected to grow by 1.4 million barrels per day (b/d). However, as the global economic environment weakened throughout 2019, global oil demand growth projections for the full year were adjusted downwards. Year averaged global oil demand grew by 1.0 million b/d, or 1.0%, to 100.3 million b/d, according to the International Energy Agency's (IEA) Oil Market Report published in January 2020. This growth was lower than the historical average of 1.3 million b/d per year since 2000. Oil demand growth was driven by non-OECD economies, where demand grew by 1.1 million b/d, while oil demand contracted by 0.1 million b/d in the OECD. Oil demand growth in 2019 was 0.1 million b/d lower than in 2018, when it rose by 1.1 million b/d.

Oil supply in 2019 is estimated in the Oil Market Report at 100.3 million b/d, unchanged compared to 2018. Because oil supply and oil demand were in balance, we estimate that elevated industry-controlled crude oil and oil products stocks remained unchanged from 2018. This limited price increases. Average commercial inventory levels for OECD countries in November 2019 were estimated at 2,912 million barrels in the Oil Market Report. This was around 52 million barrels higher than in November 2018, and about 211 million barrels more than the average for 2014, when Brent crude oil prices were around $100/b for most of the year.

Non-OPEC supply growth, mostly in the USA, was balanced by lower OPEC production. The US Energy Information Administration reported another year of supply growth. US production is estimated to have averaged 12.3 million b/d in 2019, 1.5 million b/d higher than in 2018, and 3 million b/d higher than 2017. Supply growth was supported by continued efficiency gains, and occurred despite lower drilling activity reflected by a 23% fall in the onshore oil rig count during the year. Production from other non-OPEC countries increased by 0.5 million b/d in 2019 and averaged 58.1 million b/d.

For most of 2019, OPEC members and co-operating non-OPEC resource holders, most notably Russia, continued to cap their overall production at 2018 levels. In December 2019, they decided to further cap production by 0.5 million b/d becoming effective in 2020. OPEC's production fell from 31.9 million b/d in 2018 to 29.9 million b/d in 2019, in part due to sanctions causing production to fall in Iran and Venezuela. Furthermore, supply from Venezuela was also affected by a deteriorating production environment.

On a yearly average basis, West Texas Intermediate (WTI) crude oil traded at a $7/b discount to Brent crude oil in 2019, compared with $6/b in 2018. The discount remained broadly unchanged from 2018, reflecting continued constrained pipeline capacity from the landlocked Cushing storage hub to the US Gulf Coast, against a backdrop of growing supply to the hub. According to the US Energy Information Administration, US crude oil exports increased further to a yearly average of about 3 million b/d in 2019, up by 1 million b/d from 2018, and peaked above 4 million b/d by the end of the year. This helped to limit further widening of the price differential between Brent and WTI.

MARKET OVERVIEW continued

Looking ahead, the IMF's global economic outlook indicates some increase in global economic growth, which should support oil demand growth. According to the IEA, near-term global oil demand growth is projected at around 1.3 million b/d per annum. To keep supply and demand in balance, demand growth and natural production decline from existing operations are to be met by supply growth. If OPEC members and co-operating non-OPEC resource holders continue implementing their current production agreement successfully, then supply growth would have to be delivered by non-OPEC countries, most notably the USA. Markets could tighten and prices could rise if US supply growth slows. The fall in US drilling activity in 2019 could be a first indicator of moderating US supply growth. A lack of industry-wide investment in new supply projects could lead to further market tightening in the next few years, given the long lead time of many of these projects.

On the other hand, we believe the price environment could weaken if the impact of the coronavirus grows or recession fears materialise, and/or OPEC and the non-OPEC resource holders relax their production agreement. The price environment could also weaken if other non-OPEC producers, such as US shale producers, effectively deliver more and cheaper oil to the market.

NATURAL GAS

We estimate global gas demand to have grown by about 2.4% in 2019, in line with the annual growth rate of 2.5% observed since the start of the century. Robust demand growth in power generation and industry was driven by attractive regional spot gas prices that encouraged switching from competing fuels such as coal and oil. In the key regional markets of North America, Europe, and Asia-Pacific, attractive prices have been caused mainly by ample gas supply growth.

In 2019, global liquefied natural gas (LNG) imports grew by 40 million tonnes, or 13% of the total LNG market. LNG supply growth, mainly in Australia, the USA and Russia, outpaced demand growth. In 2019, inventory levels were higher in Asia following mild winter conditions. LNG imports were down in Japan and South Korea due to milder weather and higher nuclear utilisation than in 2018. However, more LNG supply flowed into the European markets.

Natural gas prices can vary from region to region.

In the USA, the natural gas price at the Henry Hub averaged $2.5 per million British thermal units (MMBtu) in 2019, 19% lower than in 2018. It traded in a range of $2.0 to 4.1/MMBtu. There was downward pressure on prices due to a strong gas supply growth of about 8 billion cubic feet per day, which averaged 10% higher than in 2018. Gas supply growth was, in part, driven by a growth of associated gas from oil fields, helped by oil prices above $50/b, and by new gas pipeline capacity. Gas prices found support from demand growth driven by below-normal storage inventory levels; an increase in usage of power for cooling due to warmer than normal weather in the second half of the year; completion of LNG liquefaction projects; increased exports to Mexico by pipeline; and US industrial growth.

In Europe, the average price at the UK National Balancing Point (NBP) was 43% lower in 2019 compared to 2018. At the main continental gas trading hubs – in the Netherlands, Belgium and Germany – prices were also lower, as reflected by weaker Dutch Title Transfer Facility (TTF) prices. European gas prices were lower due to: the rise in LNG volume diverted from the Asia-Pacific region caused by weaker Asia-Pacific demand growth; robust supply of pipeline gas, particularly from Russia; well-filled gas storage inventories; competition with renewables in power generation; and mild weather.

We also produce and sell natural gas in regions where supply, demand and regulatory circumstances differ markedly from those in the USA or Europe. Long-term contracted LNG prices in 2019 in the Asia-Pacific region were broadly comparable to 2018 prices as they are predominantly indexed to oil prices, particularly to the Japan Customs-cleared Crude (JCC) index which has been generally stable year-on-year. Meanwhile, delivered North Asia spot prices, reflected by the Japan Korea Marker, declined by 43% versus 2018 as a result of the oversupply in the global LNG market.

Looking ahead, we expect gas markets in North America, Europe and Asia-Pacific to be well supplied over the next few years, despite our expectation of LNG demand growth in Asia. Price developments are very uncertain and dependent on many factors.

In the USA, Henry Hub gas prices may increase over the next few years due to: increasing demand from LNG exports; exports to Mexico by pipeline; and residential and industrial users. On the other hand, increasing availability of low-cost natural gas and oil, combined with technological improvements, could continue to place pressure on natural gas prices. In Europe, we believe gas prices will be increasingly influenced by the cost of LNG imports from the USA. In the Asia-Pacific region, long-term gas prices are expected to continue to be strongly influenced by oil prices and spot prices increasingly by gas supply and demand fundamentals.

CRUDE OIL AND NATURAL GAS PRICE ASSUMPTIONS

Our ability to deliver competitive returns and pursue commercial opportunities ultimately depends on the accuracy of our price assumptions (see "Risk factors" on page 27). We determine the range of possible future crude oil and natural gas prices to be used in project and portfolio evaluations after a rigorous assessment of short, medium and long-term market drivers. We consider historical analyses, trends and statistical volatility, and market fundamentals such as possible future economic conditions, geopolitics, actions by OPEC and other major resource holders, production costs, and the balance of supply and demand. We use sensitivity analyses to test the impact of low-price drivers like economic weakness, and the effect of high-price drivers, such as strong economic growth and low investment in new production capacity. See also Note 8 to the "Consolidated Financial Statements" on pages 210-213.

REFINING MARGINS

Refining marker average industry gross margins

	2019	2018	2017
			$/b
US West Coast	13.5	11.5	14.0
US Gulf Coast Coking	4.9	7.0	9.9
Rotterdam Complex	2.3	2.5	4.3
Singapore	(0.6)	1.4	3.6

Industry gross refining margins were lower on average in 2019 than in 2018 in three of the four key refining hubs of Europe, Singapore and the US Gulf Coast. Only in the US West Coast did gross margins improve due to, in-part, unplanned outages in the region, which supported product prices. Globally, year-on-year growth in demand for oil products has slowed in line with slowing global economic growth. Refinery capacity additions, especially in the Middle East and Asia, combined with lower demand growth have led to generally lower refinery utilisations, which weakened margins. Refinery activity continued to be low in Latin America amid the ongoing geopolitical uncertainty and poor investment climate.

On January 1, 2020 the new International Maritime Organization low-sulphur shipping fuel specification came into effect. The refining industry started to transition to the new specification in the second half of 2019 by building a significant inventory of low-sulphur fuels. The full effects of the implementation are expected to materialise in 2020.

Refinery margins could weaken in 2020 if the coronavirus materially impacts global demand for oil products.

PETROCHEMICAL MARGINS

Cracker industry margins [A]

	2019	2018	2017
			$/tonne
North East/South East Asia naphtha	302	594	688
Western Europe naphtha	531	562	727
US ethane	445	412	471

[A] ICIS data is quoted. Cracker industry margins have been revised from Q1 2018 onwards due to updated cracker margin calculation methodology by ICIS. Further revisions based on available market information to external industry data provider up to the end of the period.

In 2019, Chinese GDP growth slowed and there was continued uncertainty regarding trade and tariffs between the USA and China. Demand growth in several chemicals end-consumption markets slowed and, in the automotive sector, demand even contracted. Cracker industry margins in Asia halved. Cracker margins in Western Europe and the USA were relatively unchanged versus 2018. West European margins were supported by a high level of maintenance outages in the first half of 2019, while in the USA margins were supported by low ethane prices.

The outlook for petrochemical margins in 2020 and beyond depends on supply and demand balances and feedstock costs. Demand for petrochemicals is closely linked to economic and trade growth. Product prices reflect prices of raw materials, which are closely linked to crude oil and natural gas prices. The balance of these factors will drive margins.

The statements in this "Market overview" section, including those related to our price forecasts, are forward-looking statements based on management's current expectations and certain material assumptions and, accordingly, involve risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied herein. See "About this Report" on pages 2-3 and "Risk factors" on pages 27-36.

SUMMARY OF RESULTS

Key statistics

	$ million, except where indicated		
	2019	2018	2017
Income for the period	16,432	23,906	13,435
Current cost of supplies adjustment	(605)	458	(964)
Total segment earnings [A][B], of which:	15,827	24,364	12,471
Integrated Gas	8,628	11,444	5,078
Upstream	4,195	6,798	1,551
Downstream	6,277	7,601	8,258
Corporate	(3,273)	(1,479)	(2,416)
Capital expenditure	22,971	23,011	20,845
Cash capital expenditure [B]	23,919	24,078	21,533
Capital investment [B]	28,788	24,878	23,655
Operating expenses [B]	37,893	39,316	38,083
Return on average capital employed [B]	6.7%	9.4%	5.8%
Gearing at December 31 [C]	29.3%	20.3%	25.0%
Oil and gas production (thousand boe/d)	3,665	3,666	3,664
Proved oil and gas reserves at December 31 (million boe)	11,096	11,578	12,233

[A] Segment earnings are presented on a current cost of supplies basis. See Note 4 to the "Consolidated Financial Statements" on pages 206-208.
[B] See "Non-GAAP measures reconciliations" on pages 279-280.
[C] Gearing at end of 2019 on IAS 17 basis was 25%.

EARNINGS 2019-2018

Income for the period was $16,432 million in 2019, compared with $23,906 million in 2018. After current cost of supplies adjustment, total segment earnings were $15,827 million in 2019, compared with $24,364 million in 2018.

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

Integrated Gas earnings in 2019 were $8,628 million, compared with $11,444 million in 2018. The decrease was mainly driven by lower gains on sale of assets, lower realised oil, LNG and gas prices, higher impairments, higher operating expenses, negative movements in deferred tax positions and lower liquids production volumes. These effects were partly offset by stronger contributions from LNG trading and optimisation, and gains related to the fair value accounting of commodity derivatives. See "Integrated Gas" on pages 45-51.

Upstream earnings in 2019 were $4,195 million, compared with $6,798 million in 2018. The decrease is mainly driven by higher impairments, lower realised oil and gas prices, higher depreciation and higher well write-offs. This was partly offset by increased gains on sale of assets and higher volumes. See "Upstream" on pages 52-60.

Downstream earnings in 2019 were $6,277 million, compared with $7,601 million in 2018. The decrease was mainly driven by lower realised chemicals, refining and trading margins, legal provisions and lower gains related to fair value accounting of commodity derivatives. This was partly offset by higher marketing margins, benefit from foreign exchange, introduction of IFRS 16 and lower operating costs. See "Downstream" on pages 70-78.

Corporate earnings in 2019 were a loss of $3,273 million, compared with a loss of $1,479 million in 2018. The higher loss was mainly driven by the introduction of IFRS 16 and reduced capitalised interest. This was partly offset by reduced tax credits from financing and one-off charges. See "Corporate" on page 79.

EARNINGS 2018-2017

Income for the period was $23,906 million in 2018, compared with $13,435 million in 2017. After current cost of supplies adjustment, total segment earnings were $24,364 million in 2018, compared with $12,471 million in 2017.

Integrated Gas earnings in 2018 were $11,444 million, compared with $5,078 million in 2017. The increase was mainly driven by higher realised oil, gas, and LNG prices, higher gains on divestments, increased contributions from LNG trading, the impact of fair value accounting of commodity derivatives, and higher production. These effects were partly offset by the absence of a gain from the strengthening Australian dollar on a deferred tax position in 2017 and by higher operating expenses. See "Integrated Gas" on pages 45-51.

Upstream earnings in 2018 were $6,798 million, compared with $1,551 million in 2017. The increase was mainly driven by higher realised oil and gas prices, lower impairment charges, the absence of a charge as a result of US tax reform legislation in 2017, and lower well write-offs. This was partly offset by the movements in deferred tax positions, lower gains on divestments, lower production, and a charge related to the impact of the weakening Brazilian real on a deferred tax position. See "Upstream" on pages 52-60.

Downstream earnings in 2018 were $7,601 million, compared with $8,258 million in 2017. The decrease was mainly driven by higher operating expenses, unfavourable exchange rate effects, and lower realised base chemicals and refining margins. This was partly offset by higher realised marketing margins, lower charges related to provisions, the impact of fair value accounting of commodity derivatives and higher gains on divestments. There was also a charge in 2017 as a result of US tax reform legislation. See "Downstream" on pages 70-78.

Corporate earnings in 2018 were a loss of $1,479 million, compared with a loss of $2,416 million in 2017. The lower loss was mainly driven by lower net foreign exchange losses and net interest expense, partially offset by higher costs. There was also a charge in 2017 as a result of US tax reform legislation. See "Corporate" on page 79.

PRODUCTION AVAILABLE FOR SALE

Oil and gas production available for sale in 2019 was 1,338 million barrels of oil equivalent (boe), or 3,665 thousand boe per day (boe/d), compared with 1,338 million boe, or 3,666 thousand boe/d, in 2018. In 2019, lower production was due to the impact of divestments and field decline, partly offset by field ramp-ups in North America, Brazil, Australia and Trinidad and Tobago.

Oil and gas production available for sale [A]

Thousand boe/d

	2019	2018	2017
Crude oil and natural gas liquids	1,823	1,749	1,730
Synthetic crude oil	52	53	91
Bitumen	–	–	4
Natural gas [B]	1,790	1,863	1,839
Total	3,665	3,666	3,664
Of which:			
Integrated Gas	922	957	887
Upstream	2,743	2,709	2,777

[A] See "Oil and gas information" on pages 61-69.
[B] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

PROVED RESERVES

The proved oil and gas reserves of Shell subsidiaries and the Shell share of the proved oil and gas reserves of joint ventures and associates are summarised in "Oil and gas information" on pages 61-69 and set out in more detail in "Supplementary information – oil and gas (unaudited)" on pages 239-256.

Before taking production into account, our proved reserves increased by 906 million boe in 2019. This comprised increases of 912 million boe from Shell subsidiaries and decreases of 6 million boe from the Shell share of joint ventures and associates. The increase from Shell subsidiaries included a net increase of 785 million boe from revisions and reclassifications, an increase of 5 million boe from improved recovery, an increase of 276 million from extensions and discoveries and a net decrease of 154 million boe related to purchases and sales of minerals in place. The decrease of 6 million boe from the Shell share of joint ventures and associates comprises a net decrease of 13 million boe from revisions and reclassifications, an increase of 3 million from extensions and discoveries and an increase of 4 million from improved recovery.

In 2019, total oil and gas production was 1,388 million boe, of which 1,338 million boe was available for sale and 50 million boe was consumed in operations. Production available for sale from subsidiaries was 1,182 million boe and 43 million boe was consumed in operations. The Shell share of the production available for sale of joint ventures and associates was 156 million boe and 7 million boe was consumed in operations.

Accordingly, after taking production into account, our proved reserves decreased by 482 million boe in 2019, to 11,096 million boe at December 31, 2019, with a decrease of 314 million boe from subsidiaries and a decrease of 169 million boe from the Shell share of joint ventures and associates.

CASH CAPITAL EXPENDITURE AND OTHER INFORMATION

Cash capital expenditure was $23.9 billion in 2019, compared with $24.1 billion in 2018. Capital investment was $28.8 billion in 2019, compared with $24.9 billion in 2018.

Operating expenses reduced by $1.4 billion in 2019, to $37.9 billion.

Our ROACE decreased to 6.7%, compared with 9.4% in 2018, mainly driven by a lower income in 2019.

Gearing was 29.3% at the end of 2019, compared with 20.3% at the end of 2018, driven by IFRS 16 and a lower cash balance in 2019. Gearing at the end of 2019 on an IAS 17 basis was 25.0%.

SIGNIFICANT ACCOUNTING ESTIMATES AND JUDGEMENTS

See Note 2 to the "Consolidated Financial Statements" on pages 195-204.

LEGAL PROCEEDINGS

See Note 25 to the "Consolidated Financial Statements" on pages 235-237.

PERFORMANCE INDICATORS

These indicators enable management to evaluate Shell's performance against our strategy and operating plans. Those that are used in the determination of the Executive Directors' remuneration are asterisked below and on the following page. See "Directors' Remuneration Report" on pages 135-163.

Financial

Total shareholder return (%)*

0.5 2018: (4.2)

Total shareholder return (TSR) is the difference between the share price at the beginning of the year and the share price at the end of the year (each averaged over 90 days), plus gross dividends delivered during the calendar year (reinvested quarterly), expressed as a percentage of the share price at the beginning of the year (averaged over 90 days). The data used are a weighted average in dollars for A and B shares. The TSRs of major publicly-traded oil and gas companies can be compared directly, thereby providing a way to determine how we are performing relative to our industry peers.

Cash flow from operating activities ($ million)*

42,178 2018: 53,085

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

See "Liquidity and capital resources" on **pages 80-83**.

Free cash flow ($ million)*

26,399 2018: 39,426

Free cash flow is the sum of "Cash flow from operating activities" and "Cash flow from investing activities", which are listed in the "Consolidated Statement of Cash Flows". This indicator is used to evaluate the cash available for financing activities, including dividend payments, after investment in maintaining and growing our business.

See "Non-GAAP measures reconciliations" on **pages 279-280**.

Organic free cash flow ($ million)

20,116 2018: 31,183

Organic free cash flow is defined as free cash flow excluding the cash flows from acquisition and divestment activities. It is a measure used by management to evaluate the generation of cash flow without these activities.

See "Non-GAAP measures reconciliations" on **pages 279-280**.

Return on average capital employed (%)*

6.7 2018: 9.4

ROACE is defined as income for the period, adjusted for after-tax interest expense, as a percentage of the average capital employed during the year. Capital employed is the sum of total equity and total debt. ROACE measures the efficiency of our utilisation of the capital that we employ and is a common measure of business performance.

See "Summary of results" on **pages 40-41** and "Non-GAAP measures reconciliations" on **pages 279-280**.

Earnings on a current cost of supplies basis ($ million)

15,827 2018: 24,364

Earnings per share on a current cost of supplies basis ($)

1.88 2018: 2.85

Earnings on a CCS basis is the income for the period, adjusted for the after-tax effect of oil-price changes on inventory. Segment earnings presented on a CCS basis is the earnings measure used by the Chief Executive Officer for the purposes of making decisions about allocating resources and assessing performance.

See "Summary of results" on **pages 40-41** and "Non-GAAP measures reconciliations" on **pages 279-280**.

CCS earnings per share, which is on a diluted basis above, is calculated by dividing the CCS earnings attributable to shareholders (see "Non-GAAP measures reconciliations" on pages 279-280) by the average number of shares outstanding over the year, increased by the average number of dilutive shares related to share-based compensation plans.

Capital investment ($ million)

28,788 2018: 24,878

Capital investment is the sum of capital expenditure, investments in joint ventures and associates, investments in equity securities, as reported in the "Consolidated Statement of Cash Flows", plus exploration expenses excluding wells written off and leases recognised in the period and other adjustments. Capital investment is a measure used to make decisions about allocating resources and assessing performance.

See "Liquidity and capital resources" on **pages 80-83** and "Non-GAAP measures reconciliations" on **pages 279-280**.

Financial continued

Cash capital expenditure ($ million)

23,919 2018: 24,078

Cash capital expenditure is the sum of capital expenditure, investments in joint ventures and associates, and investments in equity securities, as reported in the "Consolidated Statement of Cash flows". It is used to monitor investing activities on a cash basis, excluding items such as lease additions that do not necessarily result in cash outflows in the period.

See "Non-GAAP measures reconciliations" on **pages 279-280**.

Gearing (%)

29.3 2018: 20.3

Gearing is defined as net debt (total debt less cash and cash equivalents) as a percentage of total capital (net debt plus total equity) at December 31. Gearing at the end of 2019 on an IAS 17 basis was 25.0%. The net debt calculation includes the fair value of derivative financial instruments used to hedge foreign exchange, interest rate risks relating to debt and associated collateral balances. The inclusion of these debt-related derivative balances reduces the volatility of net debt caused by fluctuations in foreign exchange and interest rates, and eliminates the potential impact of related collateral payments or receipts. Gearing is a measure of the degree to which our operations are financed by debt.

See "Liquidity and capital resources" on **pages 80-83**.

Operational

Production available for sale (thousand boe/d)*

3,665 2018: 3,666

Production is the sum of all the average daily volumes of unrefined oil and natural gas produced for sale by Shell subsidiaries and Shell's share of those produced for sale by joint ventures and associates. The unrefined oil comprises crude oil, NGLs, synthetic crude oil and bitumen. The gas volume is converted into equivalent barrels of oil to make the summation possible.

See "Summary of results" on **pages 40-41**.

LNG liquefaction volumes (million tonnes)*

35.6 2018: 34.3

LNG liquefaction volumes is a measure of the operational performance of our Integrated Gas business and LNG market demand.

See "Integrated Gas" on **pages 45-51**.

Refinery and chemical plant availability (%)*

90.8 2018: 91.9

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

See "Downstream" on **pages 70-78**.

Project delivery on schedule (%)*

90 2018: 75

Project delivery on budget (%)*

99 2018: 97

Project delivery reflects our capability to complete major projects on time and within budget on the basis of the targets set in our annual Business Plan. Project delivery on schedule measures the percentage of projects delivered on schedule. Project delivery on budget reflects the aggregate cost against the aggregate budget for those projects.

Proved oil and gas reserves (million boe)

11,096 2018: 11,578

Proved oil and gas reserves are the total estimated quantities of oil and gas from Shell subsidiaries and Shell's share from joint ventures and associates that geoscience and engineering data demonstrate, with reasonable certainty, to be recoverable in future years from known reservoirs, at December 31, under existing economic conditions, operating methods and government regulations. Gas volumes are converted into boe using a factor of 5,800 scf/b. Reserves are crucial to an oil and gas company, as they constitute the source of future production. Reserves estimates are subject to change owing to a wide variety of factors, some of which are unpredictable.

See "Risk factors" on **pages 27-36**, "Summary of results" on **page 40-41**, "Oil and gas information" on **pages 61-69** and "Supplementary information – oil and gas (unaudited)" on **pages 239-256**.

PERFORMANCE INDICATORS continued

Safety and Environment

Total recordable case frequency (injuries per million working hours)*

0.9 2018: 0.9

Total recordable case frequency (TRCF) is the number of employees and contract staff injuries requiring medical treatment or time off for every million hours worked. It is a standard measure of occupational safety.

See "Environment and society" on **pages 84-90**.

Number of operational Tier 1 and 2 process safety events*

130 2018: 121

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

See "Environment and society" on **pages 84-90**.

Upstream and Integrated Gas GHG intensity (tonnes of CO_2 equivalent/tonne of hydrocarbon production available for sale)*

0.17 2018: 0.16

Upstream/midstream GHG intensity is a measure of GHG emissions (direct and indirect GHG emissions associated with imported energy, excluding emissions from exported energy), expressed in metric tonnes of CO_2 equivalent, emitted into the atmosphere per metric tonne of hydrocarbon production available for sale.

See "Climate change and energy transition" on **pages 91-98**.

Refining GHG intensity (tonnes of CO_2 equivalent/UEDC™)*

1.06 2018: 1.05

Refining GHG intensity is a measure of GHG emissions (direct and indirect GHG emissions associated with imported energy, excluding emissions from exported energy), expressed in metric tonnes of CO_2 equivalent, emitted into the atmosphere per unit of Utilised Equivalent Distillation Capacity (UEDC™). UEDC™ is a proprietary metric of Solomon Associates. It is a complexity-weighted normalisation parameter that reflects the operating cost intensity of a refinery based on the size and configuration of its particular mix of process and non-process facilities.

See "Climate change and energy transition" on **pages 91-98**.

Chemicals GHG intensity (tonnes of CO_2 equivalent/tonne petrochemicals produced)*

1.04 2018: 0.96

Chemicals GHG intensity is a measure of GHG emissions (direct and indirect GHG emissions associated with imported energy, excluding emissions from exported energy), expressed in metric tonnes of CO_2 equivalent, emitted into the atmosphere per metric tonne of steam cracker, high-value petrochemicals production.

See "Climate change and energy transition" on **pages 91-98**.

Number of operational spills of more than 100 kg

70 2018: 93

The operational spills indicator is the number of incidents in respect of activities where we are the operator in which 100 kg or more of oil or oil products were spilled as a result of those activities and reached the environment.

See "Environment and society" on **pages 84-90**.

Direct GHG emissions (million tonnes of CO_2 equivalent)

70 2018: 71

Direct GHG emissions from facilities operated by Shell, expressed in CO_2 equivalent.

See "Climate change and energy transition" on **pages 91-98**.

Net Carbon Footprint (grams of CO_2 equivalent per megajoule)*

78 2018: 79

Net Carbon Footprint is a comprehensive measure of the lifecycle carbon intensity of the energy products we sell. It is a weighted average of the lifecycle CO_2 intensities of different energy products, normalised to the same point relative to their final end-use. It includes emissions from the extraction, transportation and processing of crude oil or gas or other feedstocks, transport of products, and our customers' emissions from the use of products we sell. Also included are emissions from elements of this life-cycle not owned by Shell, such as oil and gas processed by Shell but not produced by Shell; or from oil products and electricity marketed by Shell that have not been processed or generated at a Shell facility. Emissions compensated through various measures are also included, such as emissions mitigated by nature-based solutions and carbon capture and storage technology.

See "Climate change and energy transition" on **pages 91-98**.

INTEGRATED GAS

Key statistics

	$ million, except where indicated		
	2019	2018	2017
Segment earnings	8,628	11,444	5,078
Including:			
Revenue (including inter-segment sales)	45,602	48,795	36,770
Share of profit of joint ventures and associates	1,791	2,273	1,714
Interest and other income	263	2,230	687
Operating expenses [A]	6,667	6,014	5,471
Exploration	281	208	141
Depreciation, depletion and amortisation	6,238	4,850	4,965
Taxation charge	2,242	2,795	790
Capital expenditure	3,851	3,262	3,515
Cash capital expenditure [A]	4,299	3,819	3,616
Capital investment [A]	6,706	4,259	3,921
Oil and gas production available for sale (thousand boe/d)	922	957	887
LNG liquefaction volumes (million tonnes)	35.6	34.3	33.2

[A] See "Non-GAAP measures reconciliations" on pages 279-280.

OVERVIEW

Our Integrated Gas business manages liquefied natural gas (LNG) activities and the conversion of natural gas into gas-to-liquids (GTL) fuels and other products, as well as our New Energies portfolio. It includes natural gas and liquids exploration and extraction, and the operation of upstream and midstream infrastructure that delivers gas and liquids to market. It markets and trades natural gas, LNG, electricity and carbon-emission rights, and markets and sells LNG as a fuel for heavy-duty vehicles and marine vessels.

BUSINESS CONDITIONS

Global gas demand is estimated to have grown by about 2.4% in 2019 which is in line with the annual growth rate of 2.5% observed since the start of the century.

Global LNG imports grew by 40 million tonnes in 2019. Significant LNG supply growth came mainly from Australia, the USA and Russia. In 2019, inventory levels were higher in Asia following mild winter conditions. LNG imports were down in Japan and South Korea due to milder weather and higher nuclear utilisation than in 2018. However, more LNG supply flowed into the European markets.

Natural gas prices can vary from region to region.

In the USA, the natural gas price at the Henry Hub averaged $2.5 per million British thermal units (MMBtu) in 2019, 19% lower than in 2018 and traded in a range of $2.0 to 4.1/MMBtu.

In Europe, natural gas prices were lower than in 2018. The average price at the UK National Balancing Point (NBP) was 35 pence/therm, 43% lower than in 2018. At the main continental gas trading hubs – in the Netherlands, Belgium and Germany – prices were also lower, as reflected by weaker Dutch Title Transfer Facility (TTF) prices.

Long-term contracted LNG prices in the Asia-Pacific region are broadly comparable to 2018 prices as they are predominantly indexed to oil prices, particularly to the Japan Customs-cleared Crude (JCC) index which has been generally stable year-on-year. Meanwhile, North Asia spot prices, reflected by the Japan Korea Marker (JKM) were $5.55/mmbtu, 43% lower than 2018 as a result of unprecedented additional supply of LNG coming on stream.

See "Market overview" on **pages 37-40**.

PRODUCTION AVAILABLE FOR SALE

In 2019, production was 336 million barrels of oil equivalent (boe), or 922 thousand boe per day (boe/d), compared with 349 million boe, or 957 thousand boe/d in 2018. Natural gas production increased by 3% compared with 2018, mainly due to field ramp-ups in Australia and Trinidad and Tobago combined with higher availability at Pearl GTL in Qatar in 2019, partially offset by divestments. Liquids production decreased 27%, mainly due to the transfer of the Salym asset in Russia into the Upstream segment.

LNG LIQUEFACTION VOLUMES

LNG liquefaction volumes of 35.6 million tonnes in 2019 were 4% higher than in 2018, driven by additional volumes from increased feedgas availability, mainly from ventures, and new LNG capacity from the Prelude floating LNG facility in Australia and Elba LNG in USA, partly offset by the divestment of Malaysia LNG.

LNG sales volumes of 74.45 million tonnes in 2019 were 5% higher than in 2018, driven by our increased LNG purchases from third parties and by higher LNG liquefaction volumes.

EARNINGS 2019-2018

Segment earnings in 2019 were $8,628 million, which included a net charge of $326 million. The net charge mainly reflected impairment charges of $890 million mostly in Australia, negative movements in deferred tax positions of $292 million and write-offs of $131 million in Australia and Trinidad and Tobago, respectively. These were partly offset by a gain of $787 million related to the fair value accounting of commodity derivatives and a gain of $203 million on a sale of assets in Australia.

Segment earnings in 2018 were $11,444 million, which included a net gain of $2,045 million. The net gain primarily reflected gains of $1,937 million on sale of assets, mainly related to the divestment of assets in Thailand, New Zealand and India. It also comprised a gain of $481 million related to the fair value accounting of commodity derivatives and impairment charges of $371 million related to investments in Trinidad and Tobago and Shell's investment in a joint venture.

INTEGRATED GAS continued

Excluding the net charge described above, segment earnings were $8,955 million in 2019 compared with $9,399 million in 2018. Earnings were negatively impacted by lower realised oil, LNG and gas prices, higher operating expenses (of which about 50% relates to New Energies reflecting underlying business growth), and lower liquids production volumes, partly offset by significantly stronger contributions from LNG trading and optimisation.

EARNINGS 2018-2017

Segment earnings in 2018 were $11,444 million, which included a net gain of $2,045 million as described above.

Segment earnings in 2017 were $5,078 million, which included a net charge of $190 million. The net charge mainly reflected a charge of $445 million on fair value accounting of commodity derivatives and a charge of $412 million as a result of US tax reform legislation, partly offset by a gain of $636 million from the strengthening Australian dollar on a deferred tax position.

Excluding the net gain above, segment earnings were $9,399 million in 2018 compared with $5,268 million in 2017. Earnings were positively impacted by increased contributions from trading and higher realised oil, gas and LNG prices (around $4,200 million), increased LNG volumes from various assets across the portfolio (around $615 million). Earnings were negatively impacted by higher operating expenses (around $502 million of which $246 million relates to growth of New Energies activities) and lower dividends due to divestments (around $274 million).

In 2018, the impact of exchange rate movements of the Australian dollar on deferred tax balances was significantly reduced, as a result of the change in the fiscal functional currency of a number of Shell entities in Australia to the US dollar with effect from January 1, 2018.

CASH CAPITAL EXPENDITURE AND CAPITAL INVESTMENT

Cash capital expenditure in 2019 was $4.3 billion, compared with $3.8 billion in 2018. Capital investment in 2019 was $6.7 billion, compared with $4.3 billion in 2018.

PORTFOLIO AND BUSINESS DEVELOPMENT

Key portfolio events in 2019 included the following:

- In December 2018, we formed two joint ventures: with EDF Renewables to build wind farms off the New Jersey coast; and with EDP Renewables (EDPR) to build wind farms off Massachusetts, in the USA. Leases were granted by the authorities for JV with EDF in December 2018 and with EDPR in February 2019. In November, Massachusetts state authorities selected our JV with EDPR (Shell interest 50%) to develop and supply 804 MW of clean, renewable energy from offshore wind to the electricity customers in the state;
- In February, we acquired sonnen, a provider of smart energy storage systems; and
- In November, we acquired ERM Power, one of Australia's leading commercial and industrial electricity retailers.

The following major milestones were reached in 2019:

- In June, the first shipment of LNG sailed from our Prelude Floating Liquefied Natural Gas facility (Shell interest 67.5%);
- In September, the first of 10 Moveable Modular Liquefaction System (MMLS) Units started up at Elba Island in Savannah, Georgia, USA; and
- In November, FID was taken for the Barracuda Project (Shell interest 100%), a subsea tie-back of two gas wells to an existing platform on the East Coast of Trinidad.

We continued to divest selected assets during 2019, including:

- In Timor-Leste (East Timor), we sold our 26.6% interest in the undeveloped Sunrise gas field to the Timor-Leste government; and
- In India, we sold our 10% interest in Mahanagar Gas Limited.

BUSINESS AND PROPERTY

LNG AND GTL

Australia

We have interests in offshore production, LNG liquefaction and exploration licences in the North West Shelf (NWS) and Greater Gorgon areas of the Carnarvon Basin and in the Browse Basin. Woodside is the operator on behalf of the NWS joint venture (Shell interest 16.7%), which produced more than 480 thousand boe/d of gas and condensates in 2019.

We have a 25% interest in the Gorgon LNG joint venture, which is operated by Chevron. The venture started operating in 2016, producing from the offshore Gorgon and Jansz-Io fields via a three-train LNG plant on Barrow Island.

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

We are the operator of Prelude FLNG (67.5% Shell interest). During 2019, the facility progressed through the start-up ramp-up phase, with the first condensate offtake in March 2019, followed by the first LNG offtake in June 2019 and the first NGL offtake in July 2019. Our other interests in the basin include a joint arrangement, with Shell as the operator, for the Crux gas and condensate field (Shell interest 82%) and other backfill and contingent resources.

A significant discovery was made at the Bratwurst prospect in Browse basin, Australia near the Prelude FLNG facility which presents an opportunity for a future tie-back to Prelude, currently under evaluation, to maximise the FLNG value.

The Prelude floating liquefied natural gas (FLNG) facility produces natural gas off the coast of Australia.

The sale of Shell's interest in the undeveloped Sunrise gas field in the Timor Sea (Shell interest 26.6%) to the government of Timor-Leste was completed in 2019.

We are a partner in both Shell-operated and other exploration joint arrangements in multiple basins, including Browse, Exmouth Plateau, and Greater Gorgon.

We have a 50% interest in Arrow, a Queensland-based joint venture with CNPC. Arrow owns coal-bed methane assets and a domestic power business.

We have a 50% interest in train one and a 97.5% interest in train two of the Shell-operated Queensland Curtis LNG (QCLNG) venture. The two-train liquefaction plant has an installed capacity of 8.5 mtpa. We also operate the venture's natural gas operations, which include wells, compression stations and processing plants, in Queensland's Surat Basin. We have interests ranging from 44% to 74% in 24 field compression stations and six central processing plants. Our production of natural gas from the onshore Surat Basin supplies the liquefaction plant and the domestic gas market.

A gas sales agreement between Arrow and QCLNG has been signed, under which gas from Arrow's Surat Basin fields would flow to the QCLNG venture, which would then sell gas to local customers and export it through its gas plant on Curtis Island.

Brunei
We have a 25% interest in Brunei LNG Sendirian Berhad.

Canada
In 2018, we took FID on LNG Canada, a liquefied natural gas project in Kitimat, British Columbia, in which we hold a 40% interest. Construction started in October 2018 and first LNG is expected before the middle of this decade.

Egypt
We have interests of 35.5% in train one and 38% in train two of the Egyptian LNG (ELNG) plant. In January 2014, force majeure notices were issued under the LNG agreements as a result of domestic gas diversions severely restricting volumes available to ELNG. These notices remain in place. See "Oil and gas information" on page 61-68.

Gibraltar
We have a 51% interest in the first LNG regasification facility in Gibraltar.

India
We hold a 100% interest in Shell Energy India Pvt Ltd, which operates a regasification terminal, and Hazira Port Pvt Ltd, which manages a cargo port at Hazira, both of which are located in the state of Gujarat on the west coast.

Operator looking at a vessel at the Shell Hazira port and LNG Terminal, India.

Indonesia
We have a 35% interest in the INPEX Masela Ltd joint venture which owns and operates the offshore Masela block. In June 2019, the joint venture received the official approval of Plan of Development (POD) for the Abadi LNG Project from the Indonesian government authorities. The government also granted a 20-year extension to the Masela block PSC in October 2019.

Malaysia
We operate a GTL plant, Shell MDS (Shell interest 72%). Using Shell technology, the plant converts gas into high-quality middle distillates, drilling fluids, waxes and specialty products.

Netherlands
We have access to import and storage capacity at the GATE LNG terminal in the Port of Rotterdam, Netherlands (Shell capacity rights 1.4 million tonnes per annum (mtpa). We are also using the terminal to supply LNG to our growing truck-refuelling network in the Netherlands.

Nigeria
We have a 25.6% interest in Nigeria LNG Ltd, which operates six LNG trains located on Bonny Island.

Norway
Gasnor AS (Shell interest 100%) provides LNG fuel for ships and industrial customers and has a natural gas pipeline network.

Oman
We have a 30% interest in Oman LNG LLC. We also have an 11% indirect interest in Qalhat LNG.

In February 2019, we signed an Interim Upstream agreement that detailed a funding and a work programme for 2019 for the development of gas resources destined for integrated projects to help meet the Sultanate of Oman's growing need for energy. The other signatories were Petroleum Development Oman (PDO), Oman Oil Company (OOC) and Total. The project covers investments in gas exploration and production. The aim is to integrate the Shell and OOC share of the upstream project with the development of a GTL plant currently under discussion, which would be developed and operated by Shell in partnership with OOC.

Peru
We have a 20% interest in the Peru LNG liquefaction plant.

INTEGRATED GAS continued

Qatar
We operate the Pearl GTL plant (Shell interest 100%) in Qatar under a development and PSC with the government. The fully-integrated facility has capacity for production, processing and transportation of 1.6 billion standard cubic feet per day (scf/d) of gas from Qatar's North Field. It has an installed capacity of about 140 thousand boe/d of high-quality liquid hydrocarbon products and 120 thousand boe/d of natural gas liquids (NGL) and ethane.

We have a 30% interest in Qatargas 4, which comprises integrated facilities to produce about 1.4 billion scf/d of gas from Qatar's North Field, an onshore gas-processing facility and one LNG train with a collective production capacity of 7.8 mtpa of LNG and 70 thousand boe/d of condensate and NGL.

Operators at Pearl GTL plant, Qatar.

Russia
We have a 27.5% interest in Sakhalin-2, the joint venture with Gazprom, an integrated oil and gas project located on Sakhalin island.

Singapore
We have a 50% interest in a joint venture with KS Investments (the investment arm of Keppel Group) that holds a licence to supply LNG fuel for vessels in the Port of Singapore. We have aggregator licences to import LNG into Singapore and market the gas to power plants and other customers.

Tanzania
We have a 60% interest in, and are the operator of, Blocks 1 and 4 offshore southern Tanzania. The blocks cover approximately 4,000 square kilometres of the Mafia Deep Offshore Basin and the northern part of the Rovuma Basin. We continue to develop a potential LNG project with partners in Block 2, in line with the Block 1 and 4 appraisal programme agreed with the Tanzanian government. We are engaging with the government to extend the Block 4 licence. The government has confirmed that the Block 4 licence, which had initially been due to expire on October 31, 2017, remains in full force pending the grant of the licence extension.

Trinidad and Tobago
We have interests in three concessions with producing fields – Central Block, East Coast Marine Area (ECMA) and North Coast Marine Area (NCMA) blocks. We have a 65% interest in Central Block, 100% interest in ECMA and 80.5% interest in NCMA. We also own 90% interest in block 22 and 80% in NCMA 4 which include three undeveloped discoveries. Our interests range from 35% to 100% in exploration activities in blocks 5(c), 5(d), 6(d), and Atlantic Area blocks 3, 5, and 6.

We are the largest shareholder in all four trains at Atlantic LNG.

UK
We have a 50% interest in the Dragon LNG regasification terminal, with long-term arrangements in place governing the use of capacity rights.

USA
We have offtake rights via a lease to 100% of the capacity (2.5 mtpa) of the Kinder Morgan-operated Elba Island liquefaction plant, which consists of 10 MMLS units. The first three of these units started up in 2019. We also lease regasification capacity on Elba Island with contracted capacity of 11.6 mtpa.

We have 13.1 mtpa of contracted capacity in the Lake Charles regasification terminal in Louisiana. We are also evaluating a project to convert the existing regasification facility owned by Energy Transfer into a liquefaction plant in which we would have capacity rights. In March 2019, we signed a project framework agreement with Energy Transfer to advance the proposed Lake Charles LNG export project towards a potential FID. The Lake Charles LNG export project, is planned to have liquefaction capacity of 16.45 million tons per annum and is a 50:50 venture between the two parties.

Trading and Supply
Through our Shell Energy organisation, we market a portion of our share of equity production of LNG and trade LNG volumes around the world through our hubs in the UK, Dubai and Singapore. We also sell trucked LNG in China, Singapore and Europe.

Other gas and power activities
Bolivia
We hold a 37.5% participating interest in the Caipipendi block, where we mainly produce from the Margarita and Huacaya gas-condensate fields. We are also exploring further in the Caipipendi block. We also have a 25% interest in the Petrobras-operated Tarija XX West block where we produce from the Itaú field. We have the rights to explore and further develop the onshore Huacareta block (Shell interest 100% during exploration), and we are currently exploring there. In August 2019, we acquired a 15% participating interest in the Repsol-operated Iniguazu exploration Block. In May 2019, we relinquished the La Vertiente Block to the government.

China
We jointly develop and produce from the onshore Changbei tight-gas field under a PSC with China National Petroleum Corporation (CNPC). In 2016, we completed the Changbei I development programme under the PSC and subsequently handed over the production operatorship to CNPC. In December 2017, we took the FID on the Changbei II Phase 1 project. We started drilling activity in early 2019, and remain the operator of Changbei II.

Changbei Natural Gas Processing Facility, China.

India
We had a 30% interest in the producing oil and gas field Panna/Mukta and a 30% interest in the Mid Tapti and South Tapti fields. Both licences expired in December 2019 and operatorship was transferred to Oil & Natural Gas Corporation Limited (ONGC).

In 2019, we divested our 10% interest in Mahanagar Gas Limited, a natural gas distribution company in Mumbai.

Trading and Supply
Trading and Supply also markets and trades natural gas, power and carbon-emission rights in multiple markets in North and South America, Europe, Asia and Australia, of which a portion includes equity volumes from our upstream operations.

We have set up a power marketing and trading business in Japan which began trading in 2019.

In November 2019, we acquired ERM Power, one of Australia's leading commercial and industrial electricity retailers, which builds on Shell Energy Australia's existing gas marketing and trading capability.

Other
We have a 17.9% share in the West African Gas Pipeline Company Limited which owns and operates a 678-kilometre pipeline transporting gas from Nigeria to Ghana, Benin and Togo.

We have a 40% interest in a gas pipeline connecting Uruguay to Argentina.

We have a 35% interest in Cyprus block 12, holding the Aphrodite discovery which is currently under appraisal, a 60% interest in two deep-water blocks in Colombia, interests in offshore blocks in Myanmar and one exploration block licence in Namibia.

We also have interests in Gabon and Morocco.

New Energies
Our New Energies business explores emerging opportunities linked to the energy transition and invests in those where we see sufficient value. We focus on power, from generation to electric-vehicle charging to integration with Trading, as well as on new fuels for transport, including advanced biofuels and hydrogen.

The New Energies portfolio is being built through organic growth and acquisitions. Most of these opportunities are in sectors that are different from Shell's existing oil and gas businesses, but have some similarities and/or adjacencies to our Downstream and gas and power trading businesses. Shell-controlled New Energies companies are subject to the Shell Control Framework. Some are not yet in full compliance with the Shell Control Framework and we are working to bring them into compliance with this framework in a fit-for-purpose manner.

Shell Greenlots' EV charging, Columbus USA.

Power
We began supplying residential customers in the UK for the first time when we acquired First Utility in 2018. We rebranded First Utility to Shell Energy Retail in 2019. In November 2019, Shell Energy Retail completed the acquisition of Hudson Energy Supply UK Limited, which trades as Green Star Energy for consumers and Hudson Energy for businesses. Shell Energy Retail supplies 100% renewable electricity via purchase of certificates, as well as natural gas and smart home technology to more than 900 thousand homes in the UK.

We own a majority interest in GI Energy, a US company that focuses on the integration of distributed energy resources. We refer to distributed energy when customers begin to generate their own power through solar panels or wind turbines, store it and redistribute it back into the grid.

In 2019, we acquired German company sonnen, which provides battery storage systems to homes with solar panels. In 2019, we also acquired energy technology firm Limejump which provides energy storage to smaller renewable energy generators, allowing them to sell clean power in real-time to the National Grid.

Wind turbines at Noordzee Wind Farm, Netherlands.

INTEGRATED GAS continued

In the Netherlands we are part of the Blauwwind consortium (Shell interest 20%) which is developing the Borssele III and IV offshore wind farms that are designed to have a total installed capacity of 731.5 MW, enough to power about 825,000 Dutch homes. We have a 50% interest in the NoordzeeWind joint venture, an offshore wind power project in the Netherlands with total installed capacity of 108 MW.

In the USA, we have developed and become co-owners of four onshore wind projects, from California to Texas. In December 2018, we formed two 50:50 joint ventures: with EDF Renewables to build wind farms off the New Jersey coast; and with EDPR to build wind farms off Massachusetts. In November 2019 Massachusetts state authorities selected our JV with EDPR to develop and supply 804 MW of clean, renewable energy from offshore wind to electricity customers in the state.

Solar panels at Silicon Ranch, West Virginia, USA.

We own a 43.1% interest in Silicon Ranch Corporation, a developer, owner and operator of solar energy assets in the USA.

In 2019, we acquired a 49% interest in Cleantech Solar, which provides solar power to commercial and industrial customers across South-East Asia and India. In 2019, we also acquired a 49% interest in ESCO Pacific, a utility scale solar developer and long-term asset management company in Australia.

In 2019, we completed the acquisition of EOLFI, a French renewable energies developer specialising in floating offshore wind projects.

Through our NewMotion subsidiary, Shell is developing other flexible solutions for EV drivers to charge their vehicles at home or at work. NewMotion operates around 50 thousand private electric charge points for homes and businesses in the Netherlands, Germany, France and the UK.

In 2019, we acquired Greenlots, a California-based company that provides EV charging posts, charging network software and grid services across the USA and has growing business in Canada, Thailand, Malaysia and Singapore.

New fuels for transport

In Bangalore, India, we have built a demonstration plant that is designed to turn waste into petrol or diesel that can power cars.

In Oregon, USA, we are developing a facility to produce renewable natural gas (RNG) from organic waste through a process called anaerobic digestion.

We are part of joint ventures and alliances that have built hydrogen filling stations for passenger cars in the USA (California), Canada, Germany and the UK and announced plans to build several stations in the Netherlands. In California, Shell is also developing filling stations for hydrogen trucks, in co-operation with Toyota, Kenworth and the Port of Los Angeles.

INTEGRATED GAS DATA TABLE

LNG liquefaction volumes

Million tonnes

	2019	2018	2017
Australia	12.5	12.1	11.1 [A]
Brunei	1.6	1.6	1.6
Egypt	0.4	0.3	0.2
Malaysia	–	0.6 [B]	1.3 [B]
Nigeria	5.3	5.1	5.2
Norway	0.1	0.1	0.1
Oman	2.6	2.4	2.0
Peru	0.9	0.8	0.9
Qatar	2.5	2.3	2.4
Russia	3.0	3.1	3.1
Trinidad and Tobago	6.7	5.8	5.3
United States	0.1	–	–
Total	35.6	34.3	33.2

[A] Includes LNG liquefaction volumes related to our share in equity securities of Woodside, that were disposed of in 2017.
[B] Includes LNG liquefaction volumes related to our share in equity securities of Malaysia LNG Tiga, that were disposed of in 2018.

LNG AND GTL PLANTS AT DECEMBER 31, 2019

LNG liquefaction plants in operation

	Asset	Location	Shell interest (%)	100% capacity (mtpa) [A]
Europe				
Norway	Gasnor	Bergen	100.0	0.3
Asia				
Brunei	Brunei LNG	Lumut	25.0	7.6
Oman	Oman LNG	Sur	30.0	7.1
	Qalhat LNG	Sur	11.0 [B]	3.7
Qatar	Qatargas 4	Ras Laffan	30.0	7.8
Russia	Sakhalin LNG	Prigorodnoye	27.5	9.6
Oceania				
Australia	Australia North West Shelf	Karratha	16.7	16.9
	Gorgon LNG	Barrow Island	25.0	15.6
	Prelude	Browse Basin	67.5	3.6
	Queensland Curtis LNG T1	Curtis Island	50.0	4.3
	Queensland Curtis LNG T2	Curtis Island	97.5	4.3
Africa				
Egypt	Egyptian LNG T1	Idku	35.5	3.6
	Egyptian LNG T2	Idku	38.0	3.6
Nigeria	Nigeria LNG	Bonny	25.6	24.1
South America				
Peru	Peru LNG	Pampa Melchorita	20.0	4.5
Trinidad and Tobago	Atlantic LNG T1	Point Fortin	46.0	3.0
	Atlantic LNG T2/T3	Point Fortin	57.5	6.6
	Atlantic LNG T4	Point Fortin	51.1	5.2

[A] As reported by the operator.
[B] Interest, or part of the interest, is held via indirect shareholding.

LNG liquefaction plants under construction

	Asset	Location	Shell interest (%)	100% capacity (mtpa)
North America				
Canada	LNG Canada T1-2	Kitimat	40.0	14.0

GTL plants in operation

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

UPSTREAM

Key statistics

	$ million, except where indicated		
	2019	2018	2017
Segment earnings	4,195	6,798	1,551
Including:			
Revenue (including inter-segment sales)	46,413	47,733	40,192
Share of profit of joint ventures and associates	379	285	623
Interest and other income	2,180	600	1,188
Operating expenses [A]	12,043	12,157	12,656
Exploration	2,073	1,132	1,804
Depreciation, depletion and amortisation	17,003	13,006	17,303
Taxation charge/(credit)	5,954	8,791	2,409
Capital expenditure	10,074	12,447	11,389
Cash capital expenditure [A]	10,277	12,582	11,670
Capital investment [A]	11,075	12,785	13,160
Oil and gas production available for sale (thousand boe/d)	2,743	2,709	2,777

[A] See "Non-GAAP measures reconciliations" on pages 279-280.

OVERVIEW

Our Upstream business explores for and extracts crude oil, natural gas and natural gas liquids. It also markets and transports oil and gas, and operates infrastructure necessary to deliver them to market. We are also involved in the extraction of bitumen from mined oil sands and its conversion into synthetic crude oil.

BUSINESS CONDITIONS

Global oil demand grew by 1.0 million barrels per day (b/d), or 1.0%, to 100.3 million b/d in 2019, according to the International Energy Agency's Oil Market Report published in January 2020. Brent crude oil, an international benchmark, traded between $53 per barrel (/b) and $75/b in 2019, ending the year at the lower price of $67/b. It averaged $64/b for the year, $7/b lower than in 2018.

On a yearly average basis, West Texas Intermediate crude oil traded at a $7/b discount to Brent in 2019, compared with $6/b in 2018. The discount remained broadly unchanged from 2018, reflecting continued constrained pipeline capacity from the landlocked Cushing storage hub to the US Gulf Coast, against a backdrop of growing supply to the hub. US crude oil exports increased further to about 3 million b/d in 2019, up by 1 million b/d from 2018. This helped to limit widening of the price differential between Brent and WTI.

Global gas demand is estimated to have grown by about 2.4% in 2019, which is in line with the annual growth rate of 2.5% observed since the start of the century. Robust demand growth in power generation and industry was driven by attractive regional spot gas prices that incentivised switching away from competing fuels such as coal and oil. In the key regional markets of North America, Europe, and Asia-Pacific, attractive prices have been caused mainly by ample gas supply growth.

In the USA, the natural gas price at the Henry Hub averaged $2.5 per million British thermal units (MMBtu) in 2019, 19% lower than in 2018, and traded in a range of $2.0-4.1/MMBtu. There was some downward pressure on prices due to strong gas supply growth of about 8 billion cubic feet per day (cf/d), which averaged 10% higher than 2018. Gas supply growth was, in part, driven by a growth of associated gas from oil fields, helped by oil prices above $50/b, and by new gas pipeline capacity. Gas prices found support from: demand growth driven by below-normal storage inventory levels; an increase in usage of power for cooling due to warmer than normal weather in the second half of the year; completion of LNG liquefaction projects; increased exports to Mexico by pipeline; and US industrial growth.

In Europe, natural gas prices were lower than in 2018. The average price at the UK National Balancing Point (NBP) was 43% lower in 2019. At the main continental gas trading hubs – in the Netherlands, Belgium and Germany – prices were also lower, as reflected by weaker Dutch Title Transfer Facility (TTF) prices. European gas prices were lower due to: the rise in LNG volume diverted from the Asia-Pacific region caused by weaker Asia-Pacific demand growth; robust supply of pipeline gas, particularly from Russia; well-filled gas storage inventories; competition with renewables in power generation; and mild weather.

See "Market overview" on **pages 37-39**.

PRODUCTION AVAILABLE FOR SALE

In 2019, production was 1,001 million boe, or 2,743 thousand boe/d, compared with 989 million boe, or 2,709 thousand boe/d in 2018. Liquids production increased by 8% and natural gas production decreased by 9% compared with 2018.

Increases were mainly from new field start-ups and the continuing ramp-up of existing fields (around 190 thousand boe/d), in particular in the Permian Basin in the USA, in the US Gulf of Mexico (Appomattox, Stones and Ursa) and in Brazil (Lula and Berbigao). Further increases from moving Salym from IG to Upstream (around 60 thousand boe/d). Decreases were mainly from divestments (around 90 thousand boe/d), field declines and performance maintenance (around 100 thousand boe/d).

EARNINGS 2019-2018

Segment earnings in 2019 were $4,195 million, which included a net charge of $1,930 million related to impairments, primarily in the US Appalachia unconventional gas assets and a drilling rig joint venture, partly offset by a gain of $1,609 million on sale of assets, mainly in Denmark and the US Gulf of Mexico.

Segment earnings in 2018 were $6,798 million, which included a net gain of $23 million. This included a net gain of $886 million on sale of assets, mainly related to our divestments in Iraq, Malaysia, Oman and Ireland, and a gain of $149 million related to the fair value accounting of commodity derivatives. These gains were partly offset by a charge of $561 million related to the impact of the weakening Brazilian real on a deferred tax position, a net impairment charge of $350 million mainly related to assets in North America and deep-water rig joint ventures, and a charge of $90 million related to the release of historic currency differences.

Excluding the net charge described above, segment earnings in 2019 were $4,744 million, compared with $6,775 million in 2018. Earnings excluding the net charge were adversely impacted by lower realised oil and gas prices, higher depreciation as well as higher well write-offs mainly in Albania and Kazakhstan, partly offset by higher sales volumes associated with the timing of liftings.

EARNINGS 2018-2017

Segment earnings in 2018 were $6,798 million, which included a net gain of $23 million as described above.

Segment earnings in 2017 were $1,551 million, which included a net charge of $1,540 million. This net charge included impairment charges of $2,557 million, mainly related to divestments of our oil sands interests in Canada, onshore assets in Gabon and our interest in the Corrib gas project in Ireland. The net charge also involved $1,089 million related to US tax reform legislation, and redundancy and restructuring charges of $163 million. These charges were partly offset by gains on divestments of $1,463 million, mainly related to a package of UK North Sea assets, a credit of $772 million mainly reflecting the release of tax liabilities, and other items with a net positive impact of $34 million.

Excluding the net charges described above, segment earnings in 2018 were $6,775 million compared with $3,091 million in 2017. Earnings benefited from higher realised oil and gas prices (around $4,770 million) and lower well write-offs (around $400 million). These impacts were partly offset by the impact of movements in deferred tax positions (around $1,520 million) and lower production volumes (around $510 million).

CASH CAPITAL EXPENDITURE AND CAPITAL INVESTMENT

Cash capital expenditure in 2019 was $10.3 billion, compared with $12.6 billion in 2018. Capital investment in 2019 was $11.1 billion, compared with $12.8 billion in 2018.

The lower cash capital expenditure and capital investments in 2019 reflected our continuing efforts to improve capital efficiency by pursuing lower cost development solutions, the completion of the Appomattox project, IFRS16 implementation effects and the 2018 impacts of relative higher spend for lease renewals in Nigeria and additional investments in exploration acreage.

PORTFOLIO AND BUSINESS DEVELOPMENT

We took the following key portfolio decisions during 2019:

- In Argentina we won two exploration blocks in the deep-water bid round (Shell interest 60%);
- Also in Argentina, we agreed a 50:50 partnering with Equinor to jointly acquire Schlumberger's 49% interest in the Bandurria Sur block located in the Vaca Muerta basin (Shell interest 24.5%);
- In Brazil, we announced the Final Investment Decision (FID) to contract the Mero 2 floating production, storage and offloading (FPSO) vessel to be deployed at the Mero field offshore Santos Basin in Brazil;
- In Brunei, we acquired the deep-water exploration Block CA-1 (Shell interest 86.95%). The deal is expected to complete in 2020;
- In Egypt, we announced the intention to sell our onshore upstream assets in the country;
- Also in Egypt, we were awarded onshore concessions with 100% Shell interest (West El Fayum, South East Horus, South Abu Sennan) and one producing concession extension (Bed 2-17);
- Also in Egypt, we were awarded two concessions in the Red Sea bid round: Block 4 (Shell interest 70%) and Block 3 as the sole operator. This is awaiting ratification;
- In Kazakhstan, we decided not to progress the Kalamkas-Khazar projects. These projects were not deemed competitive compared to other opportunities in our global portfolio;
- In Malaysia, we took FID on the second phase of the Malikai deep water development (Shell interest 35%);
- In Nigeria, we announced the release of Invitation to Tender (ITT) to contractors for the development of the Bonga South West Aparo (BSWA) oil field;
- In Oman, our partnership with Oman Oil Company Exploration production to explore for oil and gas in Block 42 was ratified (Shell interest 50%);
- Also in Oman, we signed an Exploration & Production Sharing Agreement for Block 55 in the southeast of the Sultanate (Shell interest 100%). This agreement is awaiting ratification via Royal Decree;
- In São Tomé and Príncipe, in the Gulf of Guinea, we acquired interests in Block 6 (Shell interest 20%) and Block 11 (Shell interest 30%) exploration licences;
- In South Africa, we entered the frontier deep-water Cape Basin (Shell interest 40%) and a second block adjacent to our existing acreage in the Namibian Orange Basin (Shell interest 45%);
- In the UK, we announced FID to export gas and oil from the Pierce field, which is located 165 miles east of Aberdeen (Shell interest 92.5%);
- In the US Gulf of Mexico, we announced FID to develop the PowerNap field (Shell interest 100%);
- Also in the US Gulf of Mexico, we acquired 77 blocks across multiple plays in the Gulf of Mexico Lease Sale 252; and
- In the USA, we made a significant discovery at the Blacktip prospect in the deep-water US Gulf of Mexico (Shell interest 52.4%). Blacktip is our second significant discovery in the Perdido Corridor and is part of a continuing exploration strategy to add competitive deep-water options to extend our heartlands.

In the Netherlands, the Dutch government decided to halt Groningen production by 2022, eight years earlier than initially planned.

We achieved the following operational milestones in 2019:

- In deep water off Brazil, we announced first production from two of our FPSOs: P-67, in Lula North (Shell interest 23%, post-unitisation); and P-68, in Berbigão (Shell interest 25%, subject to unitisation);
- In Italy, the Tempa Rossa oil field started up in December 2019 (Shell interest 25%);
- In Malaysia, we completed phase 2 of the Gumusut-Kakap deep-water project, drilling four additional subsea wells (Shell interest 29%);
- In Malaysia offshore Sarawak, we produced first oil and gas from the E6 field in SK308 PSC (Shell interest 50%). We also produced first gas from the Larak field in the SK408 PSC (Shell interest 30%);
- In the US Gulf of Mexico, we announced first production from Appomattox (Shell interest 79%). It is the first commercial discovery brought into production in the deep-water Norphlet formation in the US Gulf of Mexico.

We continued to divest selected assets during 2019, including:

- In Canada, we sold our Foothills sour gas plants and the gas fields which feed them;
- In Denmark, we completed the sale of our 36.8% non-operating interest in our joint venture the Danish Underground Consortium, for $1.9 billion;
- In Norway, we sold 10% of our 12% interest in Nyhamna gas plant;
- In the US Gulf of Mexico, we sold our 22.45% non-operating interest in the Caesar Tonga asset;
- Also in the USA, we sold our non-Shell operated interest in the Haynesville shale gas formation in Northern Louisiana; and
- Also in the USA, we sold our Norphlet deep-water gathering pipeline system in the US Gulf of Mexico.

BUSINESS AND PROPERTY

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

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

- Licences (or concessions), which entitle the holder to explore for hydrocarbons and exploit any commercial discoveries. Under a licence, the holder bears the risk of exploration, development and production activities, and is responsible for financing these activities. In principle, the licence holder is entitled to the totality of production less any royalties in kind. The government, state-owned company or government-run oil and gas company may sometimes enter into a joint arrangement as a participant, sharing the rights and obligations of the licence but usually without sharing the exploration risk. In a few cases, the state-owned company, government-run oil and gas company or agency has an option to purchase a certain share of production;
- Lease agreements, which are typically used in North America and are usually governed by terms similar to licences. Participants may include governments or private entities. Royalties are either paid in cash or in kind; and
- PSCs entered into with a government, state-owned company or government-run oil and gas company. PSCs generally oblige the independent oil and gas company, as contractor, to provide all the financing and bear the risk of exploration, development and production activities in exchange for a share of the production. Usually, this share consists of a fixed or variable part that is reserved for the recovery of the contractor's cost (cost oil). The remaining production is split with the government, state-owned company or government-run oil and gas company on a fixed or volume/revenue-dependent basis. In some cases, the government, state-owned company or government-run oil and gas company will participate in the rights and obligations of the contractor and will share in the costs of development and production. Such participation can be across the venture or on a field-by-field basis. Additionally, as the price of oil or gas increases above certain predetermined levels, the independent oil and gas company's entitlement share of production normally decreases, and vice versa. Accordingly, its interest in a project may not be the same as its entitlement.

Europe

Italy

We have a 39% interest in the Val d'Agri producing concession, operated by ENI.

We also have a 25% interest in the Tempa Rossa producing concession operated by Total.

Netherlands

Shell and ExxonMobil are 50:50 shareholders in Nederlandse Aardolie Maatschappij B.V. (NAM). An important part of NAM's gas production comes from the onshore Groningen gas field, in which NAM holds a 60% interest. The remaining 40% interest is held by EBN, a Dutch government entity.

Production from the Groningen field induces earthquakes that cause damage to houses and other buildings and structures in the region. This has led to complaints and claims for compensation for damage from the local community. NAM is working with the Dutch government and other stakeholders to fulfil its obligations to the residents of the area, which includes compensation for damage caused by above-mentioned earthquakes.

Since 2013, the Dutch Minister of Economic Affairs and Climate (the Minister) has set an annual production level for the Groningen field taking into account all interests, including safety of the residents, security of supply in the domestic gas market as well as supply commitments in EU member states. Production in the gas year 2018-2019 (ending October 1, 2019) was capped at 19.4 billion cubic metres; actual production in this period was 17.5 billion cubic metres.

In June 2018, NAM's shareholders and the Dutch government signed a Heads of Agreement (HoA) to reduce production from Groningen and to ensure the financial robustness of NAM to fulfil its obligations. In the HoA, NAM's shareholders have agreed not to declare dividends for 2018 and 2019. Dividend payments in 2020 and beyond will only be done if a solvency ratio of 25% is reached. In September 2018, detailed agreements were signed to further implement the HoA. As part of these agreements, Shell guarantees NAM's payment obligations vis-à-vis the Dutch government in relation to earthquake-related damages and costs of strengthening houses, up to a maximum of 30%. This maximum equates to Shell's indirect interest in the Groningen production system.

In September 2019, the government issued an update announcing that it was able to reduce Groningen production faster, stopping production in 2022, eight years earlier than initially planned. Negotiations are ongoing between the government and the NAM shareholders to discuss the compensation payable by the government to NAM in order to restore the balance of the package of arrangements laid down in the 2018 HoA.

NAM also has a 60% interest in the Schoonebeek oil field and operates 25 other hydrocarbon production licences onshore and offshore in the North Sea.

Norway
We are a partner in 34 production licences on the Norwegian continental shelf. We are the operator in 14 of these, of which two are producing: the Knarr field (Shell interest 45%), and the Ormen Lange gas field (Shell interest 17.8%). We have interests in the producing fields Troll, Kvitebjørn, Sindre and Valemon, where we are not the operator.

UK
We operate a significant number of our interests on the UK continental shelf under a 50:50 joint-venture agreement with ExxonMobil. In addition to our oil and gas production from North Sea fields, we have various interests in the Atlantic Margin area where we are not the operator, principally in the West of Shetland area (Clair, Shell interest 28%), and Schiehallion (Shell interest approximately 45%).

Brent decommissioning using Allseas Pioneering Spirit, the world's largest construction vessel.

In June 2019 the "Pioneering Spirit" vessel safely completed the single-lift removal of the 25,000-tonne Brent Bravo topside from the North Sea. Brent Bravo is the second of four platforms, after Brent Delta, to be decommissioned and removed from the Brent oil and gas field. The UK Government initiated consultation with the other signatories of the OSPAR Convention on whether to issue derogations for leaving in-situ the footings of the Brent Alpha steel jacket and each of the gravity-based concrete installations of Brent Bravo, Brent Charlie and Brent Delta.

In October 2019, we announced FID on a project to enable the export of gas and oil from the Pierce field, which lies 165 miles east of Aberdeen. It is a joint venture between Shell (92.52%) and Ithaca (7.48%). The project includes modifying the FPSO vessel, the Haewene Brim, owned and operated by Bluewater. Development is expected to take place between 2020 and 2021 and has Oil and Gas Authority (OGA) approval.

Rest of Europe
We also have interests in Albania, Bulgaria and Germany.

Asia (including the Middle East and Russia)
Brunei
Shell and the Brunei government are 50:50 shareholders in Brunei Shell Petroleum Company Sendirian Berhad (BSP). BSP has long-term oil and gas concession rights onshore and offshore Brunei, and sells most of its gas production to Brunei LNG Sendirian Berhad (see "Integrated Gas" on page 47), with the remainder (12% in 2019) sold in the domestic market.

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

We also have non-operating interest in the deep-water exploration Block CA-2 (Shell interest 12.5%), under PSC.

A sale and purchase agreement was signed in October 2019 for the acquisition of Total E&P Deep Offshore Borneo B.V. and all of its interests in the deep-water exploration Block CA-1 (interest 86.95%), under PSC. The deal is expected to complete in 2020.

Over the course of 2019, we have relinquished our interests in the Block A concession (Shell interest 53.9%) following the drilling of the Rapong exploration well. Linked to the relinquishment of Block A, we have also relinquished our interests the adjacent Block N (Shell interest 50%).

Iraq
We have a 44% interest in the Basrah Gas Company, which gathers, treats and processes associated gas that was previously being flared from the Rumaila, West Qurna 1 and Zubair fields. The processed gas and associated products, such as condensate and LPG, are sold to the domestic market. Any surplus condensate and LPG is exported. In 2019, Basrah Gas Company processed on average around 850 million scf/d of associated gas into dry gas, condensate and LPG.

Kazakhstan
We are the joint operator of the onshore Karachaganak oil and condensate field (Shell interest 29.3%), where we have a licence to the end of 2037.

We have an interest in the North Caspian Sea Production Sharing Agreement (Shell interest 16.8%) which includes the Kashagan field in the Kazakh sector of the Caspian Sea. The North Caspian Operating Company is the operator. This shallow-water field covers an area of around 3,400 square kilometres. Phase 1 development of the field is expected to lead to plateau oil production capacity of about 63 thousand boe/d by 2020 (Shell interest), with the possibility of increases with additional phases of development.

We have a 7.4% interest in Caspian Pipeline Consortium, which owns and operates an oil pipeline running from the Caspian Sea to the Black Sea across parts of Kazakhstan and Russia.

Operators at the Karachaganak field in Kazakhstan.

In 2019 we made the decision not to progress the Kalamkas-Khazar projects. These projects were not competitive enough compared to other opportunities in Shell's global portfolio.

UPSTREAM continued

Malaysia

We explore for and produce oil and gas offshore Sabah and Sarawak under 16 PSCs, in which our interests range from 20% to 85%.

Offshore Sabah, we operate two producing oil fields. These include the Gumusut-Kakap deep-water field (Shell interest 29%), and the Malikai deep-water field (Shell interest 35%). In August 2019, phase 2 development of the Gumusut-Kakap field successfully achieved first oil and is expected to add 50 thousand boe/d of extra capacity (Shell interest). In December 2019, we also took FID on phase 2 of the Malikai project. The project involves the drilling of two additional oil producing wells and four water injection wells to enhance Malikai's expected recoverable oil volumes. We also have a 21% interest in the Siakap North-Petai deep-water field and a 30% interest in the Kebabangan field, both operated by third parties. Additionally, we have exploration interests in Blocks SB-J, SB-G, SB-N, SB-3G, ND-6 and ND-7 PSCs.

Offshore Sarawak, we are the operator of eight producing gas fields (Shell interest 50%). In June 2019, the Block SK8 PSC expired (Shell equity 37.5%). In 2019, the abandonment of depleted wells for Serai field (Shell interest 37.5%) and Saderi field (Shell interest 37.5%) were completed. In December 2019, we signed a binding Heads of Agreement (HOA) for the extension of the MLNG PSC. Under the terms of the HOA, Shell will continue to be the PSC operator for F6 and F23 hubs and retains the operatorship of E8, F13 East and F13 West fields. Shell will also be the operator for the new exploration acreage and new fields (F22, F27, Selasih), which will now be part of the MLNG Extension PSC. The key terms in the HOA will be further detailed in the definitive agreements expected to be signed in 2020. Nearly all the gas produced offshore Sarawak is supplied to Malaysia LNG and to our gas-to-liquids plant in Bintulu. See "Integrated Gas" on page 47.

In May 2019, first oil and gas were successfully achieved from the E6 field in SK308 PSC (Shell interest 50%) where the field is the first carbonate thin oil-rim and gas development in Malaysia. First gas was also successfully achieved from the Larak field in the SK408 PSC (Shell interest 30%) in December 2019.

We also have interests in the Amended 2011 Baram Delta EOR PSC (Shell interest 40%) and in Block SK-307 PSC (Shell interest 50%), and exploration interests in Blocks SK318, SK320, SK408 and SK319.

Malikai deep-water platform, Malaysia.

Oman

We have a 34% interest in Petroleum Development Oman (PDO); the Omani government has a 60% interest. PDO is the operator of more than 200 oil fields, mainly located in central and southern Oman, over an area of 90,874 square kilometres. The concession expires in 2044.

In October, we signed an Exploration & Production Sharing Agreement for Block 55 in the southeast of the Sultanate. Oman Shell now has a 100% working interest and operatorship of Block 55 with a total area of 7,564 square kilometres. The agreement includes a work programme of regional studies, seismic acquisition and other potential exploration activities. This agreement is awaiting ratification via Royal Decree.

Russia

We have a 50% interest in Salym Petroleum Development N.V., the joint venture with Gazprom Neft, developing the Salym fields in western Siberia, Khanty Mansiysk Autonomous District.

We and Gazprom Neft each have a 50% interest in Khanty-Mansiysk Petroleum Alliance VOF partnership through which Shell is a holder of 50% of shares in JSC Khanty-Mansiysk Petroleum Alliance.

In June 2019, we signed an agreement with Gazprom Neft on the future sales and purchase of the 50% participation interest in LLC Meretoyahaneftegaz. This transaction is expected to be completed in 2020.

With effect from January 1, 2019, Salym and Khanty-Mansiysk Petroleum Alliance VOF partnership is reported in the Upstream segment. Comparative information has not been restated.

As a result of European Union and US sanctions prohibiting certain defined oil and gas activities in Russia, we suspended our support to Salym and Khanty-Mansiysk Petroleum Alliance VOF partnership in relation to shale oil activities since 2014. Also, Salym and Khanty-Mansiysk Petroleum Alliance VOF partnership also suspended any of their shale oil-related activities since 2014 as well.

United Arab Emirates

In Abu Dhabi, we have a 15% interest in the licence of ADNOC Gas Processing, which expires in 2028. ADNOC Gas Processing exports propane, butane and heavier-liquid hydrocarbons, which it extracts from the wet gas associated with the oil produced by ADNOC Onshore.

Rest of Asia

We also have interests in Jordan, Kuwait, the Philippines and Turkey.

Africa

Egypt

We have a 50% interest in the Badr Petroleum Company (BAPETCO), a self-operated joint venture between Shell and the Egyptian General Petroleum Corporation (EGPC). BAPETCO onshore operations are in the Western Desert where we have an interest in ten oil and gas producing concessions, as well as two exploration concessions (North East Obaiyed, North Matruh). In October 2019, we announced our intention to sell our onshore upstream assets in Egypt. In December 2019, we were awarded onshore concessions with 100% Shell interest (West El Fayum, South East Horus, South Abu Sennan) and one producing concession extension (Bed 2-17).

We have a 25% interest in the Burullus Gas Company (Burullus), a self-operated joint venture between Shell, EGPC and PETRONAS. Burullus operates the West Delta Deep Marine concession (Shell interest 50%), which supplies gas to both the domestic market and the Egyptian LNG plant (see "Integrated Gas" on page 47).

We have a 60% interest in the development rights over the Harmattan Deep discovery and in the Notus discovery offshore the Nile Delta.

We have interests in two gas-producing areas offshore the Nile Delta. We have a 40% interest in the Rashid Petroleum Company, a self-operated joint venture between Shell, EGPC and Edison, which operates the Rosetta concession (Shell interest 80%).

With effect from January 1, 2020, our interest in the offshore Nile Delta will be reported in the Integrated Gas segment. Comparative information will not be restated.

Nigeria

Our share of production, onshore and offshore, in Nigeria was 266 thousand boe/d in 2019, compared with 255 thousand boe/d in 2018. Security issues, sabotage and crude oil theft in the Niger Delta remained significant challenges in 2019.

Onshore

The Shell Petroleum Development Company of Nigeria Limited (SPDC) is the operator of a joint venture (Shell interest 30%) that has 17 Niger Delta onshore oil mining leases (OML).

SPDC commenced litigation against the Federal Government (FGN), in the domestic court to challenge the non-renewal of OML 11. In August 2019, the Court ruled in favour of SPDC affirming that the SPDC JV has fulfilled its obligations under the law for the renewal of OML 11 and ordered the FGN to renew OML 11 for 20 years. In December 2019, the court further refused to grant an application by the FGN to suspend the implementation of the judgement. Though the FGN has appealed the decision of the Court, SPDC continues to operate the block supported by the judgement in its favour which remains in force and unimpaired.

SPDC supplies gas to Nigeria LNG Ltd (see "Integrated Gas" on page 47) mainly through its Gbaran-Ubie and Soku projects.

In 2019, we took the FID on Soku NAG Compressor 2 and Gbaran Single Wells Hookup (Shell interest 30%).

Offshore

Our main offshore deep-water activities are carried out by Shell Nigeria Exploration and Production Company Limited (SNEPCO, Shell interest 100%). SNEPCO has interests in four deep-water blocks, three of which are under PSC terms: Bonga and Erha. SNEPCO operates OMLs 118 (including the Bonga field FPSO, Shell interest 55%) and 135 (Bolia and Doro, Shell interest 55%) and has a 43.8% non-operating interest in OML133 (including the Erha FPSO). Separately, SNEPCO holds a 50% non-operating interest in oil prospecting licence (OPL) 245 (Zabazaba, Etan) under a production sharing agreement (PSA).

Authorities in various countries are investigating our investment in Nigerian oil block OPL 245 and the 2011 settlement of litigation pertaining to that block. See Note 25 to the "Consolidated Financial Statements" on pages 235-237.

SPDC also has three shallow-water licences (OMLs 74, 77 and 79) and a 40% interest in the non-Shell-operated Sunlink joint venture that has one shallow-water licence (OML 144); all four OMLs expire in 2034.

In our Nigerian operations, we face various risks and adverse conditions which could have a significant adverse effect on our operational performance, earnings, cash flows and financial condition (see "Risk factors" on page 32). There are limitations to the extent to which we can mitigate these risks. We carry out regular portfolio assessments to remain a competitive player in Nigeria for the long term. We support the Nigerian government's efforts to improve the efficiency, functionality and domestic benefits of Nigeria's oil and gas industry, and we monitor legislative developments. We monitor the security situation and liaise with host communities, governmental and non-governmental organisations to help promote peace and safe operations. We continue to provide transparency in spills management and reporting, along with our deployment of oil-spill response capability and technology. We execute a maintenance strategy to support sustainable equipment reliability and have implemented a multi-year programme to reduce routine flaring of associated gas. See "Climate change and energy transition" on page 91-98.

FPSO Bonga, offshore Nigeria.

Rest of Africa

We also have interests in Algeria, Mauritania, Namibia, São Tomé and Principe, South Africa and Tunisia.

North america

Canada

We have mineral leases mainly in Alberta and British Columbia. We produce and market natural gas, natural gas liquids, synthetic crude oil and bitumen.

Shales

We have approximately 1.4 million net mineral acres. Our position is primarily in the Duvernay play in Alberta and the Montney play in British Columbia. Activity includes drill-to-fill of our existing infrastructure and an investment focus on our liquid-rich shale acreage. Our Groundbirch asset has the potential to be an integral part of the LNG Canada value chain.

UPSTREAM continued

In 2019, we drilled and brought 30 wells onstream. We have interests in 748 productive wells. In October 2019, we sold our Foothills assets comprising approximately 400 thousand net acres at Waterton, Jumping Pound, West Central and Caroline, with associated gas processing facilities.

After selling our Foothills assets, we operate one natural gas processing facility in Alberta and four natural gas processing facilities in British Columbia.

Bitumen and synthetic crude oil

Synthetic crude oil is produced by mining bitumen-saturated sands, extracting the bitumen from the sands and transporting it to a processing facility where hydrogen is added to produce a wide range of feedstocks for refineries. We have a 50% interest in 1745844 Alberta Ltd. (formerly known as Marathon Oil Canada Corporation), which holds a 20% interest in the Athabasca Oil Sands Project. With effect from January 1, 2020, our interest in the Bitumen and synthetic crude oil will be reported in the Oil Products segment. Comparative information will not be restated.

Transporting Shell Bitumen.

Carbon capture and storage (CCS)

We operate the Quest CCS project (Shell interest 10%), which captured and safely stored more than 1.1 million tonnes of carbon dioxide in 2019.

USA

We produce oil and gas in deep water in the Gulf of Mexico, heavy oil in California and oil and gas from shale in Pennsylvania and Texas. The majority of our oil and gas production interests are acquired under leases granted by the owner of the minerals underlying the relevant acreage, including many leases for federal onshore and offshore tracts. Such leases usually run on an initial fixed term that is automatically extended by the establishment of production for as long as production continues, subject to compliance with the terms of the lease (including, in the case of federal leases, extensive regulations imposed by federal law). Our share of production in the USA was in total 653 thousand boe/d in 2019.

In December 2019, we recognised an impairment, mainly associated with the US Appalachia unconventional gas assets. We will continue to regularly review the economic attractiveness of our Shales investments in light of the macroeconomic environment, which could result in changes to development plans in the future. See Note 8 Property, plant and equipment on page 210-213.

Gulf of Mexico

The Gulf of Mexico is our major production area in the USA and accounts for around 54% of our oil and gas production in the country. We have an interest in approximately 320 federal offshore leases and our share of production averaged 359 thousand boe/d in 2019.

In May 2019, we signed an agreement to sell our 22.45% non-operated interest in the Caesar-Tonga asset in the US Gulf of Mexico to Equinor. The total consideration for this deal was $965 million in cash. This was completed on July 1, 2019.

In April 2019, we announced a significant discovery at the Blacktip prospect in the deep-water US Gulf of Mexico. Blacktip is a Wilcox discovery in the Perdido thrust belt and was discovered in the Alaminos Canyon Block 380, approximately 30 miles from the Perdido platform and Whale discovery. Evaluation is ongoing and appraisal planning is underway to further delineate the discovery and define development options.

In May 2019, production started at the Shell-operated Appomattox floating production system months ahead of schedule. Appomattox (Shell interest 79%) currently has an expected peak production of 175 thousand boe/d and is the first commercial discovery now brought into production in the deep-water Gulf of Mexico Norphlet formation. In August 2019, we took the FID for the PowerNap deep-water project in the US Gulf of Mexico. PowerNap (Shell interest 100%), discovered in 2014, is a subsea tie-back to the Shell-operated Olympus production hub. The project is expected to start production in late 2021 and expected to produce up to 35 thousand boe/d at peak rates. In August 2019, the Whale project moved into the Define phase. The project is 60% Shell and 40% Chevron, with the exception of the AC815 lease area which is 40% Shell and 60% Chevron.

We are the operator of eight production hubs – Mars A, Mars B, Auger, Perdido, Ursa, Enchilada/Salsa, Appomattox and Stones – as well as the West Delta 143 Processing Facilities (Shell interests ranging from 38% to 100%). We also have non-operating interests in Nakika (Shell interest 50%) and we continue to produce from Coulomb (Shell interest 100%) which ties into the Nakika non-operated platform. Our production in the US Gulf of Mexico assets was adversely impacted by operational constraints.

Perdido offshore deep-water platform in the Gulf of Mexico.

Shales
We have approximately 1.0 million net mineral acres. Our activity is focused in the Permian Basin in West Texas and the Marcellus and Utica plays in Pennsylvania.

Operator climbs drilling rig, Permian Basin, West Texas USA.

In 2019, we drilled and brought 271 wells onstream. We have interests in more than 1,952 productive wells and operate seven central processing facilities. The USA represents 61% of our shales proved reserves and 80% of our shales liquids proved reserves. In the Permian Basin, we increased our production in 2019 by around 40% compared with 2018. In December 2019, the first integrated iShale® facilities came on stream in East Slash Ranch of our Permian asset. Comprising two pads with eight wells in total and a central processing facility, this shale 'field of the future' brings together more than a dozen iShale technologies, including full wireless surveillance and controls, low greenhouse gas emissions technology, multiphase metering, artificial intelligence technologies and solar-powered facilities.

In February 2019, we sold approximately 27 thousand non-core net acres, with 61 wells and associated facilities in the Marshlands area of Pennsylvania.

In February 2019, we also sold 695 non-producing non-core net acres in the Permian Basin.

In December 2019, we sold our non-Shell-operated interest in the Haynesville shale gas formation in Northern Louisiana.

California
We have a 51.8% interest in Aera Energy LLC which operates around 15,000 wells in the San Joaquin Valley in California, mostly producing heavy oil and associated gas.

Alaska
Shell retains two exploration acreage positions in the long-established North Slope area of Alaska. One is a non-operating interest of 50% in 13 federal leases, operated by ENI. An exploratory drilling operation for this joint venture is under way after being permitted by ENI. We continue to evaluate our 18 state leases at nearby Western Harrison Bay, which have geologic affinity with recent discoveries announced by other North Slope operators.

Rest of North America
We also have interests in Mexico.

South america
Argentina
Shales
We have more than 162 thousand net mineral acres in the Vaca Muerta basin, a liquids and gas-rich play located in the Neuquén Province. The operated acreage includes blocks in Cruz de Lorena and Sierras Blancas (Shell interest 90%), Coiron Amargo Sur Oeste (Shell interest 80%), and Bajada de Añelo (Shell interest 50%). We have a 45% non-Shell-operated interest in the Rincon La Ceniza and La Escalonada blocks. In 2019, we drilled and brought 15 wells onstream. We have interests in 47 producing wells. We have a 90% interest in our operated Sierras Blancas/Cruz de Lorena central processing facility.

In December 2019, we agreed a 50:50 partnering with Equinor to jointly acquire Schlumberger's 49% interest in the Bandurria Sur block located in the Vaca Muerta basin (Shell interest 24.5%).

Offshore
In April 2019, we won two frontier exploration blocks in the deep-water bid round offshore of Argentina. For both blocks, Shell is to be operator holding 60% of the participating interest, with Qatar Petroleum holding the remaining 40%.

Brazil
Our share of production in Brazil was in total 383 thousand boe/d in 2019.

We operate the Bijupirá and Salema (Shell interest 80%) and BC-10 fields (Shell interest 50%) in the Campos Basin, offshore Brazil. Our operated portfolio also includes the Gato do Mato field in the Santos Basin and the adjacent Sul de Gato do Mato area (Shell interest 80%), for which development options are being evaluated. Our operated portfolio also includes 10 offshore exploration concessions in the Barreirinhas Basin (Shell interests ranging from 50% to 100%), pre-salt PSCs for Alto Cabo Frio Oeste (Shell interest 55% as operator) and Saturno (Shell interest 45% as operator) in the Santos Basin, C-M-791 exploration block (Shell Interest 40%) in the Campos Basis, and one block in the Potiguar Basin (Shell interest 100%). We have entered into an agreement with Ecopetrol for the sale of 30% interest in the Gato do Mato field and Sul de Gato do Mato area, which is still subject to regulatory approvals.

FPSO P68 being towed into position, offshore Brazil.

UPSTREAM continued

In October 2019, during the sixteenth deep-water bid round organised by the Brazilian National Petroleum Agency (ANP), we were granted exploration and production rights as operator with respect to two exploration blocks, C-M-659 and C-M-713, in the Campos Basin (Shell Interest 40%). This is awaiting ratification.

In our non-operated portfolio, we have interests in several fields in the offshore Santos Basin, consisting of 30% interests in BM-S-9, Entorno de Sapinhoá and BM-S-9A blocks Sapinhoá and Lapa fields. In the Santos Basin we also have BMS-11A concession with 25% interest in the Berbigão and Sururu fields, which are accumulations subject to ongoing unitisation agreements and 4% in the Atapu unit, which has already been subject to unitisation in effect from September 2019. The non-operated portfolio in the Santos Basis also includes the BMS-11 concession with the Lula field, which is partly subject to unitisation that has been in effect since April 2019 (Shell interest 23% in the unit). The Iracema area of the Lula field (Shell interest of 25%) is not subject to unitisation. Additionally, we also hold a 20% interest in BM-S-50 offshore exploration block, where the Sagitário prospect was discovered and we hold a 20% interest in the Libra block where the commerciality of the Mero field was declared. FPSO Pioneiro de Libra has been performing extended well tests and operating early production systems since 2017, and exploration is ongoing in the Central and South East areas. The Mero field is also subject to unitisation with adjoining area, for which a unitisation agreement is still subject to government approval. We announced the final investment decision to contract the Mero 2 floating production, storage and offloading (FPSO) vessel to be deployed at the Mero field offshore Santos Basin in Brazil. The FPSO has the capacity to process up to 180 thousand boe/d (Shell interest 20%). We also hold one deep-water exploration block in the Potiguar Basin (Shell interest 40%) and a PSC to explore the Tres Marias block in the Santos Basin (Shell interest 40%).

The activities of operated and non-operated fields are currently supported by 16 producing deep-water FPSOs, of which the fifteenth (P-67) delivered first oil in February 2019 and the sixteenth (P-68) in November 2019. Two additional FPSOs are expected to be brought online over the period 2020-2021 (Atapu I (P-70) and Mero1).

Rest of South America

We also have interests in Colombia and Uruguay.

TRADING AND SUPPLY

We market and trade crude oil from most of our Upstream operations.

Shell markets and trades crude oil.

OIL AND GAS INFORMATION

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

	Crude oil and natural gas liquids (million barrels)	Natural gas (thousand million scf)	Synthetic crude oil (million barrels)	Bitumen (million barrels)	Total (million boe) [A]
Shell subsidiaries					
Increase/(decrease) in 2019:					
Revisions and reclassifications	444	2,180	(34)	–	785
Improved recovery	4	3	–	–	5
Extensions and discoveries	158	684	–	–	276
Purchases and sales of minerals in place	(91)	(367)	–	–	(154)
Total before taking production into account	515	2,500	(34)	–	912
Production [B]	(627)	(3,355)	(20)	–	(1,226)
Total	(112)	(855)	(54)	–	(314)
At January 1, 2019	4,486	29,847	661	–	10,294
At December 31, 2019	4,374	28,992	607	–	9,980
Shell share of joint ventures and associates					
Increase/(decrease) in 2019:					
Revisions and reclassifications	25	(224)	–	–	(13)
Improved recovery	4	1	–	–	4
Extensions and discoveries	2	5	–	–	3
Purchases and sales of minerals in place	–	–	–	–	–
Total before taking production into account	31	(218)	–	–	(6)
Production [C]	(38)	(721)	–	–	(163)
Total	(7)	(939)	–	–	(169)
At January 1, 2019	290	5,768	–	–	1,285
At December 31, 2019	283	4,829	–	–	1,116
Total					
Increase/(decrease) before taking production into account	546	2,282	(34)	–	906
Production	(665)	(4,076)	(20)	–	(1,388)
Increase/(decrease)	(119)	(1,794)	(54)	–	(482)
At January 1, 2019	4,776	35,615	661	–	11,578
At December 31, 2019	4,657	33,821	607	–	11,096
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31, 2019	–	–	304	–	304

[A] Natural gas volumes are converted into oil equivalent using a factor of 5,800 standard cubic feet (scf) per barrel.
[B] Included 43 million barrels of oil equivalent (boe) consumed in operations (natural gas: 247 thousand million scf; synthetic crude oil: 1 million barrels).
[C] Included 7 million boe consumed in operations (natural gas: 42 thousand million scf).

OIL AND GAS INFORMATION continued

PROVED RESERVES

The proved oil and gas reserves of Shell subsidiaries and the Shell share of the proved oil and gas reserves of joint ventures and associates are set out in more detail in "Supplementary Information – Oil and Gas (unaudited)" on pages 215-226.

Before taking production into account, our proved reserves increased by 906 million boe in 2019. This comprised of increases of 912 million boe from Shell subsidiaries and of decreases of 6 million boe from the Shell share of joint ventures and associates.

After taking production into account, our proved reserves decreased by 482 million boe in 2019 to 11,096 million boe at December 31, 2019.

SHELL SUBSIDIARIES

Before taking production into account, Shell subsidiaries' proved reserves increased by 912 million boe in 2019. This comprised of increases of 515 million barrels of crude oil and natural gas liquids, 431 million boe (2,500 thousand million scf) of natural gas and decrease of 34 million barrels of synthetic crude oil. The 912 million boe increase is the net effect of a net increase of 785 million boe from revisions and reclassifications, an increase of 5 million boe from improved recovery, an increase of 276 million boe from extensions and discoveries, and a net decrease of 154 million boe related to purchases and sales of minerals in place.

After taking into account production of 1,226 million boe (of which 43 million boe were consumed in operations), Shell subsidiaries' proved reserves decreased by 314 million boe in 2019 to 9,980 million boe. In 2019, Shell subsidiaries' proved developed reserves (PD) decreased by 204 million boe to 7,849 million boe, and proved undeveloped reserves (PUD) decreased by 110 million boe to 2,131 million boe.

SHELL SHARE OF JOINT VENTURES AND ASSOCIATES

Before taking production into account, the Shell share of joint ventures and associates' proved reserves decreased by 6 million boe in 2019. This comprised an increase of 31 million barrels of crude oil and natural gas liquids and a decrease of 37 million boe (218 thousand million scf) of natural gas. The 6 million boe decrease comprises a net decrease of 13 million boe from revisions and reclassifications and an increase of 3 million boe from extensions and discoveries and an increase of 4 million boe from improved recovery.

After taking into account production of 163 million boe (of which 7 million boe were consumed in operations), the Shell share of joint ventures and associates' proved reserves decreased by 169 million boe to 1,116 million boe at December 31, 2019.

The Shell share of joint ventures and associates' PD decreased by 178 million boe to 960 million boe, and PUD increased by 9 million boe to 156 million boe.

For further information, see "Supplementary Information – oil and gas (unaudited)" on page 239-249.

PROVED UNDEVELOPED RESERVES

In 2019, Shell subsidiaries and the Shell share of joint ventures and associates' PUD decreased by 98 million boe to 2,287 million boe. There were decreases of 462 million boe due to maturation to PD, mainly 90 million boe in Lula (Brazil), 65 million boe in Appomattox (USA), and 307 million boe spread across other fields. These were offset by increases of 119 million boe due to revisions and net increases of 279 million boe due to extensions and discoveries – mainly in the Permian Basin (69 million boe), Mero (60 million boe) and Groundbirch (52 million boe) – and decreases of 43 million boe due to sales of minerals in place and increases of 9 million boe due to improved recovery spread across other fields.

In addition to the maturation of 462 million boe from PUD to PD, 178 million boe was matured to PD from contingent resources through PUD as a result of project execution during the year.

PUD held for five years or more (PUD5+) at December 31, 2019, amounted to 258 million boe, a decrease of 14 million boe compared with the end of 2018. These PUD5+ remain undeveloped because development either requires the installation of compression equipment and the drilling of additional wells, which will be executed when required to support existing gas delivery commitments (Russia), or will take longer than five years because of the complexity and scale of the project (Australia and the UK).

The decrease in PUD5+ during 2019 was driven mainly by changes in Clair (UK), Champion (Brunei), and Forcados-Yokri (Nigeria).

The fields with the largest PUD5+ at December 31, 2019, were Jansz-Io and Gorgon (Australia), Lunskoye (Russia) and Clair (UK).

During 2019, we spent $6.9 billion on development activities related to PUD maturation.

DELIVERY COMMITMENTS

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

In the past three years, we met our contractual delivery commitments, with the notable exceptions of Egypt, Trinidad and Tobago, and Malaysia. In the period 2020-2022, we are contractually committed to deliver to third parties, joint ventures and associates a total of 7,735 billion scf of natural gas from our subsidiaries, joint ventures and associates. The sales contracts contain a mixture of fixed and variable pricing formulae that are generally referenced to the prevailing market price for crude oil, natural gas or other petroleum products at the time of delivery.

In the period 2020-2022, we expect to meet our delivery commitments for almost all the areas in which they are carried, with an estimated 75.6% coming from PD, 5.4% through the delivery of gas that comes available to us from paying royalties in cash, and 19% from the development of PUD as well as other new projects and purchases.

The key exceptions are:

- BG Egypt Development NOV: The government decision to divert gas from the offshore West Delta Deep Marine fields to domestic use has caused a tangible shortfall of 806 billion scf (87% of the promised gas delivery), expected to continue in the near future leaving LNG gas commitment mostly under force majeure;
- Trinidad and Tobago (East Coast Marine Area and North Coast Marine Area), where PD for all fields fail the economic test at the yearly average price for natural gas. However, we expect to cover 83% of our delivery commitments from existing developed resource volumes and new projects, resulting in an expected true shortfall of some 119 billion scf; and
- In Malaysia, one of the third-party gas supply lines is under repair during 2020. Force majeure has been declared, and no penalties have been incurred.

Summary of proved oil and gas reserves of Shell subsidiaries and Shell share of joint ventures and associates (at December 31, 2019)

Based on average prices for 2019	Crude oil and natural gas liquids (million barrels)	Natural gas (thousand million scf)	Synthetic crude oil (million barrels)	Total (million boe) [A]
Proved developed				
Europe	167	2,615	–	618
Asia	1,643	13,610	–	3,989
Oceania	106	5,805	–	1,107
Africa	314	1,523	–	577
North America				
USA	641	1,615	–	920
Canada	15	781	607	757
South America	675	968	–	841
Total proved developed	3,561	26,917	607	8,809
Proved undeveloped				
Europe	119	976	–	287
Asia	180	1,208	–	388
Oceania	15	2,591	–	462
Africa	80	1,085	–	267
North America				
USA	341	254	–	385
Canada	3	499	–	89
South America	358	291	–	409
Total proved undeveloped	1,096	6,904	–	2,287
Total proved developed and undeveloped				
Europe	286	3,591	–	905
Asia	1,823	14,818	–	4,377
Oceania	121	8,396	–	1,569
Africa	394	2,608	–	844
North America				
USA	982	1,869	–	1,305
Canada	18	1,280	607	846
South America	1,033	1,259	–	1,250
Total	4,657	33,821	607	11,096
Reserves attributable to non-controlling interest in Shell subsidiaries	–	–	304	304

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

OIL AND GAS INFORMATION continued

EXPLORATION

In 2019, we made notable discoveries in the US Gulf of Mexico and Australia. In April 2019, we announced a significant discovery at the Blacktip prospect in the Perdido Corridor within the deep-water US Gulf of Mexico (Shell interest 52.4% as operator). This and other drilling successes in the US Gulf of Mexico highlight the potential of this area. Further exploration is planned in 2020.

We also announced a significant gas discovery at the Bratwurst prospect in the Browse Basin.

We continue to strengthen our portfolio in the US Gulf of Mexico, Brunei, Oman, Brazil and Egypt, while opening up new positions in Argentina, Colombia, São Tomé and Príncipe and South Africa.

In 2018, Shell entered into a partnership with Oman Oil Company Exploration production (Shell interest 50%) to explore for oil and gas in Block 42, a vast under-explored area of 31,068 square kilometres in the Al Sharqiyah Governate, Sultanate of Oman. This was ratified by Royal Decree on January 23, 2019.

In March 2019, the dilution and transfer of operatorship was completed for two exploration blocks in deep-water Colombia, following these blocks' conversion from Technical Evaluation Agreements to Exploration & Production contracts. For both blocks, Noble Energy becomes the operator with 40% working interest, with the remaining 60% held by Shell. The gross area of the COL-3 block is around 4,000 square kilometres, and the gross area of the GUA OFF-3 block is around 4,800 square kilometres.

In US Gulf of Mexico Lease Sale 252 in March 2019 we acquired 77 blocks across multiple plays in the US Gulf of Mexico. This acquisition included significant acquisitions close to the 2019 Blacktip discovery (Shell interest 52.4%), in the underexplored areas of Garden Banks and in Desoto Canyon south east of the Appomattox production facility.

In April 2019, we won two exploration blocks in the deep-water bid round in Argentina. These frontier exploration blocks are at the edge of the continental shelf and have approximate areas of 7,875 square kilometres and 8,340 square kilometres. For both blocks, we are the operator, holding 60% of the participating interest, with Qatar Petroleum holding the remaining 40%.

In South Africa in April 2019, we entered the frontier deep-water Cape Basin (Shell interest 40%) and a second block next to our existing acreage in the Namibian Orange Basin (Shell interest 45%).

In October 2019, during the sixteenth deep-water bid round organised by the Brazilian National Petroleum Agency (ANP), we were granted exploration and production rights with respect to two exploration blocks, C-M-659 and C-M-713, as operator in the Campos Basin (Shell Interest 40%). This is awaiting ratification.

Also in October, we signed an Exploration & Production Sharing Agreement for Block 55 in the southeast of the Sultanate. Oman Shell now has a 100% working interest and operatorship of Block 55 with a total area of 7,564 square kilometres. The agreement includes a work programme of regional studies, seismic acquisition and other potential exploration activities. This agreement is awaiting ratification via Royal Decree.

In November 2019, we completed a farm-in transaction with Kosmos Energy, acquiring participating interests in Block 6 (Shell interest 20%) and Block 11 (Shell interest 30%) exploration licences (together approximately 14,000 square kilometres) offshore of São Tomé and Príncipe, representing a new country entry for Shell. Partners in the blocks are Kosmos Energy (Operator of Block 11), Galp Energia (Operator of Block 6) and ANP-STP, the national oil company.

In December 2019, we were awarded two concessions in the Red Sea bid round. The two blocks cover more than 6,000 square kilometres in an underexplored region of Egypt, south of the Gulf of Suez hydrocarbon province. Block 4 (Shell interest 70%) is in partnership with Mubadala Petroleum and Block 3 as the sole operator, with initial exploration plans being 3D seismic and petroleum system studies. This is awaiting ratification.

In total, the net undeveloped acreage in our exploration portfolio increased by around 9 million acres in 2019. The largest contributions were licence entries in South Africa, Oman, Argentina, Egypt and Colombia, offset by relinquishments and divestments in Australia, Myanmar and Gabon.

For further information, see "Supplementary Information – oil and gas (unaudited)" on page 239-246.

LOCATION OF OIL AND GAS EXPLORATION AND PRODUCTION ACTIVITIES

Location of oil and gas exploration and production activities [A] (at December 31, 2019)

	Exploration	Development and/or production	Shell operator[B]
Europe			
Albania	•		•
Bulgaria	•		•
Cyprus	•		
Germany	•	•	
Italy	•	•	•
Netherlands	•	•	•
Norway	•	•	•
UK	•	•	•
Asia			
Brunei	•	•	•
China		•	•
Indonesia		•	
Kazakhstan	•	•	
Malaysia	•	•	•
Myanmar	•		
Oman	•	•	•
Philippines	•	•	•
Qatar		•	•
Russia	•	•	
Turkey	•		•
Oceania			
Australia	•	•	•
Africa			
Egypt	•	•	•
Mauritania	•		•
Morocco	•		
Namibia	•		•
Nigeria	•	•	•
São Tomé and Príncipe	•		
South Africa	•		•
Tanzania	•		•
Tunisia		•	•
North America			
Canada	•	•	•
Mexico	•		•
USA	•	•	•
South America			
Argentina	•	•	•
Bolivia	•	•	•
Brazil	•	•	•
Colombia	•		•
Trinidad and Tobago	•	•	•
Uruguay			•

[A] Includes joint ventures and associates. Where a joint venture or an associate has properties outside its base country, those properties are not shown in this table.
[B] In several countries where "Shell operator" is indicated, Shell is the operator of some but not all exploration and/or production ventures.

OIL AND GAS INFORMATION continued

OIL AND GAS PRODUCTION AVAILABLE FOR SALE

Crude oil and natural gas liquids [A]

Thousand barrels

	2019		2018		2017	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
Europe						
Denmark	7,490	–	13,036	–	15,467	–
Italy	9,747	–	10,921	–	8,733	–
Norway	7,025	–	13,528	–	19,529	–
UK	30,677	–	31,431	–	45,020	–
Other [B]	723	1,135	795	1,417	860	1,272
Total Europe	55,662	1,135	69,711	1,417	89,609	1,272
Asia						
Brunei	196	20,002	283	18,738	1,138	15,831
Kazakhstan	34,269	–	32,432	–	29,491	–
Malaysia	21,993	–	24,650	–	26,574	–
Oman	76,493	–	76,847	–	77,687	–
Russia	22,442	9,413	22,003	10,403	22,049	10,899
Other [B]	28,796	7,709	28,769	7,768	30,180	7,859
Total Asia	184,189	37,124	184,984	36,909	187,119	34,589
Total Oceania [B]	10,058	–	8,883	–	9,098	–
Africa						
Gabon	–	–	–	–	9,750	–
Nigeria	56,589	–	53,102	–	56,337	–
Other [B]	7,802	–	8,265	–	9,003	–
Total Africa	64,391	–	61,367	–	75,090	–
North America						
USA	171,204	–	140,035	–	109,430	–
Canada	11,506	–	13,111	–	10,775	–
Total North America	182,710	–	153,146	–	120,205	–
South America						
Brazil	126,366	–	118,681	–	111,093	–
Other [B]	3,900	–	3,414	–	3,325	–
Total South America	130,266	–	122,095	–	114,418	–
Total	627,276	38,259	600,186	38,326	595,539	35,861

[A] Reflects 100% of production of subsidiaries except in respect of production-sharing contracts (PSCs), where the figures shown represent the entitlement of the subsidiaries concerned under those contracts.
[B] Comprises countries where 2019 production was lower than 10,100 thousand barrels or where specific disclosures are prohibited.

Synthetic crude oil

Thousand barrels

	2019	2018	2017
	Shell subsidiaries	Shell subsidiaries	Shell subsidiaries
North America – Canada	19,076	19,514	33,183

Bitumen

Thousand barrels

	2019	2018	2017
	Shell subsidiaries	Shell subsidiaries	Shell subsidiaries
North America – Canada	–	–	1,681

Natural gas [A]

Million standard cubic feet

	2019		2018		2017	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
Europe						
Denmark	24,433	–	45,027	–	52,105	–
Germany	41,846	–	40,368	–	48,002	–
Ireland	–	–	44,833	–	52,515	–
Netherlands	–	244,286	–	271,303	–	343,126
Norway	182,683	–	239,253	–	243,352	–
UK	62,174	–	82,695	–	174,478	–
Other [B]	15,062	–	16,422	–	13,125	–
Total Europe	326,198	244,286	468,598	271,303	583,577	343,126
Asia						
Brunei	22,185	160,648	21,205	157,476	29,880	158,877
China	44,510	–	42,419	–	43,899	–
Kazakhstan	84,499	–	78,575	–	80,623	–
Malaysia	226,277	–	237,102	–	221,590	–
Philippines	44,374	–	44,017	–	42,958	–
Russia	4,563	134,807	4,044	136,652	4,052	137,890
Thailand	–	–	25,973	–	60,742	–
Other [B]	407,899	118,253	378,785	117,976	288,728	118,352
Total Asia	834,307	413,708	832,120	412,104	772,472	415,119
Oceania						
Australia	686,956	20,840	648,735	18,923	591,860	18,708
New Zealand	–	–	40,153	–	51,943	–
Total Oceania	686,956	20,840	688,888	18,923	643,803	18,708
Africa						
Egypt	92,169	–	148,721	–	122,439	–
Nigeria	234,332	–	232,899	–	236,370	–
Other [B]	30,266	–	30,669	–	36,187	–
Total Africa	356,767	–	412,289	–	394,996	–
North America						
USA	389,130	–	355,075	–	286,529	–
Canada	220,005	–	247,890	–	224,529	–
Total North America	609,135	–	602,965	–	511,058	–
South America						
Bolivia	48,501	–	55,480	–	59,673	–
Brazil	78,526	–	68,865	–	70,100	–
Trinidad and Tobago	159,698	–	104,454	–	73,000	–
Other [B]	8,662	–	8,062	–	8,370	–
Total South America	295,387	–	236,861	–	211,143	–
Total	3,108,750	678,834	3,241,721	702,330	3,117,049	776,953

[A] Reflects 100% of production of subsidiaries except in respect of PSCs, where the figures shown represent the entitlement of the subsidiaries concerned under those contracts.
[B] Comprises countries where 2019 production was lower than 41,795 million scf or where specific disclosures are prohibited.

OIL AND GAS INFORMATION continued

AVERAGE REALISED PRICE BY GEOGRAPHICAL AREA

Crude oil and natural gas liquids

$/barrel

	2019		2018		2017	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
Europe	65.11	58.08	68.23	64.24	50.52	46.88
Asia	58.16	65.25	64.06	70.66	49.08	53.44
Oceania	51.51	–	61.63	–	45.64	–
Africa	65.39	–	71.02	–	53.39	–
North America – USA	54.56	–	61.87	–	47.23	–
North America – Canada	36.61	–	43.72	–	36.00	–
South America	56.68	–	62.67	–	48.10	–
Total	57.56	65.05	63.96	70.43	49.00	53.23

Synthetic crude oil

$/barrel

	2019	2018	2017
	Shell subsidiaries	Shell subsidiaries	Shell subsidiaries
North America – Canada	50.27	48.90	45.90

Bitumen

$/barrel

	2019	2018	2017
	Shell subsidiaries	Shell subsidiaries	Shell subsidiaries
North America – Canada	–	–	34.46

Natural gas

$/thousand scf

	2019		2018		2017	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
Europe	5.59	4.95	7.08 [A]	4.06	5.48	4.77
Asia	2.66	6.34	2.99	7.06	2.84	5.45
Oceania	8.22	3.91	8.66 [A]	4.15	6.21	3.11
Africa	2.92	–	3.02	–	2.44	–
North America – USA	2.27	–	3.12	–	3.00	–
North America – Canada	1.37	–	1.35	–	1.85	–
South America	2.33	–	3.50	–	2.93 [A]	–
Total	3.95	5.80	4.63 [A]	5.74	3.90 [A]	5.11

[A] As revised, following a reassessment.

AVERAGE PRODUCTION COST BY GEOGRAPHICAL AREA

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

$/boe

	2019		2018		2017	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
Europe	14.14	5.76	15.03	6.37	13.19	5.58
Asia	6.30	6.17	6.52	6.24	7.71	6.87
Oceania	9.17	24.49	8.41	32.18	9.24	28.83
Africa	8.44	–	8.25	–	9.53	–
North America – USA	11.78	–	12.78	–	16.11	–
North America – Canada	11.88	–	11.58	–	14.53	–
South America	6.26	–	8.60	–	8.08	–
Total	8.95	6.48	9.66	6.81	10.55	6.82

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

Synthetic crude oil

$/barrel

	2019	2018	2017
	Shell subsidiaries	Shell subsidiaries	Shell subsidiaries
North America – Canada	19.29	20.15	23.77

Bitumen

$/barrel

	2019	2018	2017
	Shell subsidiaries	Shell subsidiaries	Shell subsidiaries
North America – Canada	–	–	16.19

DOWNSTREAM

Key statistics

	$ million, except where indicated		
	2019	2018	2017
Segment earnings [A]	6,277	7,601	8,258
Including:			
Revenue (including inter-segment sales)	294,677	335,597	265,821
Share of profit of joint ventures and associates [A]	1,725	1,785	1,956
Interest and other income	266	345	154
Operating expenses [B]	18,697	20,743	19,583
Depreciation, depletion and amortisation	5,413	4,064	3,877
Taxation charge [A]	1,241	1,515	1,783
Capital expenditure	8,650	7,083	5,826
Cash capital expenditure [B]	8,926	7,408	6,090
Capital investment [B]	10,542	7,565	6,418
Refinery availability (%) [C]	91	91	91
Chemical plant availability (%) [C]	89	93	92
Refinery processing intake (thousand b/d)	2,564	2,648	2,572
Oil products sales volumes (thousand b/d)	6,561	6,783	6,599
Chemicals sales volumes (thousand tonnes)	15,223	17,644	18,239

[A] See Note 4 to the "Consolidated Financial Statements" on pages 206-208. Segment earnings are presented on a current cost of supplies basis.
[B] See "Non-GAAP measures reconciliations" on pages 279-280.
[C] The basis of calculation differs from that used for the "Refinery and chemical plant availability" measure in "Performance indicators" on page 42, which excludes downtime due to uncontrollable factors and, in 2017, excludes assets which were not part of Shell's operational performance metrics because of portfolio activity (Fredericia and former Motiva sites).

OVERVIEW

Our Downstream business consists of Oil Products and Chemicals activities. They form part of an integrated value chain that trades and refines crude oil and other feedstocks into products that are moved and marketed around the world for domestic, industrial and transport use. The products we sell include gasoline, diesel, heating oil, aviation fuel, marine fuel, biofuel, lubricants, bitumen and sulphur. We also produce and sell petrochemicals for industrial use worldwide.

Our Oil Products activities comprise Refining and Trading, and Marketing. These are referred to as classes of business. Marketing includes Retail, Lubricants, Business-to-Business (B2B), Pipelines and Biofuels. Chemicals has major manufacturing plants, which are located close to refineries, and its own marketing network. In Trading and Supply, we trade crude oil, oil products and petrochemicals to optimise feedstocks for Refining and Chemicals, to supply our Marketing businesses and third parties, and for our own profit.

BUSINESS CONDITIONS

Global oil demand grew by 1.0 million barrels per day (b/d), or 1.0%, to 100.3 million b/d, according to the International Energy Agency's (IEA) Oil Market Report published in January 2020. Oil demand growth in 2019 was 0.1 million b/d lower than in 2018.

Industry gross refining margins were lower on average in 2019 than in 2018 in three of the four key refining hubs in Europe, Singapore and the US Gulf Coast. In the US West Coast gross margins improved, partly due to product prices being supported by unplanned outages in the region. Globally, year-on-year growth in demand for oil products has slowed in line with slowing global economic growth. Refinery capacity additions, especially in the Middle East and Asia, combined with lower demand growth have led to generally lower refinery utilisations, which weakened margins. Refinery activity continued to be low in Latin America amid the ongoing geopolitical uncertainty and poor investment climate. On January 1, 2020, the new International Maritime Organization low-sulphur shipping fuel specification came into effect. The industry has started preparations but the full effect of the implementation is expected later in the year.

Cracker industry margins in Asia halved. Cracker margins in Western Europe and the USA were relatively unchanged versus 2018. West European margins were supported by a high level of maintenance outages in the first half of 2019, while in the USA margins were supported by low ethane prices.

See "Market overview" on **page 37**.

REFINERY AND CHEMICAL PLANT AVAILABILITY

Refinery availability was 91% in 2019, unchanged from 2018.

Chemicals plant availability was 89% in 2019, compared with 93% in 2018, due to higher planned downtime in Asia and Europe and the impact of strike action in the Netherlands.

OIL PRODUCTS AND CHEMICALS SALES

Oil products sales volumes decreased by 3% in 2019 compared with 2018, reflecting lower trading volumes primarily in Asia and Europe and, to a lesser extent, impact on marketing volumes due to the sale of the Downstream Argentina business to Raízen (volumes reported at 50% Shell share).

Chemicals sales volumes decreased by 14% in 2019 compared with 2018, mainly due to lower downstream demand and higher downtime at some sites.

EARNINGS 2019-2018

Segment earnings in 2019 of $6,277 million are presented on a current cost of supplies basis (see "Summary of results" on page 40). Segment earnings on a first-in, first-out basis were $6,883 million, which were $606 million higher than on a current cost of supplies basis (2018 first-in, first-out segment earnings were $458 million lower than the current cost of supplies basis). See "Non-GAAP measures reconciliations" on page 279-280.

Segment earnings in 2019 of $6,277 million were 17% lower than in 2018. Earnings in 2019 included a net charge of $403 million, compared with a net gain in 2018 of $34 million, which is described at the end of this section.

Excluding the impact of these items, earnings in 2019 were $6,680 million, compared with $7,567 million in 2018. Refining and Trading accounted for 19% of these 2019 earnings, Marketing for 70% and Chemicals for 11%.

The decrease in Downstream earnings, excluding the net charges, of $887 million (12%) compared with 2018 was driven by lower Refining and Trading margins (around $400 million) and lower Chemicals margins (around $1,500 million). This was partly offset by higher Marketing margins (around $500 million), benefit from foreign exchange (around $250 million), lower operating costs (around $130 million) and change in accounting policy IFRS 16 (around $150 million).

The decrease in earnings of $887 million analysed by class of business was as follows:
- Refining and Trading earnings were $279 million lower than in 2018, principally due to lower realised Refining margins due to adverse price variance across all regions driven by lower global demand growth and increase in worldwide refining capacity; and higher maintenance costs. Partly offsetting this were higher earnings from oil products trading and optimisation, mainly fuel oil;
- Marketing earnings were $727 million higher than in 2018. This was due to stronger unit margins and lower operating expenses in Retail and Lubricants, better revenue from Retail ventures, and lower pension costs. Partly offsetting these were lower earnings from Raízen, the joint venture (Shell interest 50%) in Brazil, due to adverse foreign exchange and lower fuel margins; and
- Chemicals earnings were $1,334 million lower than in 2018. Results were impacted by lower realised base chemicals and intermediate margins and higher maintenance activities in Asia and Europe, including the impact of strike action in the Netherlands, partly offset by lower operating expenses.

Segment earnings in 2019 included a net charge of $403 million.

Offsetting items included:
- impairment charges of $341 million (mainly expenditure at Bukom and other assets);
- costs related to restructuring of $88 million (various initiatives across Downstream);
- other net charges of $273 million (mainly legal provision in Chemicals); and
- net charge from fair value accounting of commodity derivatives of $68 million.

The effects of offsetting items were partially countered by:
- net gains from disposal of assets of $318 million; and
- gain from one-off tax items of $49 million (tax rate changes in Alberta, Canada).

Segment earnings in 2018 included a net gain of $34 million.

Offsetting items included:
- net gains from fair value accounting of commodity derivatives of $233 million;
- gains from disposal of assets of $225 million (mainly our Downstream assets in Argentina and other smaller disposals); and
- gains from one-off tax items of $118 million (mainly corporation tax rate changes in the Netherlands and the USA).

The effect of offsetting items was countered by:
- impairment charge of $386 million (mainly expenditure at Bukom and on assets at Stanlow);
- costs related to restructuring of $109 million (various of initiatives across Downstream); and
- other net charges of $47 million, which included a one-off gain from the Ontario cap-and-trade scheme and onerous contracts related to decommissioning of the Stanlow site.

EARNINGS 2018-2017

Segment earnings which were presented on a current cost of supplies basis were $458 million higher in 2018 than on a first-in, first-out basis (2017: $964 million lower).

Segment earnings in 2018 of $7,601 million were 8% lower than in 2017. Earnings in 2018 included a net gain of $34 million described above. Earnings in 2017 included a net charge of $824 million, reflecting impairment charges of $315 million, redundancy and restructuring charges of $200 million, charges of $142 million related to US tax reform legislation and a tax rate change in France, and other net charges of $231 million (related to onerous contract provision and a legal provision). These were partly offset by divestment gains of $39 million and net gain of $25 million from fair value accounting of commodity derivatives.

Excluding the impact of these items, earnings in 2018 were $7,567 million, compared with $9,082 million in 2017. Refining and Trading accounted for 20% of these 2018 earnings, Marketing for 53% and Chemicals for 27%.

The decrease in Downstream earnings, excluding the net charges, of $1,515 million (17%) compared with 2017 was driven by higher operating costs (around $700 million), adverse foreign exchange effects (around $530 million), lower base Chemicals margins (around $370 million), lower refining margins (around $150 million) and other impacts resulting in a net charge of around $120 million. This was partly offset by higher marketing margins (around $360 million). Operating costs were higher due to higher maintenance costs (Chemicals and Refining assets) and higher costs for marketing growth opportunities. Chemicals margins were impacted by higher feedstock costs globally, higher utility costs and new cracker start-ups in the USA, and operational issues in Europe. Marketing margins benefited from favourable market conditions at the end of the year. The other net negative impacts were mainly portfolio effects.

CASH CAPITAL EXPENDITURE AND CAPITAL INVESTMENT

Cash capital expenditure (cash capex) was $8.9 billion in 2019, compared with $7.4 billion in 2018. Capital investment was $10.5 billion in 2019 compared to $7.6 billion in 2018.

Cash capex in Refining was in line with 2018 at $2.4 billion. In Chemicals, cash capex increased by $0.9 billion to $4.1 billion (increase mainly from investment in our new cracker facilities in Pennsylvania). In Marketing, cash capex increased by $0.4 billion to $2.2 billion (increase mainly from investment in a US pipeline project).

Increase in capital investment on account of leases was $1.4 billion ($1.6 billion in 2019 compared with $0.2 billion in 2018) due to accounting policy change (IFRS 16) implemented in 2019.

PORTFOLIO AND BUSINESS DEVELOPMENTS

We continued to high-grade our portfolio in 2019, including:
- In the Kingdom of Saudi Arabia, we completed the sale of our 50% interest in Shell Saudi Arabia (Refining) Limited (SASREF), a joint venture in Jubail Industrial City, to Saudi Arabian Oil Company (Saudi Aramco) for $631 million.
- In the USA, our subsidiary Equilon Enterprises LLC, doing business as Shell Oil Products US, announced in June 2019 that we have reached an agreement for the sale of Martinez Refinery in California to PBF Holding Company LLC for a $1.0 billion consideration. The sale was concluded in February 2020 in exchange for $1.2 billion which includes the refinery and inventory.
- Also in the USA, in March 2020, we announced our intention to sell the Puget Sound refinery in Washington and Mobile site in Alabama.

DOWNSTREAM continued

BUSINESS AND PROPERTY

Refining and trading

Refining

We have interests in 15 refineries worldwide, (after the completion of sale of Martinez refinery in February 2020), with the capacity to process a total of 2.5 million barrels of crude oil per day (Shell share). Our refining capacity is 42% in Europe and Africa, 41% in the Americas and 17% in Asia and Oceania.

In 2019, we concluded the sale of our 50% share of the SASREF joint venture in Jubail Industrial City, the Kingdom of Saudi Arabia, to Saudi Aramco.

Trading and Supply

Through our main trading offices in London, Houston, Singapore, Dubai and Rotterdam, we trade crude oil, natural gas, LNG, electricity, refined products, chemical feedstocks and environmental products. Trading and Supply trades in physical and financial contracts, lease storage and transportation capacities, and manages shipping and wholesale commercial fuel activities globally. This includes supplying feedstocks for our refineries and chemical plants and finished products such as gasoline, diesel and aviation fuel to our Marketing businesses and customers.

Operating in around 30 countries, with more than 125 Shell and joint-venture terminals, we believe our supply and distribution infrastructure is well positioned to make deliveries around the world.

Through its Shipping and Maritime business, Trading and Supply has an interest in around 2,000 Shell-associated vessels and other floating facilities on any given day, and manages one of the world's largest fleets of LNG carriers. Shipping and Maritime enables the Shell Trading and Supply organisation to deliver safely on its contracts. This includes supplying feedstocks for our refineries and chemical plants, and finished products such as gasoline, diesel and aviation fuel to our Marketing businesses and customers.

Shell Wholesale Commercial Fuels provides fuels for transport, industry and heating. Our range of products, from reliable main-grade fuels to premium products, is designed to provide tangible vehicle and business benefits.

Marketing

Retail

Shell is the world's largest mobility retailer, by number of sites, with 45,000 service stations operating in close to 80 countries at the end of 2019. We operate different models across these markets, from full ownership of retail sites through to brand licensing agreements.

Every day, more than 30 million customers visit these sites to buy fuel, convenience items, including beverages and fresh food, and services, such as lubricant changes and car washes. We offer our business customers Shell Fleet Solutions, a 'one-stop-shop' for their mobility and energy transition needs, providing items including fuel cards, road services and carbon-neutral offers.

We have more than 100 years' experience in fuel development. Aided by our innovative partnership with Scuderia Ferrari, we have concentrated on developing fuels with special formulations designed to clean engines and improve performance. We sold such fuels under the Shell V-Power brand in 62 countries as at the end of 2019.

In a growing number of markets, we are offering customers lower-emission solutions, including biofuels, electric vehicle fast-charging, hydrogen and various gaseous fuels such as LNG. During 2019, we introduced carbon-neutral driving in the Netherlands and the UK, through which we offset customers' emissions by purchasing carbon credits generated from projects that plant and protect nature like forests, wetlands and other natural ecosystems.

Shell V-Power brand is sold in 62 countries.

Lubricants

Across more than 150 markets, we produce, market and sell technically advanced lubricants for passenger cars, motorcycles, trucks, coaches, and machinery used in manufacturing, mining, power generation, agriculture and construction sectors.

We also manufacture premium lubricants from natural gas using GTL base oils produced at our Pearl GTL plant in Qatar (see "Integrated Gas" on page 48).

We have a global lubricants supply chain with a network of four base oil manufacturing plants, 29 lubricant blending plants, nine grease plants and four GTL base oil storage hubs.

Through our marine activities, we primarily provide lubricants, but also fuels and related technical services, to the shipping and maritime sectors. We supply around 210 grades of lubricants and six types of fuel to vessels worldwide, ranging from large ocean-going tankers to small fishing boats.

Shell lubricant plant, Oman.

Business-to-Business

Our Business-to-Business (B2B) activities encompass the sale of fuels and specialty products and services to a broad range of commercial customers.

Shell Aviation provides fuel and lubricants across more than 60 countries and supplies fuel at about 900 airports.

Shell Bitumen supplies customers across 52 markets and provides enough bitumen to resurface 500 kilometres of road lanes every day. It also invests in technology research and development to create innovative products.

Shell Sulphur Solutions is a business that manages the complete value chain of sulphur, from refining to marketing. The business provides sulphur for use in applications such as fertiliser, mining and chemicals and also develops new technologies for sulphur that benefit sectors such as agriculture.

Pipelines

Shell Pipeline Company LP (Shell interest 100%) owns and operates 10 tank farms across the USA. It transports more than 2 billion barrels of crude oil and refined products a year through about 6,000 kilometres of pipelines in the Gulf of Mexico and five US states. Our various non-Shell-operated ownership interests provide about a further 14,000 pipeline kilometres.

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

Shell Midstream Partners, L.P., a midstream master limited partnership, owns, operates, develops and acquires pipelines and other midstream assets in the USA. Its assets consist of interests in entities that own crude oil and refined products pipelines and terminals that serve as key infrastructure to transport onshore and offshore crude oil production to Gulf Coast and Midwest refining markets. It also delivers refined products from those markets to major demand centres. Its assets also include interests in entities that own natural gas and refinery gas pipelines that transport offshore natural gas to market hubs and deliver refinery gas from refineries and plants to chemical sites along the Gulf Coast. Shell controls the general partner.

See "Governance – Related Party Transactions" on page 167 and Note 29 to the "Consolidated Financial Statements" on page 238.

Biofuels

Raízen, our joint venture in Brazil (Shell interest 50%), produces ethanol from sugar cane, with an annual production capacity of more than 2.5 billion litres; exports sugar, with an annual production of about 3.8 million tonnes; and manages a retail network. In 2015, Raízen opened its first cellulosic ethanol plant at its Costa Pinto mill in Brazil, which produced almost 19.5 million litres in 2019. When fully operational, the mill is expected to produce around 40 million litres a year of advanced biofuels from sugar-cane residues.

Raízen Brazil harvesting crops used for the processing of biofuel.

Chemicals

Manufacturing

Our plants produce a range of base chemicals, including ethylene, propylene and aromatics, and intermediate chemicals such as styrene monomer, propylene oxide, solvents, detergent alcohols, ethylene oxide and ethylene glycol. We have the capacity to produce around 6.5 million tonnes of ethylene a year.

Marketing

In 2019, we supplied more than 15 million tonnes of petrochemicals to around 1,000 industrial customers worldwide. Our products are used to make numerous everyday items, from clothing and cars to detergents and bicycle helmets.

DOWNSTREAM BUSINESS ACTIVITIES WITH SUDAN AND SYRIA

Sudan

We ceased all operational activities in Sudan in 2008.

Syria

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

DOWNSTREAM continued

DOWNSTREAM DATA TABLES

The tables below reflect Shell subsidiaries and instances where Shell owns the crude oil or feedstocks processed by a refinery. In addition, the tables include the Al Jubail refinery on a 50% basis until the date of divestment. Other joint ventures and associates are only included where explicitly stated.

Oil products – cost of crude oil processed or consumed [A]

$/barrel

	2019	2018	2017
Total	54.97	59.94	46.78

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

Crude distillation capacity [A]

Thousand b/calendar day [B]

	2019	2018	2017
Europe	970	970	970
Asia	704	704	704
Oceania	–	–	–
Africa	83	82	82
Americas	1,075	1,157	1,176
Total	2,832	2,913	2,932

[A] Average operating capacity for the year, excluding mothballed capacity.
[B] Calendar day capacity is the maximum sustainable capacity adjusted for normal unit downtime.

Ethylene capacity [A]

Thousand tonnes/year

	2019	2018	2017
Europe	1,701	1,701	1,702
Asia	2,530	2,529	1,904
Oceania	–	–	–
Africa	–	–	–
Americas	2,268	2,268	2,267
Total	6,499	6,498	5,873

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

Oil products – crude oil processed [A]

Thousand b/d

	2019	2018	2017
Europe	829	897	892
Asia	498	545	528
Oceania	–	–	–
Africa	55	66	54
Americas	1,004	1,041	997
Total	2,386	2,549	2,471

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

Refinery processing intake [A]

Thousand b/d

	2019	2018	2017
Crude oil	2,342	2,434	2,364
Feedstocks	222	214	208
Total	2,564	2,648	2,572
Europe	875	896	892
Asia	517	543	539
Oceania	–	–	–
Africa	55	66	54
Americas	1,117	1,143	1,087
Total	2,564	2,648	2,572

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

Refinery processing outturn [A]

Thousand b/d

	2019	2018	2017
Gasolines	952	966	955
Kerosines	417	321	290
Gas/Diesel oils	818	965	925
Fuel oil	223	284	265
Other	282	321	334
Total	2,692	2,858	2,769

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

Oil product sales volumes [A][B]

Thousand b/d

	2019	2018	2017
Europe			
Gasolines	334	323	317
Kerosines	317	294	272
Gas/Diesel oils	720	745	758
Fuel oil	138	178	170
Other products	278	314	362
Total	1,787	1,854	1,879
Asia			
Gasolines	408	373	399
Kerosines	208	210	216
Gas/Diesel oils	535	543	516
Fuel oil	330	407	349
Other products	518	620	536
Total	2,000	2,153	2,016
Oceania			
Gasolines	–	–	–
Kerosines	–	–	23
Gas/Diesel oils	–	–	–
Fuel oil	–	–	–
Other products	–	–	–
Total	–	–	23
Africa			
Gasolines	46	42	43
Kerosines	13	10	13
Gas/Diesel oils	70	74	78
Fuel oil	2	2	2
Other products	6	6	6
Total	137	134	142
Americas			
Gasolines	1,419	1,446	1,415
Kerosines	239	236	212
Gas/Diesel oils	582	567	545
Fuel oil	120	117	92
Other products	277	276	275
Total	2,637	2,642	2,539
Total product sales [C][D]			
Gasolines	2,207	2,184	2,174
Kerosines	777	750	736
Gas/Diesel oils	1,907	1,929	1,897
Fuel oil	590	704	613
Other products	1,079	1,216	1,179
Total	6,561	6,783	6,599

[A] Excludes deliveries to other companies under reciprocal sale and purchase arrangements, that are in the nature of exchanges. Sales of condensate and natural gas liquids are included.
[B] Includes the Shell share of Raízen's sales volumes.
[C] Certain contracts are held for trading purposes and reported net rather than gross. The effect in 2019 was a reduction in oil product sales of approximately 546,000 b/d (2018: 458,000 b/d; 2017: 596,000 b/d).
[D] Reported volumes in 2019 include the Shell joint ventures sales volumes from key countries.

DOWNSTREAM continued

Chemicals sales volumes [A]

Thousand tonnes

	2019	2018	2017
Europe			
Base chemicals	3,666	4,069	4,059
Intermediates and others	1,872	1,994	2,056
Total	5,538	6,063	6,115
Asia			
Base chemicals	1,057	2,140	2,515
Intermediates and others	2,848	3,082	3,243
Total	3,905	5,222	5,758
Oceania			
Base chemicals	–	–	–
Intermediates and others	–	–	–
Total	–	–	–
Africa			
Base chemicals	–	–	–
Intermediates and others	–	–	–
Total	–	–	–
Americas			
Base chemicals	3,261	3,842	3,839
Intermediates and others	2,519	2,517	2,527
Total	5,780	6,359	6,366
Total product sales			
Base chemicals	7,984	10,051	10,413
Intermediates and others	7,239	7,593	7,826
Total	15,223	17,644	18,239

[A] Excludes feedstock trading and by-products.

MANUFACTURING PLANTS AT DECEMBER 31, 2019

Refineries in operation

Thousand barrels/calendar day, 100% capacity [B]

	Location	Asset class	Shell interest (%) [A]	Crude distillation capacity	Thermal cracking/ visbreaking/ coking	Catalytic cracking	Hydro cracking
Europe							
Denmark	Fredericia	●	100	68	39	–	–
Germany	Miro [C]		32	287	36	87	–
	Rheinland	●●	100	325	44	–	80
	Schwedt [C]		38	214	40	53	–
Netherlands	Pernis	●●	100	405	23	48	82
Asia							
Philippines	Tabangao		55	95	31	–	–
Singapore	Pulau Bukom	●●	100	463	72	34	54
Africa							
South Africa	Durban [C]	●	36	165	22	33	–
Americas							
Argentina	Buenos Aires [C]	●●	50	99	18	20	–
Canada							
Alberta	Scotford	●	100	92	–	–	74
Ontario	Sarnia	●	100	78	4	19	9
USA							
California	Martinez [D]	●	100	144	43	65	37
Louisiana	Convent	●	100	239	–	83	49
	Norco	●	100	229	26	108	39
Texas	Deer Park	●●	50	312	82	68	53
Washington	Puget Sound	●●	100	137	22	52	–

[A] Shell interest is rounded to the nearest whole percentage point; Shell share of production capacity may differ.
[B] Calendar day capacity is the maximum sustainable capacity adjusted for normal unit downtime.
[C] Not operated by Shell.
[D] The sale of the Martinez refinery was concluded on February 1, 2020.

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

DOWNSTREAM continued

Major chemical plants in operation [A]

		Thousand tonnes/year, Shell share capacity [B]				
	Location	Ethylene	Styrene monomer	Ethylene glycol	Higher olefins [C]	Additional products
Europe						
Germany	Rheinland	315	–	–	–	A
Netherlands	Moerdijk	971	815	153	–	A, I
UK	Mossmorran [D]	415	–	–	–	–
Asia						
China	Nanhai [D]	1,100	650	415	–	A, I, P
Singapore	Jurong Island	281	1,069	1,159	–	A, I, P, O
	Pulau Bukom	1,149	–	–	–	A, I
Americas						
Canada	Scotford	–	475	548	–	A, I
USA	Deer Park	836	–	–	–	A, I
	Geismar	–	–	400	1,390	I
	Norco	1,432	–	–	–	A
Total		6,499	3,009	2,675	1,390	

[A] Major chemical plants are large integrated chemical facilities, typically producing a range of chemical products from an array of feedstocks, and are a core part of our global Chemicals business.
[B] Shell share of capacity of subsidiaries, joint arrangements and associates (Shell and non-Shell-operated), excluding capacity of the Infineum additives joint ventures.
[C] Higher olefins are linear alpha and internal olefins (products range from C4 to C2024).
[D] Not operated by Shell.

A Aromatics, lower olefins.
I Intermediates.
P Polyethylene, polypropylene.
O Other.

Other chemical locations [A]

	Location	Products
Europe		
Germany	Karlsruhe	A
	Schwedt	A
Netherlands	Pernis	A, I, O
Americas		
Argentina	Buenos Aires	I
Canada	Sarnia	A, I
USA	Martinez	O
	Mobile	A
	Puget Sound	I

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

A Aromatics, lower olefins.
I Intermediates.
O Other.

CORPORATE

Earnings

$ million

	2019	2018	2017
Segment earnings	(3,273)	(1,479)	(2,416)
Comprising:			
Net interest and investment expense [A]	(3,425)	(2,192)	(2,413)
Net foreign exchange losses [B]	(67)	(67)	(292)
Taxation and other [C]	219	780	289

[A] Mainly Shell's interest expense (excluding accretion expense) and interest income, together with the Shell share of joint ventures and associates' net interest expense, and net gains on sales from Shell insurance entities' portfolio of debt securities.
[B] On Shell's financing activities, together with the Shell share of joint ventures and associates' net foreign exchange gains/(losses) on financing activities.
[C] Other earnings mainly comprise headquarters and central functions' costs not recovered from business segments, and net gains on sale of properties.

OVERVIEW

The Corporate segment covers the non-operating activities supporting Shell. It comprises Shell's holdings and treasury organisation, its self-insurance activities and its headquarters and central functions. All finance expense and income as well as related taxes are included in the Corporate segment earnings rather than in the earnings of the business segments.

The holdings and treasury organisation manages many of the Corporate entities and is the point of contact between Shell and external capital markets. It conducts a broad range of transactions, from raising debt instruments to transacting foreign exchange. Treasury centres in London and Singapore support these activities.

Headquarters and central functions provide business support in the areas of communications, finance, health, human resources, information technology, legal services, real estate and security. They also provide support for the shareholder-related activities of the Company. The central functions are supported by business service centres located around the world, which process transactions, manage data and produce statutory returns, among other services. The majority of the headquarters and central-function costs are recovered from the business segments. Those costs that are not recovered are retained in Corporate.

EARNINGS 2019-2017

Segment earnings in 2019 were a loss of $3,273 million, compared with a loss of $1,479 million in 2018 and a $2,416 million loss in 2017.

Net interest and investment expense increased by $1,233 million compared with 2018. This was primarily due to the introduction of IFRS 16 (Page 195, Note 2) and reduced capitalised interest. In 2018, net interest and investment expense decreased by $221 million compared with 2017. This was due to a decrease in interest expense due to higher capitalised interest, coupled with higher interest income from increases to both cash levels and higher interest rates.

The Corporate segment includes net foreign exchange gains/(losses) from financing positions. Net foreign exchange gains/(losses) generally relate to the impact of changes in exchange rates on non-functional currency loans and cash balances in operating companies. In 2019 and 2018, unfavourable exchange rate movements resulted in a net foreign exchange loss.

Taxation and other earnings decreased by $561 million in 2019, compared with 2018, due to reduced tax credits from financing and one-off charges. In 2018, taxation and other earnings increased by $491 million compared with 2017, due to increased tax credits from foreign exchange losses, which were partially offset by increased corporate expenses and depreciation charges.

SELF-INSURANCE

We mainly self-insure our risk exposure, and capital is set aside to meet self-insurance obligations (see "Risk factors" on page 34). We seek to ensure that the capital held to support the self-insurance obligations is at a level at least equivalent to what would be held in the third-party insurance market. Periodically, surveys of key assets are undertaken that provide risk-engineering knowledge and best practices to Shell subsidiaries with the aim of reducing their exposure to hazard risks. Actions identified during these surveys are monitored to completion.

INFORMATION TECHNOLOGY AND CYBER-SECURITY

Given our digitalisation efforts and increasing reliance on information technology (IT) systems for our operations, we continuously monitor external developments and actively share information on threats and security incidents. Shell employees and contract staff are subject to mandatory courses and regular awareness campaigns aimed at protecting us against cyber threats. We periodically test and adapt cyber-security response processes and seek to enhance our security monitoring capability.

Given our dependence on IT systems for our operations and the increasing role of digital technologies across our business, we are aware that cyber-security attacks could cause significant harm to Shell in the form of loss of productivity, loss of intellectual property, regulatory fines and/or reputational damage. As a result, we continuously measure and, where required, further improve our cyber-security capabilities to reduce the likelihood of successful cyberattacks. Our cyber-security capabilities are embedded into our IT systems and our IT landscape is protected by various detective and protective technologies. The identification and assessment capabilities are built into our support processes and adhere to industry best practices. The security of IT services, operated by external IT companies, is managed through contractual clauses and additionally through formal supplier assurance reports for critical IT services.

Shell is frequently subject to cyberattacks. In 2019, none of these events led to breaches of our business-critical IT landscape and, as such, did not result in any material business impact. When significant incidents occur, they are followed up with a thorough root-cause analysis and, if needed, will result in appropriate follow-up actions.

See "Risk factors" on **page 35**.

BRAND VALUE

According to the Brand Finance Global 500 2020 – the annual report on the world's most valuable and strongest brands published by leading brand valuation consultancy Brand Finance at the World Economic Forum in Davos this January, Shell's brand value was estimated at $47.5 billion, up 12% compared to the previous year and 55% versus 2015. The report also shows Shell's brand rating strengthening from AAA- to AAA.

LIQUIDITY AND CAPITAL RESOURCES

We manage our businesses to deliver strong cash flows to fund investment for profitable growth. Our aim is that, across the business cycle, "cash in" (including cash from operations and divestments) at least equals "cash out" (including capital expenditure, interest and dividends), while maintaining a strong balance sheet. In 2020, our priorities for applying our cash are expected to be the servicing and reduction of debt commitments, payment of dividends, followed by a balance of capital investment and share buybacks.

Shell Pecten flag.

FINANCIAL CONDITION AND LIQUIDITY

Despite weaker commodity prices over the course of 2019, the Shell Group generated cash flow from operations of $42.2 billion and free cash flow of $26.4 billion, supporting continued progress of the share buyback programme which commenced in 2018. $10.2 billion share buybacks were completed in 2019. Gearing increased to 29.3% at December 31, 2019, comparable with 25.0% on an IAS 17 basis (2018: 20.3%). Gearing is a key measure of Shell's capital structure and across the business cycle, we aim to return to a gearing level within a range of 15-25%. Note 14 to the "Consolidated Financial Statements" on pages 216-219 provides information on our debt arrangements, including gearing and net debt definitions.

LIQUIDITY

We satisfy our funding and working capital requirements from the cash generated from our operations, the issuance of debt and divestments. In 2019, access to the international debt capital markets remained strong, with our debt principally financed from these markets through central debt programmes consisting of:

- a $10 billion global commercial paper (CP) programme, with maturities not exceeding 270 days;
- a $10 billion US CP programme, with maturities not exceeding 397 days;
- an unlimited Euro medium-term note (EMTN) programme (also referred to as the Multi-Currency Debt Securities Programme); and
- an unlimited US universal shelf (US shelf) registration.

All these CP, EMTN and US shelf issuances are issued by Shell International Finance B.V., the issuance company for Shell, with its debt being guaranteed by Royal Dutch Shell plc (the Company).

We also maintain committed credit facilities, which were increased and extended in December 2019 with $2 billion now expiring in 2020 and $8 billion in 2024. Each facility includes two one-year extension options at the discretion of each lender. Both remained undrawn at December 31, 2019. These facilities and internally available liquidity provide back-up coverage for our CP programmes. Other than certain borrowing by local subsidiaries, we do not have any other committed credit facilities.

Our total debt increased by $19.6 billion, of which $15.7 billion was due to the impact of IFRS16, to $96.4 billion at December 31, 2019. The total debt excluding leases will mature as follows: 15% in 2020; 8% in 2021; 7% in 2022; 7% in 2023; and 63% in 2024 and beyond. The portion of debt maturing in 2020 is expected to be repaid from a combination of cash balances, cash generated from operations, divestments and the issuance of new debt.

In 2019, we issued $4 billion of bonds under our US shelf registration and €3 billion under our EMTN programme. Periodically, for working capital purposes, we issued CP. We believe our working capital is sufficient for current requirements.

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

MARKET RISK AND CREDIT RISK

We are affected by the global macroeconomic environment as well as financial and commodity market conditions. This exposes us to treasury and trading risks, including liquidity risk, market risk (interest rate risk, foreign exchange risk and commodity price risk) and credit risk. See "Risk factors" on page 18 and Note 19 to the "Consolidated Financial Statements" on pages 227-231. The size and scope of our businesses require a robust financial control framework and effective management of our various risk exposures.

We utilise various financial instruments for managing exposure to commodity price, foreign exchange and interest rate movements. Our treasury and trading operations are highly centralised and seek to manage credit exposures associated with our substantial cash, commodity, foreign exchange and interest rate positions. Our portfolio of cash investments is diversified to avoid concentrating risk in any one instrument, country or counterparty. Other than in exceptional cases, the use of external derivative instruments is confined to specialist trading and central treasury organisations that have appropriate skills, experience, supervision, control and reporting systems. Credit risk policies are in place to ensure that sales of products are made to customers with appropriate creditworthiness, and include detailed credit analysis and monitoring of customers against counterparty credit limits. Where appropriate, netting arrangements, credit insurance, prepayments and collateral are used to manage credit risk. We maintain a committed credit facility. Management believes it has access to sufficient debt funding sources (capital markets) and to undrawn committed borrowing facilities to meet foreseeable requirements.

PENSION COMMITMENTS

We have substantial pension commitments, the funding of which is subject to capital market risks (see "Risk factors" on page 33). We address key pension risks in a number of ways. Principal among these is the Pensions Forum, chaired by the Chief Financial Officer, which oversees Shell's input to pension strategy, policy and operation. A risk committee supports the forum in reviewing the results of assurance processes in respect to pensions risks. In general, local trustees manage the funded defined benefit pension plans, with contributions paid based on independent actuarial valuations in accordance with local regulations. Our total employer contributions to funded and unfunded defined benefit pension plans were $1.5 billion in 2019 and are estimated to be $0.7 billion in 2020. See Note 17 to the Consolidated Financial Statements at page 223.

Capitalisation table

$ million

	December 31, 2019	December 31, 2018
Equity attributable to Royal Dutch Shell plc shareholders	186,476	198,646
Current debt	15,064	10,134
Non-current debt	81,360	66,690
Total debt [A]	96,424	76,824
Total capitalisation	282,900	275,470

[A] Of total debt, $65.7 billion (2018: $62.7 billion) was unsecured and $30.7 billion (2018: $14.1 billion) was secured. See Note 14 to the "Consolidated Financial Statements" on pages 191-194 for further disclosure on debt.

STATEMENT OF CASH FLOWS

Cash flow from operating activities in 2019 was an inflow of $42.2 billion, compared with $53.1 billion in 2018, mainly due to lower earnings and an unfavourable working capital impact. The increase in cash flow from operating activities in 2018, compared with $35.7 billion in 2017, was mainly due to higher earnings and a favourable working capital impact.

Cash flow from investing activities in 2019 was an outflow of $15.8 billion, compared with an outflow of $13.7 billion in 2018. The increased cash outflow was mainly due to lower proceeds from the sale of equity securities, partly offset by higher proceeds from sale of assets in 2019. The increased cash outflow in 2018 compared with $8.0 billion in 2017 was mainly due to lower proceeds from the sale of assets and securities in 2018.

Cash flow from financing activities in 2019 was an outflow of $35.2 billion, compared with outflows of $32.5 billion in 2018 and $27.1 billion in 2017. In 2019, this included payment of dividends to Royal Dutch Shell plc shareholders of $15.2 billion (2018: $15.7 billion; 2017: $10.9 billion), net repayment of debt of $3.4 billion (2018: $8.3 billion; 2017: $11.8 billion), repurchases of shares of $10.2 billion (2018: $3.9 billion) and interest paid of $4.6 billion (2018: $3.6 billion; 2017: $3.6 billion).

Cash and cash equivalents were $18.1 billion at December 31, 2019 (2018: $26.7 billion; 2017: $20.3 billion).

CASH FLOW FROM OPERATING ACTIVITIES

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

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

CAPITAL INVESTMENT AND CASH CAPITAL EXPENDITURE

The level of capital investment in 2019 and 2018 reflects our discipline, focus and capital efficiency.

Capital investment [A]

$ million

	2019	2018	2017
Integrated Gas	6,706	4,259	3,921
Upstream	11,075	12,785	13,160
Downstream	10,542	7,565	6,418
Corporate	465	269	157
Total capital investment	28,788	24,878	26,655

[A] 2018 and 2017 as revised. See "Non-GAAP measures reconciliations" on pages 279-280.

With effect from January 1, 2019, cash capital expenditure was introduced to monitor investing activities on a cash basis, excluding items such as lease additions which do not necessarily result in cash outflows in the period. The capital discipline demonstrated in 2019 allowed us to maintain our cash capital expenditure in line with the $24-29 billion range.

Cash capital expenditure

$ million

	2019	2018	2017
Integrated Gas	4,299	3,819	3,616
Upstream	10,277	12,582	11,670
Downstream	8,926	7,408	6,090
Corporate	418	269	157
Total cash capital expenditure	23,919	24,078	21,533

LIQUIDITY AND CAPITAL RESOURCES continued

Cash flow information [A]

$ billion

	2019	2018	2017
Cash flow from operating activities excluding working capital movements			
Integrated Gas	14.8	16.3	8.7
Upstream	20.5	21.9	16.3
Downstream	11.9	10.8	12.6
Corporate	(0.3)	0.7	0.3
Total	47.0	49.7	37.9
(Increase)/decrease in inventories	(2.6)	2.8	(2.1)
(Increase)/decrease in current receivables	(0.9)	2.0	(2.6)
Increase/(decrease) in current payables	(1.2)	(1.3)	2.4
(Increase)/decrease in working capital	(4.8)	3.4	(2.3)
Cash flow from operating activities	42.2	53.1	35.7
Cash flow from investing activities	(15.8)	(13.7)	(8.0)
Cash flow from financing activities	(35.2)	(32.5)	(27.1)
Currency translation differences relating to cash and cash equivalents	0.1	(0.4)	0.6
Increase/(decrease) in cash and cash equivalents	(8.7)	6.4	1.2
Cash and cash equivalents at the beginning of the year	26.7	20.3	19.1
Cash and cash equivalents at the end of the year	18.1	26.7	20.3

[A] See the "Consolidated Statement of Cash Flows" on page 194.

DIVIDENDS

Our policy is to grow the dollar dividend per share through time, in line with our view of our underlying earnings and cash flow. When setting the dividend, the Board of Directors looks at a range of factors, including the macroeconomic environment, the current balance sheet, future investment plans and existing commitments. We returned $15.2 billion to our shareholders through dividends in 2019.

The fourth quarter 2019 interim dividend of $0.47 per share will be payable to shareholders on the register at February 14, 2020. See Note 23 to the "Consolidated Financial Statements" on page 235. The Board expects that the first quarter 2020 interim dividend will be $0.47 per share, equal to the US dollar dividend per share for the same quarter in 2019.

PURCHASES OF SECURITIES

On July 26, 2018, the Company announced the commencement of a share buyback programme of at least $25 billion, subject to further progress with debt reduction and oil price conditions. This was in accordance with the authority granted by shareholders at the 2018 Annual General Meeting (AGM) for the Company to repurchase up to a maximum of 10% of its issued ordinary shares, excluding treasury shares (834 million ordinary shares). At the 2019 AGM, shareholders granted a renewal of this authority, to repurchase up to a maximum of 815 million ordinary shares, such authority to expire at the earlier of the close of business on August 21, 2020 and the end of the 2020 AGM. As at December 31, 2019, 445 million A shares with a nominal value of €31 million ($38 million) and 16 million B shares with a nominal value of €1 million ($1 million) (5.85% of the Company's total issued share capital at December 31, 2019) had been cumulatively purchased and cancelled since the beginning of this programme, for a total cost of $14.1 billion including expenses, at an average price of $30.67 per share. As at December 31, 2019, 647 million ordinary shares could still be repurchased under the current AGM authority. The purpose of the share repurchases in 2018 and 2019, and in the period ended January 24, 2020, was to reduce the issued share capital of the Company. A new resolution will be proposed at the 2020 AGM to renew the authority for the Company to purchase its own share capital, up to specified limits, for a further year. This proposal will be described in more detail in the 2020 Notice of Annual General Meeting.

Shares are also purchased by the employee share ownership trusts and trust-like entities (see the "Directors' Report" on page 104-171) to meet delivery commitments under employee share plans. All share purchases are made in open-market transactions.

The table below provides information on purchases of shares in 2019, and in the period ended January 24, 2020, by the Company and affiliated purchasers. Purchases in euros and sterling are converted into dollars using the exchange rate on each transaction date.

Purchases of equity securities by issuer and affiliated purchasers in 2019 [A]

	A shares			B shares			A ADSs [B]	
Purchase period	Number purchased for employee share plans	Number purchased for cancellation [C]	Weighted average price ($)[D]	Number purchased for employee share plans	Number purchased for cancellation [C]	Weighted average price ($)[D]	Number purchased for employee share plans	Weighted average price ($)[D]
January	–	19,086,716	30.10	–	–	–	1,854,168	59.21
February	–	25,651,490	31.60	–	–	–	–	–
March	–	27,792,913	31.38	–	–	–	83,349	63.45
April	231,910	16,918,437	32.24	95,430	–	31.48	–	–
May	–	29,386,861	31.86	–	–	–	–	–
June	–	20,578,030	31.97	20,830		33.49	30,178	65.95
July	141,555	29,200,419	32.31	–	–	–	–	–
August	–	26,663,906	28.47	–	9,701,283	28.02	–	–
September	1,650,000	31,947,755	28.63	709,388	1,787,000	27.70	402,032	58.16
October	4,413,134	26,563,443	29.09	1,933,105	–	29.06	913,430	57.98
November	4,067,133	35,836,732	29.67	1,628,144	–	29.48	1,314,922	59.21
December	1,119,733	30,475,077	29.00	979,363	4,591,341	28.30	200,047	57.83
Total 2019	11,623,465	320,101,779	30.37	5,366,260	16,079,624	28.28	4,798,126	58.95
January	–	23,206,521 [E]	29.63	–	–	–	1,003,452	59.76
Total 2020	–	23,206,521	29.63	–	–	–	1,003,452	59.76

[A] Reported as at settlement date.
[B] American Depository Shares.
[C] Under the share buyback programme.
[D] Includes stamp duty and brokers' commission.
[E] As at January 24, 2020, the end of the sixth tranche of the share buyback programme.

CONTRACTUAL OBLIGATIONS

The table below summarises our principal contractual obligations at December 31, 2019, by expected settlement period. The amounts presented have not been offset by any committed third-party revenue in relation to these obligations.

Contractual obligations

$ billion

	Less than 1 year	Between 1 and 3 years	Between 3 and 5 years	5 years and later	Total
Debt [A]	10.1	9.9	6.5	38.7	65.2
Leases	7.3	9.9	7.6	21.3	46.1
Purchase obligations [B]	24.6	25.1	18.3	48.6	116.6
Other long-term contractual liabilities [C]	–	0.4	–	0.7	1.1
Total	42.0	45.3	32.4	109.3	229.0

[A] See Note 14 to the "Consolidated Financial Statements"on pages 218-219. Debt contractual obligations exclude interest, which is estimated to be $1.7 billion payable in less than one year, $3.0 billion between one and three years, $2.6 billion between three and five years, and $14.6 billion in five years and later. For this purpose, we assume that interest rates with respect to variable interest rate debt remain constant at the rates in effect at December 31, 2019, and that there is no change in the aggregate principal amount of debt other than repayment at scheduled maturity as reflected in the table. Leases definition follows IFRS 16, which was implemented January 1, 2019. Lease contractual obligations include interest.

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

[C] Includes all obligations included in "Trade and other payables" in "Non-current liabilities" in the "Consolidated Balance Sheet" that are contractually fixed as to timing and amount. In addition to these amounts, Shell has certain obligations that are not contractually fixed as to timing and amount, including contributions to defined benefit pension plans (see Note 17 to the "Consolidated Financial Statements" on pages 223-225) and obligations associated with decommissioning and restoration (see Note 18 to the "Consolidated Financial Statements" on page 226).

GUARANTEES AND OTHER OFF-BALANCE SHEET ARRANGEMENTS

There were no guarantees and other off-balance sheet arrangements at December 31, 2019, or 2018, that were reasonably likely to have a material effect on Shell.

FINANCIAL INFORMATION RELATING TO THE ROYAL DUTCH SHELL DIVIDEND ACCESS TRUST

The results of operations and financial position of the Royal Dutch Shell Dividend Access Trust (the Trust) are included in the consolidated results of operations and financial position of Shell. Certain condensed financial information in respect of the Trust is given below. See "Royal Dutch Shell Dividend Access Trust Financial Statements" on pages 251-255.

The Shell Transport and Trading Company Limited and BG Group Limited have each issued a dividend access share to Computershare Trustees (Jersey) Limited (the Trustee). For the years 2019, 2018 and 2017, the Trust recorded income before tax of £5,484 million, £5,328 million, and £4,567 million respectively. In each period, this reflected the amount of dividends received on the dividend access shares.

At December 31, 2019, the Trust had total equity of £nil (2018: £nil; 2017: £nil), reflecting cash of £3 million (2018: £3 million; 2017: £2 million) and unclaimed dividends of £3 million (2018: £3 million; 2017: £2 million). The Trust only records a liability for an unclaimed dividend, and a corresponding amount of cash, to the extent that dividend cheque payments have not been presented within 12 months, have expired or have been returned unpresented.

ENVIRONMENT AND SOCIETY

Our success in business depends on our ability to meet a range of environmental and social challenges. We must operate safely and manage the effect our activities can have on neighbouring communities and wider society. If we fail to do this, we may incur liabilities or sanctions, lose business opportunities, harm our reputation, or our licence to operate may be impacted.

See "Risk factors" on **page 27**.

Data in this section are reported on a 100% basis in respect of activities where we are the operator. Reporting on this operational control basis differs from that applied for financial reporting purposes in the "Consolidated Financial Statements" on pages 190-238. Detailed data and information on our 2019 environmental and social performance is expected to be published in the Shell Sustainability Report in April 2020.

CONTROL FRAMEWORK

The Shell General Business Principles set out our responsibilities to shareholders, customers, employees, business partners and society. They set the standards for the way we conduct business, with integrity, care and respect for people, the protection of the environment and mutually beneficial relationships with communities. All ventures that we operate must conduct their activities in line with our business principles.

We aim to minimise the environmental impact of new projects and existing operations, and we engage with local communities and non-governmental organisations to understand and respond to their concerns. Shell conducts an environmental, social and health impact assessment for every major project. The definition of major projects considers two categories: capacity, including consequences from potential incidents; and cost. This helps us to understand and manage the effects our projects could have on the surrounding environment and local communities. We have standards and a clear governance structure in place to help manage potential impacts. We are committed to the safety of our people and contractors. The standards for Health, Safety, Security, Environment and Social Performance (HSSE & SP) and the scope for application of each of these standards is specified in the Shell HSSE & SP Control Framework (CF). The CF is made up of a series of mandatory manuals, which are in line with the Shell Commitment and Policy on HSSE & SP and the Shell Code of Conduct. They are supported by a number of guidance documents and complemented by assurance protocols. The CF applies to every Shell entity, including all employees and contract staff, and to Shell-operated ventures. The CF defines standards and accountabilities at each level of the organisation and sets out the procedures and processes people are required to follow. We require that all significant HSSE & SP risks associated with our business activities are assessed and managed to as low as reasonably practicable. Our HSSE & SP functions provide expert advice and support for the business. The Process Safety and HSSE & SP Assurance team provides assurance on the effectiveness of HSSE & SP controls to the Board.

We expect joint ventures not operated by Shell to apply standards and principles similar to our own. We support these joint ventures in their implementation of our HSSE & SP Control Framework, or of a similar framework, and offer to review the effectiveness of their implementation. Even if such a review is not carried out, we periodically evaluate HSSE & SP risks faced by the ventures which we do not operate. If one of these joint ventures does not meet our expectations, we work to put remedial action plans in place, in agreement with our partners, to improve performance.

HSSE & SP Control Framework

Shell aims to work with suppliers that behave in a safe, economically, environmentally and socially responsible manner. Our approach to suppliers is set out in our Shell General Business Principles and Shell Supplier Principles. These principles cover expectations in areas such as business integrity, health and safety, environment, and human rights. Working with suppliers in this way is central to maintaining a strong societal support for our operations.

SAFETY

Safety is central to the responsible delivery of energy. We develop and operate our facilities with the aim of preventing any incidents that may harm our employees, contract staff or nearby communities, or cause damage to our assets or adversely impact the environment. We strive to help improve safety performance throughout the energy industry by sharing our safety experience and standards with other operators, contractors and professional organisations, including the International Association of Oil & Gas Producers (IOGP) and the Energy Institute. Shell's Safety, Environment and Sustainability Committee (SESCo) reviews and advises the Board on our safety strategy, policies and performance. Safety performance is included in our annual bonus scorecard for all our employees.

See also "Directors' Remuneration Report" on **pages 155-163**.

How we mitigate

We manage safety risks across our businesses through clear standards, controls and compliance systems, combined with a safety-focused culture. We strive to reduce risks and to minimise the potential impact of any incident. Our standards also apply to any joint ventures we operate. We focus on the three areas of safety with the highest risks associated with our activities: personal, process, and transport. We ensure that people responsible for tasks involving a significant safety hazard have the necessary training, skills and competencies. We employ a large number of contractors and we work with them to ensure they understand our safety requirements. Together we build skills and expertise to improve safety performance. We expect everyone working for us to comply with our 12 mandatory Life-Saving Rules. If employees break these rules, they face disciplinary action up to and including termination of employment. If contract staff break the Life-Saving Rules, they can be removed from the worksite.

See also "Control Framework" on **page 84**.

Personal and process safety

We continue to strengthen the safety culture and leadership among our employees and contract staff, with the focus on caring for people. Our safety goal is to achieve no harm and no leaks across all our operations. We refer to this as our Goal Zero ambition.

We expect everyone working for us to intervene and stop work that may appear to be unsafe. In addition to our ongoing safety awareness programmes, we hold an annual global safety day to give employees and contract staff time to reflect on how to prevent incidents.

Process safety management is about keeping hazardous substances inside pipes, tanks and vessels so they do not cause any harm to people or the environment. It starts at the design and construction stage of our projects and is implemented throughout the life cycle of these facilities to ensure they are safely operated, well-maintained and regularly inspected. Our global standards and operating procedures define the controls and physical barriers we require to prevent incidents. For example, our offshore wells are designed with at least two independent barriers in the direction of flow to mitigate the risk of an uncontrolled release of hydrocarbons. We regularly inspect, test and maintain these barriers to ensure they meet our standards. In the event of a loss of containment such as a spill or a leak, we employ independent recovery measures to prevent the release from becoming catastrophic. This system of barriers and recovery measures is known as a "bow-tie", a model that visually represents a system where personal and process safety hazards are managed through prevention and response barriers. Since 2016, we have been working on strengthening barriers that involve critical safety tasks carried out by frontline staff. We have embedded a set of process safety fundamentals, which provide clear guidelines for good operating practice to prevent unplanned releases.

Risk management approach

We also routinely prepare and practise our emergency response to potential incidents such as a spill or a fire. This involves working closely with local services and regulatory agencies to jointly test our plans and procedures. These tests continually improve our readiness to respond. If an incident does occur, we have procedures in place to reduce the impact on people and the environment.

Transport safety

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

Shell employees and contractors drove a combined distance of around 575 million kilometres on business in 2019 in close to 60 countries. We run road safety programmes, such as those that promote safe driving techniques and behaviour. We require everyone driving more than 7,500 kilometres a year on company business on public roads and those who drive in road safety high-risk countries to take a defensive driving course. In addition, we run an annual online defensive driving course for all who drive on public roads on Shell business. Outside our operations, we also work to improve road safety in several communities and countries where we operate. For example, in India, we have rolled out a road safety campaign that provides truck drivers with free eye tests and free prescription glasses.

Safety performance

While we continually work to minimise the likelihood of incidents, some do occur. Regrettably, seven people lost their lives while working for Shell in 2019, compared with two fatalities in 2018.

In 2019, two contractors died in Nigeria when an oil and gas maintenance vessel they were travelling on capsized in bad weather. A Shell employee died after falling from height into water while a vessel was being moored at Shell's Mormon Island facility in the USA. A Shell employee based at Convent Refinery in the USA was fatally injured in a collision on the road when driving from the airport after his return from a business conference. A Shell employee and a contractor died during a routine and mandatory test of the lifeboat launch and retrieval capabilities at the Auger tension-leg platform in the US Gulf of Mexico when the lifeboat disconnected from the lifting apparatus at height. A roll-over incident occurred in Pakistan involving a road tanker which led to one contractor being fatally injured.

Road transportation remains a challenging and complex area for industries worldwide. After a devastating roll-over incident occurred in Pakistan in 2017, involving a road tanker hired by a company that was providing road transport services to Shell Pakistan Limited, Shell Pakistan has been working with road transport companies it hires, regulators and emergency services in Pakistan to improve safety standards.

We require incidents to be investigated to understand the underlying causes, including the technical, behavioural, organisational and human elements. We share learnings and implement mitigations at the site and in the country and business where the incident took place. We seek to translate incident findings into improvements in standards or ways of working that can be applied broadly across similar facilities in Shell.

ENVIRONMENT AND SOCIETY continued

In 2019, Shell's Board and Executive Committee spent considerable time reflecting on the concerning safety performance, measured by the number of fatalities, and what needs to change at Shell to prevent fatalities and all other serious incidents. This included carrying out a full review of Shell's safety approach, which covered the effectiveness of current preventative tools, such as the Life-Saving Rules and Goal Zero ambition.

Since the early 2000s, we made progress in improving the safety of our operations. This was largely due to a stronger safety culture, guided by our Goal Zero ambition to achieve no harm and no leaks, more effective standards, and requirements such as the Life-Saving Rules. Of all the fatalities in recent years, the vast majority have no link to a breach of the Life-Saving Rules. But sadly, we have not been able to eliminate all fatal incidents involving Shell employees and contractors.

We are now building on our current approach to safety with a more consistent focus on the way people, culture, equipment, work systems and processes all interact. Many of our fatalities over the last five years were down to the complex interaction between these elements. We aim to better understand the gap between how we anticipate work will be done safely and how the work is actually carried out. We continue to work to prevent incidents by maintaining safety barriers and providing training, and we acknowledge that people make mistakes and not all incidents may be preventable. Therefore, we will focus more on how people can "fail safely", and on our response in the moment to avoid the risk of a serious injury. This approach is a philosophical change, which we will start to deploy from 2020 onwards for all employees and contractors.

As set out in "Performance indicators" on page 42, our total recordable case frequency (injuries per million working hours) was 0.9 in 2019, compared with 0.9 in 2018, and there were 130 operational Tier 1 and 2 process safety events in 2019, compared with 121 in 2018. Detailed information on our 2019 safety performance is expected to be published in the Shell Sustainability Report in April 2020.

ENVIRONMENT

We are committed to protecting the environment. For us, being responsible means understanding the impact Shell can have on the environment and the communities we share it with – before, during and at the end of our operations. We aim to make a positive contribution to the local environments in which we operate and seek to reduce any potential negative environmental impacts. This is why we set ourselves high internal environmental standards. These match and, in some cases exceed, local regulatory requirements. We aim to continually improve our performance, and to prepare to respond to future challenges and opportunities. We adhere to external standards and guidelines, such as those developed by the World Bank and International Finance Corporation, to inform our approach. For us, protecting the environment also means working to transform our product mix over time, for example, by expanding the choice of lower-carbon products we offer customers. Shell's Safety, Environment and Sustainability Committee (SESCo) reviews and advises the Board on our environment strategy, policies and performance.

How we mitigate

Our global environmental standards cover our environmental performance, including managing emissions of greenhouse gases (GHG), using energy more efficiently, flaring less gas during oil production, preventing spills and leaks of hazardous materials, using less fresh water and conserving biodiversity wherever we operate. When planning new major projects, we carry out detailed environmental, social and health impact assessments.

See also "Control Framework" on **page 84**.

We apply the mitigation hierarchy in our projects and operations to aim to minimise our impact on the environment as much as possible. When looking at biodiversity, for example, this means that we first aim to avoid impacts on biodiversity and ecosystem services. Where avoidance is not possible, we aim to minimise our impact. Where our operations have affected biodiversity and the communities who rely on biodiversity for their livelihoods, we seek to help restore impacted habitats. We look for opportunities to make a positive contribution to conservation, also known as net-positive impact, where we operate. For example, the Shell-operated QGC gas project in Australia manages the Valkyrie property, an area with a rich ecosystem, as a biodiversity and carbon offset to compensate for clearing vegetation and habitat for the development of gas resources. We believe some areas are too sensitive to enter, so in 2003, we made the commitment that we will not explore for, or develop, oil and gas resources in natural World Heritage Sites.

Another example of how we apply the mitigation hierarchy involves water. Ensuring the availability of fresh water is a growing challenge in some parts of the world. A combination of increasing demand for water resources, growing stakeholder expectations and concerns, and water-related legislation may drive actions that affect our ability to secure access to fresh water and to discharge water from our operations. We manage our water use carefully, and we tailor our use of fresh water to local conditions because water constraints affect people at the local or regional level. In some cases, we use alternatives to fresh water in our operations; these include recycled water, processed sewage water and desalinated water. Our QGC project in Australia produces LNG from natural gas in the water-scarce region of the Surat Basin in Queensland. Water is produced as a natural by-product during the extraction of gas. Two water plants treat most of the produced water so that it is suitable for use by local farmers, industry and town water suppliers. An assessment of risks to water availability is required for each of our facilities and projects and, in areas of water scarcity, we develop water-management action plans that identify ways to use less fresh water, recycle water and closely monitor its use.

In 2019, our intake of fresh water was 192 million cubic metres, compared to 199 in 2018. Around 90% of our fresh water intake was used for manufacturing oil products and chemicals, with the rest mainly used for oil and gas production. Around 40% of freshwater intake was from public utilities, such as municipal water supplies, with the remainder taken from surface water such as rivers and lakes (around 51%) and groundwater (around 9%).

Detailed information on our 2019 environmental performance is expected to be published in the Shell Sustainability Report in April 2020.

See "Climate change and energy transition" on **pages 91** for more information on how we manage our GHG emissions.

SPILLS

Large spills of crude oil, oil products and chemicals associated with our operations can adversely impact the environment and wildlife, and result in major clean-up costs as well as fines and other damages. They can also affect our licence to operate and harm our reputation.

How we mitigate

We have requirements and procedures designed to prevent spills. We aim to design, operate and maintain our facilities so that we avoid spills. To further reduce the risk of spills, Shell has routine programmes to maintain and improve the reliability of facilities and pipelines. Our business units are responsible for organising and executing oil-spill responses in line with Shell guidelines and relevant legal and regulatory requirements. All our offshore installations have plans in place to respond to spills. These plans detail response strategies and techniques, available equipment, and trained personnel and contracts. We are able to call upon site-managed resources such as containment booms. We are also able to draw upon the contracted services of oil-spill response organisations, their containment booms, collection vessels, aircraft or other equipment if required for large spills. We conduct regular exercises that seek to ensure these plans remain effective.

We have further developed our ability to respond to spills to water, and we maintain a Global Response Support Network of trained staff to support our worldwide response capability. This is also supported by our global Oil Spill Expertise Centre, which tests local capability and maintains our ability globally to respond to a significant spill into a marine environment.

We are a founding member of the Marine Well Containment Company, a non-profit industry consortium providing a well-containment response system for the Gulf of Mexico. In addition, we are a founding member of the Subsea Well Response Project, an industry cooperative effort to enhance global well-containment capabilities, which has transitioned to Oil Spill Response Limited, an industry consortium.

We also maintain site-specific emergency response plans in the event of an onshore spill. Like the offshore response plans, these are designed to meet Shell guidelines as well as relevant local legal and regulatory requirements. They also provide for the initial assessment of incidents and the mobilisation of resources needed to manage them. In the event of spills on land, businesses are supported by our global Soil & Groundwater Team whose role is to review and implement appropriate remedies such as sustainable remediation. The global Soil & Groundwater Team is engaged throughout the lifecycle of our assets. For example, during acquisition and divestment of assets, they conduct due diligence to identify land contamination liabilities. Through research and development initiatives, the Soil & Groundwater Team collaborates with regulators in developing, modifying, and applying sustainable remediation techniques.

Spills still occur for reasons such as operational failure, accidents or unusual corrosion. In 2019, the number of operational spills of more than 100 kilograms decreased to 70 from 93 in 2018 (see "Performance indicators" on page 44). The weight of operational spills of oil and oil products in 2019 was 0.2 thousand tonnes, a decrease from 0.9 thousand tonnes in 2018. At the time of publication of this report, there was one spill under investigation in Nigeria that may result in adjustments.

Spills in Nigeria

Most oil spills in the Niger Delta region of Nigeria continue to be caused by crude oil theft or sabotage of oil and gas production facilities, and illegal oil refining, including the distribution of illegally refined products. In 2019, about 95% of 164 oil spills of more than 100 kilograms from the Shell Petroleum Development Company of Nigeria Limited (SPDC) joint venture's facilities were due to illegal activities by third parties. In 2019, the volume of crude oil spills caused by sabotage was 2.0 thousand tonnes (157 incidents), compared to 1.6 thousand tonnes (111 incidents) in 2018. However, there are instances where spills occur due to operational reasons. In 2019, SPDC managed to reduce the volume of operational spills of more than 100 kilograms to about 0.03 thousand tonnes of crude oil (seven incidents) compared to about 0.4 thousand tonnes of crude oil (15 incidents) in 2018. This represents a reduction of about 93% in operational spills weight year-on-year.

Irrespective of the cause, SPDC works to clean up and remediate areas impacted by spills originating from its facilities. SPDC succeeded in cutting the average time to complete recovery of free and/or residual oil from about 13 days in 2016 to about seven days in 2019. This entails the average time it takes to safely access an impacted site to commence Joint Investigation Visits (JIV) with diverse stakeholders including NGOs and communities, and clean up oil not mixed with water or soil. Clean-up activities include bio-remediation which stimulates microorganisms that naturally break down and use carbon-rich oil contamination as a source of food and energy, ultimately leading to its removal. Once clean-up and remediation operations are completed, the work is inspected and, if satisfactory, approved and certified by the Nigerian regulators. In case of operational spills, SPDC also pays compensation to people and communities impacted.

To reduce the number of operational spills, SPDC is focused on implementing its ongoing work programme to appraise, maintain and replace key sections of pipelines and flow lines. Over the last eight years, about 1,330 kilometres of pipelines and flow lines have been replaced. This is managed through a pipeline and flow line integrity management system that proactively manages pipeline integrity, puts barriers in place where necessary, and recommends when and where pipeline sections should be replaced to prevent failures. In 2018, this integrity management system was enhanced to manage threats arising from frequent pipeline sabotage or vandalism.

SPDC continues to undertake integrated focused initiatives to prevent and minimise spills caused by theft and sabotage of its facilities in the Niger Delta. In 2019, SPDC continued on-ground surveillance of the SPDC joint venture's areas of operation, including its pipeline network, to mitigate third-party interference and ensure that spills are detected and responded to as quickly as possible. There are also daily overflights of the most vulnerable segments of the pipeline network to identify any new spill incidents or illegal activities. SPDC has also implemented anti-theft protection mechanisms on key infrastructure, such as wellheads and manifolds. The programme to protect well-heads with steel cages continues to help deter theft. By end of 2019, 301 cages had been installed and another 86 units are planned for installation in 2020, including enhanced CCTV for all installed cages. Only three breaches out of about 300 registered attempts were successful.

Since 2012, SPDC has worked with the International Union for Conservation of Nature (IUCN) to enhance remediation techniques and to protect biodiversity at sites affected by oil spills in SPDC's areas of operation in the Niger Delta. Based on this collaboration, SPDC has launched further improvement initiatives to help strengthen its remediation and restoration efforts. In 2019, SPDC and IUCN worked together on the Niger Delta Biodiversity Technical Advisory Group which also includes representatives from the Nigerian Conservation Foundation and Wetlands International, to continue to monitor biodiversity recovery of remediated sites.

SPDC also works with a range of stakeholders in the Niger Delta to build greater trust in spill response and clean-up processes. Local communities take part in the remediation work for operational spills.

In certain instances, some non-governmental organisations have also participated in joint investigation visits along with government regulators, SPDC and members of impacted communities, to establish the cause and volume of oil spilled.

SPDC has also implemented several initiatives and programmes to raise awareness of the negative impact of crude oil theft and illegal oil refining. Examples include community-based pipeline surveillance and the promotion of alternative livelihoods through Shell's flagship youth entrepreneurship programme, Shell LiveWIRE.

In 2015, SPDC, on behalf of the SPDC joint venture and the Bodo community, signed a memorandum of understanding (MOU) granting access to SPDC to begin the clean-up of areas affected by two operational spills in 2008. The MOU also provided for the selection of two international contractors to conduct the clean-up and to be overseen by an independent project director. The clean-up project suffered a delay in 2016 and most of 2017 due to access challenges from the community. After engagement with the Bodo community and other stakeholders over two years, beginning in September 2015, and managed by the Bodo Mediation Initiative, the first phase of clean-up and remediation activities started in September 2017. The clean-up consists of three phases: 1) removal of free-phase surface oil, 2) remediation of soil, and 3) planting of mangroves and monitoring. The first phase was completed in August 2018 and the contract procurement process for phase two was finalised in 2019 with four remediation contractors having international technical partners and two consultancy contractors selected. Mobilisation is expected to effectively start in 2020. Prior to engagement on the project, 800 community workers were medically checked, tested for swimming ability, and trained to International Maritime Organization (IMO) Oil Spill Response Levels 1 and 2. Field remediation activities commenced in November 2019. Should activities continue uninterrupted, phase two (soil remediation) is expected to take around 18 months. However, for it to be successful, there must be no re-contamination of cleaned-up sites from illegal third-party activities, such as crude oil theft and illegal refining.

SPDC remains committed to the implementation of the 2011 United Nations Environmental Programme (UNEP) Report on Ogoniland. Over the last eight years, SPDC has taken action on all, and completed most, of the UNEP recommendations addressed specifically to it as operator of the joint venture. The UNEP report recommended the creation of an Ogoni Trust Fund (OTF) with $1 billion capital, to be co-funded by the Nigerian government, the SPDC joint venture and other operators in the area. The SPDC joint venture remains fully committed to contributing $900 million as its share over five years to the Fund. SPDC JV partners contributed the first instalment of $180 million for the clean-up by July 2018 and released the second instalment of $180 million in 2019. SPDC assigned a senior engineer with project management, contracting, and procurement experience to support and enhance the capability within the Hydrocarbon Pollution Remediation Project (HYPREP). In November 2018, HYPREP awarded contracts for the first set of remediation projects. In March 2019, 21 contractors started operations on 21 lots which add up to 12 of the 67 polluted sites recorded in the UNEP report. At the same time, medical outreach and livelihood programmes started. The process to select contractors to work on nine additional polluted sites was completed in January 2020. Although remediation works continue to progress, challenges remain. These include re-pollution, lack of contractor funding, land disputes and security issues in Ogoniland. The UNEP continues to monitor the success of the clean-up exercise via its observer status at both the Governing Council and the Ogoni Trust Fund. Its agencies such as UNDP, UNITAR and UNOPS provide services to HYPREP in the area of livelihood programmes, training and project services.

HYDRAULIC FRACTURING

Shale oil and gas resources are a critical part of a modern energy system. These resources are not only abundant and affordable, but offer options to scale up and down investment in the development of these resources. According to US Energy Information Administration (EIA) estimates, there are 7,576.6 trillion cubic feet of unproven technically recoverable wet shale gas resources and 418.9 billion barrels of unproven technically recoverable tight oil resources spread across 46 countries. We believe development of these resources is critical for meeting the energy needs of growing societies around the world.

The oil and gas industry has used hydraulic fracturing to unlock tight/shale oil and gas resources in vertical wells for decades. In the past 20 years, hydraulic fracturing has also been used in horizontal wells to recover natural gas and oil. The technology has opened up vast resources that were previously thought to be unrecoverable. Hydraulic fracturing has been used by the industry in more than 2.5 million oil and gas wells, many of them in the USA. Hydraulic fracturing involves pumping a fluid that is typically 99.9% water and sand, and around 0.1% chemical additives into tight sand or shale rock at high pressure. This creates threadlike fissures – typically the diameter of a human hair – in the rock, creating space through which the hydrocarbons can flow more easily.

At Shell, we believe we can explore, develop and produce tight/shale oil and gas resources safely and responsibly. Our operations are underpinned by our Principles for Producing Tights/Shale Oil and Gas (known as Onshore Operating Principles) that provide a framework for protecting the environment and the communities in which we operate. Our operating principles cover safety, air quality, water protection and usage, land use and engagement with local communities. We review the Onshore Operating Principles annually and update them as new technologies, challenges and regulatory requirements emerge. We also support appropriate and fit-for-purpose regulations.

The availability and quality of water, the local environmental conditions and the regulatory requirements vary from basin to basin. Therefore, we develop a tailor-made water management strategy for each of our shale assets, identifying short and long-term water needs, options for water sourcing, recycling and sharing, options for treatment and disposal, and options for transportation and storage. We aim to minimise the use of water in our shale operations. Depending on local hydro-geologic conditions, we typically use a combination of fresh water, brackish groundwater, produced water and waste water. We actively strive to reduce and ideally eliminate our freshwater intake for our drilling and hydraulic fracturing operations by increasing our recycling capacity and using municipal water.

Potable groundwater aquifers are isolated from the hydrocarbon-producing shale formations by several thousand feet of impermeable rock. However, we often need to drill through potable groundwater aquifers to reach shale formations. Therefore, we design our drilling, hydraulic fracturing and production activities in a way that aims to maintain isolation from potable groundwater aquifers. Before we drill a well, we conduct a hazard assessment to analyse risks to groundwater aquifers and develop control measures to reduce those risks. When we drill, we have at least two physical barriers, consisting of steel casing and cement, between the well bore and potable groundwater aquifers. We continuously monitor wellbore integrity before, during and after hydraulic fracturing and during production activities.

Chemical additives are needed in the hydraulic fracturing fluid to carry sand, reduce friction and prevent the growth of bacteria. Since 2015, we have optimised the composition of our hydraulic fracturing fluids. As a result, we have reduced chemical additive volumes by around 50-60%. Currently, on a volume basis, about 0.1% of our hydraulic-fracturing fluid is chemical additives. We support full disclosure of the chemical additives used in hydraulic-fracturing fluids for Shell-operated wells. Find more information about our water management practices, such as the "Onshore Operating Principles in Action: Water Fact Sheet", on our webpage.

SEISMICITY

As oil and gas fields mature, seismic activity may increase in certain circumstances based on the unique geology of individual fields. For example, production from the onshore Groningen gas field in the Netherlands is in the process of being closed down due to earthquakes induced by the gas production. Some of these earthquakes have caused damage to houses and other structures in the region, resulting in complaints, claims and lawsuits from local house owners and residents. A range of actions have been taken to improve safety, liveability and economic prospects in the region. The gas field is operated by the Nederlandse Aardolie Maatschappij B.V. (NAM, Shell interest 50%). NAM is working with the Dutch government and other stakeholders to fulfil its obligations to residents of the area, which include compensation for damage caused by the earthquakes.

See "Upstream" on **page 52**.

Overall, we believe there is a relatively low likelihood of hydraulic fracturing or produced water disposal well operations inducing seismicity that is felt on the surface. Shell, however, still takes precautionary measures around induced seismicity, and proactively manages the risk in accordance with, and sometimes beyond, regulatory requirements. We have added induced seismicity to our Onshore Operating Principles and developed internal guidelines that we apply to our shale assets. They outline a risk assessment process and provide a framework for risk management. Subsurface and surface conditions vary from basin to basin, which means that management practices need to reflect the risk profile of each basin and provide customised responses to the risks. We support fit-for-purpose, science-based state and provincial regulations. Find more information about our induced seismicity management practices, such as the "Onshore Operating Principles in Action: Induced Seismicity Fact Sheet", on our webpage.

ENVIRONMENTAL COSTS

We are subject to a variety of environmental laws, regulations and reporting requirements in the countries where we operate. Infringing any of these laws, regulations and requirements could harm our reputation and ability to do business, and result in significant costs, including clean-up costs, fines, sanctions and third-party claims.

Our ongoing operating expenses include the costs of avoiding unauthorised discharges into the air and water, and the safe disposal and handling of waste.

We place a premium on developing effective technologies that are also safe for the environment. However, when operating at the forefront of technology, there is always the possibility that a new technology has environmental impacts that were not assessed, foreseen or determined to be harmful when originally implemented. While we believe we take reasonable precautions to limit these risks, we are subject to additional remedial environmental and litigation costs as a result of our operations' unknown and unforeseen impacts on the environment. Although these costs have so far not been material to us, no assurance can be given that this will always be the case.

SECURITY

Our operations expose us to criminality, civil unrest, activism, terrorism, cyber disruption and acts of war that could have a material adverse effect on our business (see "Risk factors" on pages 27-36). We seek to obtain the best possible information to enable us to assess threats and risks. This includes building strong and open relationships with government security agencies. Mitigation thereafter includes the strengthening of the security of sites, reduction of our exposure as appropriate, journey management, information risk management as well as crisis management and business continuity measures. We conduct training and awareness campaigns for staff, and provide travel advice and 24/7 assistance while travelling. The identities of our employees and contract staff and their access to our sites and activities, both physical and logistical, are consistently verified and controlled. We manage and exercise crisis response and management plans.

CONTRIBUTION TO SOCIETY

In 2019, Shell paid more than $61.3 billion to governments (2018: $64.1 billion). We paid $7.8 billion in income taxes and $5.9 billion in government royalties, and collected $47.6 billion in excise duties, sales taxes and similar levies on our fuel and other products on behalf of governments. In 2019, Shell spent $44.9 billion (2018: $42.7 billion) on goods and services from 29,361 suppliers globally. Find more information about our approach to tax and transparency in the Tax Contribution Report, and to local content on our webpage.

NEIGHBOURING COMMUNITIES

Engaging with communities is part of our approach to managing human rights and providing access to remedy. Our global requirements for social performance aim to ensure that we operate in a responsible way, by avoiding or minimising the negative social impacts of our operations. They also help us maximise the benefits of our activities, such as employment and contractual opportunities that can support local economies.

These requirements set clear rules and expectations for how we engage with and respect communities that may be impacted by our operations. We require Shell-operated major projects and facilities to have a social performance plan that defines actions for managing potential negative and positive impacts on the communities where they operate. Integral to these plans are the identification of the social environment, the stakeholders who may be vulnerable to the operations, and an appropriate community feedback mechanism for listening and responding to queries, or resolving complaints, in a timely manner. We have specific requirements to avoid, minimise or mitigate potential impacts on indigenous peoples' traditional lifestyles, cultural heritage or involuntary resettlement.

ENVIRONMENT AND SOCIETY continued

We have a network of about 100 community liaison officers (CLO) installed locally to act as a bridge between local communities and our businesses. The CLOs man our community centres on workdays, receiving visitors to listen to questions or complaints. Members of the community can also contact CLOs via dedicated telephone lines. It is their task to take any concerns back to the Shell facility and involve people who are best placed to take action. We are using a tool based on the United Nations Guiding Principles' criteria to measure the effectiveness of our operational community feedback mechanisms.

For example, in Berat, southern Albania, our activities caused traffic to rise, which resulted in dust pollution and caused health concerns for the local community. Shell set up a community centre with a CLO who brought the concerns to the attention of the Shell Upstream Albania leadership team. Three initiatives were implemented: traffic calming measures, dust suppression using environmentally friendly chemicals, and increasing the frequency of watering to mitigate and minimise the impacts of dust. Find more information about our work with communities on our webpage.

HUMAN RIGHTS

Human rights are fundamental to Shell's core values of honesty, integrity and respect for people. Respect for human rights is embedded in our Shell General Business Principles and in our Code of Conduct. Our approach is informed by the Universal Declaration of Human Rights, the core conventions of the International Labour Organization and the United Nations' Guiding Principles on Business and Human Rights. Our joint-venture partners are expected to implement our control framework or an equivalent.

We work closely with other companies and non-governmental organisations to improve the way we apply these principles. Our focus is on four priority areas where respect for human rights is critical to the way we operate: communities, security, labour rights, and supply chain. In each of those areas, we have systems in place to identify potential impacts and to avoid and mitigate them. For example, our HSSE & SP Control Framework contains our mandatory standards and manuals that set out how we identify, assess, and manage our impacts on communities where we operate – including any impact on human rights. We require all our companies and our contractors to respect the human rights of our workforce and our neighbouring communities.

One of the Board committees, the Safety, Environment and Sustainability Committee, has the responsibility to review the standards, policies and conduct of the Company relating to the application of the Shell General Business Principles including sustainable development, and review the effectiveness of the compliance programme, including compliance with the Code of Conduct which includes Shell's responsibility to respect human rights. The overall accountability for sustainability within Shell lies with the Chief Executive Officer and the Executive Committee. A cross-functional Human Rights Working Group advises on and supports the implementation and review of our approach to human rights. The group includes an external advisor. A steering committee composed of senior executives oversees the work of the Human Rights Working Group.

Our approach to due diligence is informed by the UN Guiding Principles on Business and Human Rights. Due diligence in each focus area is typically exercised in areas where there may be a risk of impact to people, and is supported by experts internally. We recognise the role of due diligence in bringing our commitments to life. For example, in our supply chains, we engage contractors and suppliers deemed to be at higher risk for labour rights issues to undertake assessments of their management system prior to the award of a contract. Results of these supplier assessments are evaluated, and where gaps are found, we may work with suppliers and contractors to help them implement corrective action. We may also carry out on-site audits or consider terminating contracts if serious or persistent shortcomings are found. The most common shortcomings found during our supplier assessments typically relate to policy rather than performance gaps in the following areas: freely chosen employment; child labour avoidance; working hours, wages and benefits; dormitory, housing and working conditions; humane treatment, equal opportunities and freedom of association; and supply chain and performance management. In conjunction with the Shell Supplier Principles, Shell companies use a joint industry supplier capability assessment delivered in collaboration with other operators. The sharing mechanism across the participating parties aims to support the improvement of working conditions in our companies' respective supply chains. Find more information about our approach to human rights on our webpage.

CLIMATE CHANGE AND ENERGY TRANSITION

Shell has long recognised that greenhouse gas (GHG) emissions from the use of fossil fuels are contributing to the warming of the climate system. In December 2015, 195 nations adopted the Paris Agreement.

We welcomed the efforts made by governments to reach this global climate agreement, which came into force in November 2016. We fully support the Paris Agreement's goal to keep the rise in global average temperature this century to well below two degrees Celsius (2°C) above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C. In pursuit of this goal, we also support the vision of a transition towards a net-zero emissions energy system. Shell agrees with the Intergovernmental Panel on Climate Change (IPCC) 1.5°C special report, which states that in order to limit warming to 1.5°C above pre-industrial levels, the world economy would need to transform in a number of complex and connected ways. Meeting this challenge would require an even more rapid escalation in the scale and pace of change in the coming decades than was foreseen in the Paris Agreement.

Society faces a dual challenge: how to transition to a low-carbon energy future to manage the risks of climate change, while also extending the economic and social benefits of energy to everyone on the planet. This is an ambition that requires, among other things, changes in the way energy is produced, stored, used and made accessible to more people while drastically cutting emissions.

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

We welcome and support efforts, such as those led by the Task Force on Climate-related Financial Disclosures (TCFD), to increase transparency and to promote investors' understanding of companies' strategies to respond to the risks and opportunities presented by climate change. We believe that companies should be clear about how they plan to be resilient in the energy transition. In 2017, we joined the Oil and Gas Preparer Forum, initiated by the TCFD and convened by the World Business Council for Sustainable Development. The forum's objectives are to review the current state of climate-related financial disclosures, to identify examples of effective disclosure practices and make proposals on how disclosures may evolve over time. These examples were summarised and published in a report, including reflections from investors, in 2018. The Shell Energy Transition Report (SET report), also published in 2018, described the energy transition and considered Shell's resilience against future scenarios. The 2018 SET report followed our discussions with the TCFD about increasing transparency to help investors understand climate-related risks and opportunities. Our approach to the energy transition as described in the 2018 SET report, in combination with the Shell Sustainability Report (expected to be published in April 2020) and the Industry Associations Climate Review, aims to provide additional information to this Report in responding to TCFD recommendations, including discussing the energy transition and Shell's portfolio resilience. In 2019, Shell publicly supported the EU Commission's proposal for the EU to achieve net-zero emissions by 2050, the UK government's target of net-zero emissions by 2050, and the Climate Accord in the Netherlands.

OUR GOVERNANCE AND MANAGEMENT OF CLIMATE CHANGE RISKS AND OPPORTUNITIES

Climate change and risks resulting from GHG emissions have been identified as a significant risk factor for Shell and are managed in accordance with other significant risks through the Board and Executive Committee.

"Other regulatory and statutory information" on **page 169**.

Shell has a climate change risk management structure in place which is supported by standards, policies and controls.

This includes the work of the Board, which discussed a number of matters over the year, including environmental topics and investments in new business areas, for example, in New Energies. In addition, some of the Non-executive Directors received dedicated updates from management and external experts on the various business models, opportunities and risks of having positions along the power value chain, and the opportunities for Shell in the New Energies area. During the annual dedicated strategy meeting, the Board reviewed Shell's Integrated Power strategy from first principles, set against the context of the energy transition and the external environment, and to see how power can create value for Shell.

The Board committees play an important role in assisting the Board with regard to governance and management of climate change risks and opportunities, as described in "Governance" on page 119.

The role of the Safety, Environment and Sustainability Committee (SESCo) (formerly the Corporate and Social Responsibility Committee (CSRC)) is to review and advise the Board on Shell's strategy, policies and performance in the areas of safety, environment, ethics and reputation against the Shell General Business Principles, the Shell Code of Conduct, and the HSSE & SP Control Framework. During 2019, the Committee reviewed its purpose and updated its terms of reference to ensure it focuses on areas of most strategic importance to Shell. This resulted in a name change effective from December 2019. The SESCo's duties comprise, for example, to review progress towards meeting Shell's ambitions regarding climate change, the energy transition and its Net Carbon Footprint. The Committee also has a duty to advise the Remuneration Committee on metrics relating to sustainable development and energy transition. In 2019, the SESCo balanced its time between a number of topics, with discussion in depth including the energy transition and climate change, Shell's Net Carbon Footprint ambition, and the Company's environmental and societal licence to operate. The SESCo conducted one major site visit in Singapore, where the agenda included reviewing Shell's developing New Energies businesses in the country. In 2020, the Committee's focus will be on safety, Shell's policies and commitments related to climate change, environmental performance – for example, in Nigeria and our Canada LNG project – and on specific issues such as plastics, methane, and nature-based solutions. We will continue to advise the Remuneration Committee on metrics concerning sustainability and energy transition.

Find more information on the SESCo on **page 128**.

CLIMATE CHANGE AND ENERGY TRANSITION continued

The Remuneration Committee (REMCO) is responsible for determining the Directors' Remuneration Policy in alignment with our business strategy. In 2019, following recommendations by SESCo, REMCO continued to include GHG intensity metrics in annual bonus performance measures and targets. 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. In 2019, following discussions with major shareholders and based on recommendations from SESCo, REMCO decided to add an energy transition condition to the 2019 Long-Term Incentive Plan (LTIP) award. This condition included our first three-year target aligned with the trajectory of our long-term Net Carbon Footprint ambition. 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 "Directors' Remuneration Report" on pages 155-163. The Shell employee scorecard structure for determining employees' annual bonus in 2019 was consistent with the Executive Directors' scorecard. The energy transition condition in the 2019 LTIP awards applies to around 150 Senior Executives as well as the Executive Directors. The energy transition condition was included again in the 2020 LTIP awards for Executive Directors and Senior Executives, and will be extended to approximately 16,500 employees across the Group who receive Performance Share Plan awards. For the 2020 award, the target range is a 3-4% reduction in NCF against the 2016 baseline NCF (79 grams of CO_2 equivalent per megajoule). This target range is aligned with the trajectory of our NCF ambition as set out in November 2017. The targets for the other leading energy transition measures are commercially sensitive, and will be disclosed retrospectively. Annual updates on our progress in relation to measures will be provided.

The Audit Committee has key responsibilities in assisting the Board in fulfilling its oversight responsibilities in relation to areas such as the effectiveness of the system of risk management and internal control. Any concerns regarding improvement needed are promptly reported to the Board.

The CEO is the most senior individual with accountability for climate change risk. We have set up several dedicated climate change and GHG-related forums at different levels of the organisation where climate change issues are addressed, monitored and reviewed. Each Shell entity and each Shell-operated venture are responsible for implementing climate change policies and strategies.

The Executive Vice President Safety & Environment, a senior manager who reports directly to the Projects & Technology Director, is accountable for the oversight of GHG issues. This manager's department includes the dedicated Group Carbon team, which is accountable for monitoring and examining the strategic implications of climate change for Shell, and the impact of developments in governmental policy and regulation. The Group Carbon team is responsible for preparing proposed policy positions based on analysis within Shell and external input. The team also provides advice to Shell companies to ensure consistency in the application of our core principles and policy tasks in interactions with policymakers.

Group Carbon also has oversight of Shell's GHG management programme and supports the different lines of business in embedding GHG management strategies. The team includes project managers who advise the projects on the risks and opportunities of GHG-related issues. Risk management at an asset or project level is a structured process of identifying and assessing risks; planning and implementing responses; and monitoring, improving and closing out action items that have an impact on projects' and assets' objectives and performance. Shell policy requires these projects to obtain approval on abatement plans and targets from the Executive Vice President Safety & Environment at defined project phases.

Reporting to the same manager is the HSSE & SP Assurance and Reporting team, which is accountable for the delivery of Shell's non-financial reporting and for auditing the businesses' performance against our HSSE & SP Control Framework requirements, which include climate change risk management.

See "Environment and society" on **pages 84-90**.

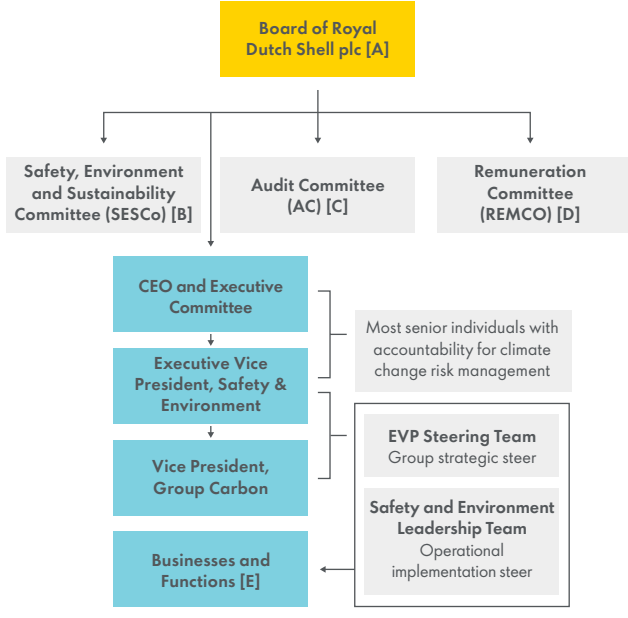
Further support for embedding GHG management is provided by a global risk support team for GHG and energy management. This team is a network of subject-matter experts in GHG topics working globally across our lines of business. Team members are experts in their relevant disciplines, defining improvement areas and sharing good practices and experience.

The above-mentioned teams and experts have provided their input to shape a set of mandatory manuals and complementary guidance documents which are ultimately based on our HSSE & SP Control Framework. These documents provide guidance on how to monitor, communicate and report changes in the risk environment, and how to review the effectiveness of actions taken to manage the identified risks, including ways to:

- ensure consistent assessment of climate risk across Shell;
- clarify expectations for risk management and reporting, including roles and responsibilities;
- strengthen decision-making through better visibility and understanding of the climate risk by line of business; and
- enable integration of Shell's reporting.

For more detail on our definition of risk categories and their relationship to different time horizons, see **page 96**.

Climate change management organogram



[A] Oversight of climate change risk management.
[B] Non-executive Directors appointed by the Board to review and advise on sustainability policies and practices including climate change.
[C] Non-executive Directors appointed by the Board to oversee the effectiveness of the system of risk management and internal control.
[D] Non-executive Directors appointed by the Board to set the remuneration policy in alignment with strategy.
[E] Responsible for implementing Shell's GHG strategy. They are represented in the Safety and Environment Leadership Team.

This structured approach supports the prioritisation of risks and opportunities. We actively monitor the GHG emissions of all our assets, as well as the lifecycle of our products, to quantify future regulatory costs related to GHG or other climate-related policies. This allows us to effectively prioritise areas of greater concern and assess mitigation options and the most viable responses. Climate-related risks are analysed in context of other identified material risks.

See "Risk factors" on **pages 27-36**.

We review our portfolio annually to identify emerging risks from changing GHG regulatory regimes and physical conditions. As described in our Shell Energy Transition Report (2018), we tested the resilience of our portfolio against externally published future pathways, including a low-emissions pathway. In 2017, we announced a long-term ambition to reduce the Net Carbon Footprint of the energy products we sell, in step with society's drive to reduce GHG emissions as it moves towards the goal of the Paris Agreement. We aim to reduce the Net Carbon Footprint of the energy products we sell – expressed in grams of CO_2 equivalent per megajoule consumed – by around half by 2050, and as an interim step, by 2035, we aim for a reduction of around 20% compared with our 2016 level, both predicated on societal progress. This was followed by an announcement, in 2018, of our intention to set short-term targets in line with that ambition.

Meeting the Net Carbon Footprint ambition requires evolving our portfolio over the medium to longer term, to reduce the carbon intensity of the products that we sell. We plan for this by developing ideas about how we would like to shape our future portfolio to meet our ambition. These ideas then guide investment decisions. Within the selected portfolio mixes, we develop individual projects and aim to make them as resilient as possible to the future scenarios.

To assess the resilience of new projects, we consider the potential costs associated with operational GHG emissions. In 2018, to help us stay in step with society's progress toward the goals of the Paris Agreement, we switched from using a flat project screening value (PSV) of $40/tonne of GHG emissions, to country-specific estimates of future carbon costs. By 2050, our carbon cost estimates for all countries increase to $85/tonne of GHG emissions. These estimates were developed using the current Nationally Determined Contributions (NDCs) submitted by countries as part of the Paris Agreement. They are the first NDCs under the Paris Agreement and are scheduled to be revised every five years. Therefore, as countries update their NDCs, we expect to update our estimates too. Accordingly, we believe they are a more accurate reflection of society's current implementation of the Paris Agreement. The UN believes the current NDCs are consistent with limiting the average global temperature rise to around three degrees Celsius above pre-industrial levels. In coming decades, we expect countries to tighten these NDCs to meet the goals of the Paris Agreement. We further test the robustness of our high-emitting projects by using long-term carbon cost estimates that are consistent with limiting the average global temperature rise to well below two degrees Celsius.

Projects under development that are expected to have a material GHG footprint must meet carbon performance standards or industry benchmarks to allow them to compete and prosper in a more GHG-constrained future. These assessments can lead to projects being stopped, designs being changed, and potential GHG mitigation investments being identified, in preparation for when regulation would make these investments commercially compelling. Our approach continues to evolve with the shifting policy landscape and the differing pace of energy transitions in different regions.

While monitoring emerging climate change plans, we considered the robustness of our activities against a range of scenarios, as referenced in our 2018 SET report. We believe our business strategy is resilient to the implementation of the Paris Agreement, which is now progressing through countries developing their individual NDCs. The emissions from customers using Shell energy products are largely covered by these NDCs. The Paris Agreement acknowledges that emissions will continue and even grow in some parts of the world. It does not stipulate that emissions must fall in all sectors or countries simultaneously, or that all actors within the system will reduce their emissions at the same time or to the same degree. What is important is that overall emissions fall.

OUR PORTFOLIO AND CLIMATE CHANGE

We are seeking cost-effective ways to manage GHG emissions in line with our NCF ambition, and we intend to enable customers to make lower-carbon-intensity choices by bringing lower-carbon-intensity products to the market aligned with demand. We seek to contribute to reducing global GHG emissions in a number of ways:

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

To support this, we continue to advocate the introduction of effective government-led carbon pricing mechanisms.

We are committed to reducing our GHG intensity, but with energy demand increasing and the number of easily accessible oil and gas reservoirs declining, we may develop resources that require more energy and advanced technologies to produce. If our production becomes more energy intensive, this could result in an associated increase in direct GHG emissions from our upstream facilities. We continue to invest in long-range research and carbon-abatement technologies to provide technical solutions to address these challenges.

Some governments have introduced carbon pricing mechanisms, which we believe can be an effective measure to reduce GHG emissions across the economy at lowest overall cost to society. We expect more governments to follow. However, we believe measures taken by governments to control national energy transitions may also have unintended consequences. For example, the prohibition of one technology may encourage other substitute technologies that result in an increase in overall GHG emissions. See "Risk factors" on page 30.

NATURAL GAS

According to the IEA, more than 40% of global CO_2 emissions in 2015 came from electricity and heat generation. For many countries, using gas instead of coal in power generation can make a large contribution, at lower cost, to meeting GHG emission reduction objectives. We expect that, in combination with renewables and the use of CCS, natural gas will be essential in significantly lowering GHG emissions. Natural gas made up more than half of Shell's proved reserves at the end of 2019. As a leader in liquefied natural gas (LNG), and with our conventional gas assets and technologies for recovering gas from tight-rock formations, we can supply natural gas to replace coal for power generation. Natural gas can also act as a partner for intermittent renewable energy, such as solar and wind, to maintain a steady supply of electricity, because gas-fired plants can start and stop relatively quickly.

CLIMATE CHANGE AND ENERGY TRANSITION continued

Methane is a potent greenhouse gas. When released into the atmosphere, it has a much higher global warming impact than CO_2. Natural gas consists mainly of methane. Efforts to address climate change therefore require the industry to reduce both deliberate and unintended methane emissions from the gas value chain, from production to the final consumer.

The IEA estimates that natural gas operations have an average methane leakage rate of 1.7%. At this rate, natural gas emits between 45% and 55% less GHG emissions than coal when burnt at a power plant. Higher levels of methane emissions, however, would reduce this benefit, and we recognise the importance of assessing, and where possible, reducing methane emissions. Methane from the flaring and venting of gas (including equipment venting) in our upstream oil and gas operations was the largest contributor to our reported methane emissions in 2019. We are working to reduce methane emissions from these sources by reducing the overall level of flaring and venting. We also continue to implement leak detection and repair programmes across our sites to identify unintended losses and high-emission equipment, such as high-bleed pneumatic devices, so they can be replaced or repaired. We continue to work on confirming that we have identified all potential methane sources and that we have reported our emissions from these sources in line with regulations and industry standards. In 2017, we joined the Climate and Clean Air Coalition Oil & Gas Methane Partnership. It brings together industry, governments and non-governmental organisations to improve quantification of methane emissions globally and work towards reducing them. Also in 2017, Shell led the development of a set of non-binding Methane Guiding Principles for reducing methane emissions across the natural gas value chain. The principles focus on: continually reducing methane emissions; advancing strong performance across gas value chains; improving accuracy of methane emissions data; advocating sound policies and regulations on methane emissions; and increasing transparency. Shell has been involved in the development of all actions associated with the guiding principles, including the development of a major global outreach programme. The objective is to address a gap in knowledge on managing methane emissions, and thereby provide high-quality educational material and courses on methane science, methane reduction strategies and planning, measurement techniques, technology, policy, and where to get guidance and support. The publicly accessible programme consists of two courses: an executive course targeting senior managers and executives, and masterclasses for managers of frontline staff.

Shell is also a member of the Oil and Gas Climate Initiative (OGCI), a CEO-led effort to lead the industry's response to climate change. One of OGCI's focus areas is methane management. In 2018, OGCI announced a target to reduce the collective average methane intensity of its members' aggregated upstream gas and oil operations by one fifth, to below 0.25% by 2025, with an ambition to achieve 0.2%, corresponding to a reduction of one third.

In 2018, Shell announced a target to maintain its methane emissions intensity below 0.2% by 2025. This target covers all Shell-operated Upstream and Integrated Gas oil and gas facilities. The baseline and target intensities are expressed as percentage figures, representing estimated methane emissions from Shell-operated gas and oil facilities as a percentage of the total amount of gas marketed, or the quantity of marketed oil and condensate where facilities have no marketed gas (e.g. those that re-inject produced gas). Methane emissions include those from unintentional leaks, venting and incomplete combustion, for example in flares and turbines. In 2019, our overall methane intensity was 0.08% for facilities with marketed gas and 0.01% for facilities without marketed gas. Intensities at facility level ranged from below 0.01% to 1.3%. We believe our methane emissions are calculated using the best methods currently available: a combination of industry standard emission factors (established emission rates per throughput or per piece of equipment), engineering calculations and some actual measurements. There are uncertainties associated with methane emissions quantification. To reduce these uncertainties, our Upstream and Integrated Gas businesses are rolling out methane improvement programmes to further enhance data quality and reporting, continue implementation of leak detection and repair programmes, and make use of methane abatement opportunities. By 2025, all Shell-operated facilities are expected to have implemented more robust quantification methodologies. Externally, we continue to work on new technologies and improved quantification methods through partnerships and several other initiatives.

Detailed information on our approach to managing methane emissions and performance is expected to be published in the Shell Sustainability Report in April 2020.

CARBON CAPTURE, UTILISATION AND STORAGE

CCS or CCUS is a technology used for capturing CO_2 before it is emitted into the atmosphere, then transporting it by pipelines or ships and injecting it into a deep geological formation for permanent storage. In the IPCC Global Warming of 1.5°C special report, the middle-of-the-road scenario (P3) shows cumulative abatement provided by CCS of 687 billion tonnes of CO_2 by 2100. This compares with over 260 million tonnes of man-made CO_2 that has been injected to date (Global Status of CCS 2019 report). By May 2019, our Quest CCS project in Canada (Shell interest 10%), had captured and safely stored more than 4 million tonnes of CO_2 since it began operating in 2015. The Gorgon CCS project in Australia (Shell interest 25%, not operated), which started operating in 2019, is expected to store between 3.4 and 4 million tonnes of CO_2 each year. In Norway, we are involved in the Northern Lights CCS project for capturing and storing industrial CO_2, and in TCM, a CO_2 capture test centre in Mongstad.

As a member of the Oil and Gas Climate Initiative (OGCI), Shell is participating in its Kickstarter initiative to unlock large-scale investment in CCUS. The initiative is designed to help decarbonise multiple industrial hubs around the world, starting with those in the USA, UK, Norway, the Netherlands and China. The aim is to create the necessary conditions for a commercially viable, safe and environmentally responsible CCUS industry. Shell is one of six strategic partners working with OGCI Climate Investments to possibly develop the UK's first commercial clean gas power full-chain CCS project, to be located in Teesside as part of the UK hub.

ENERGY EFFICIENCY

We continue to work on improving energy efficiency at our oil and gas production facilities, refineries and chemical plants. Measures include our GHG and energy management programme that focuses on the efficient operation of existing equipment. This means, for example, using monitoring systems which give us real-time information that we can use to make energy-saving changes and identify opportunities for energy-saving investments in the medium term. Shell's scorecard incorporates GHG metrics that create additional incentives for all our employees to reduce GHG emissions in our portfolio.

See "Directors' Remuneration Report" on **page 155-163**.

NEW ENERGIES

Our New Energies business explores emerging opportunities linked to the energy transition, and invests in those where we believe sufficient value is available. New Energies expects to invest on average $1-2 billion a year until 2020 in different services and products from a range of cleaner sources. We focus on new fuels for transport, such as advanced biofuels, hydrogen and charging for battery-electric vehicles; and power, including from low-carbon sources such as wind and solar as well as natural gas. Between 2021 and 2025, our investments in power could grow to $2-3 billion a year on average, if certain financial conditions are met. Alongside our work in new fuels and power, we are exploring how digital technologies can best support our activities and customers.

See "Integrated Gas" on **page 49**.

New fuels

We invest in a range of low-carbon technologies and fuels, including biofuels, hydrogen and battery-electric vehicle charging. We believe that hydrogen has the potential to be an important low-carbon transport fuel. We are involved in several initiatives to encourage the adoption of hydrogen-electric energy.

See "Integrated Gas" on **page 50**.

Biofuels

We believe that biofuels can play a valuable role in reducing CO_2 emissions from the transport sector over the decades ahead.

In 2019, we used around 10.1 billion litres of biofuel in our gasoline and diesel blends worldwide to comply with applicable mandates and targets in the markets where we operate. Through our own long-established sustainability clauses in supply contracts, we request that the biofuels we buy are produced in a way that is environmentally and socially responsible throughout the production chain. Currently, most available biofuels are produced from cereals, vegetable oils and sugar cane. From cultivation to use, some biofuels can emit significantly less CO_2 compared with conventional gasoline. But this depends on several factors, such as how the feedstock is cultivated and the way biofuels are produced. Other challenges include concerns over labour rights, the amount of water used in the production process, and the competing demands for land use between biofuels and food crops.

Over three-quarters of the biofuels we buy are from North American or European feedstock producers. In both regions, regulations for agricultural practices are in place, including considerations for sustainability.

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

Currently, more than 99% of our purchased volumes of biofuels are either covered by our supplier-agreed contract sustainability clauses or certified as sustainable by an independent auditor. We aim to increase the percentage of certified volumes against robust multi-stakeholder standards.

Our Raízen joint venture (Shell interest 50%, not operated) in Brazil has produced low-carbon biofuel from sugar cane since 2011. Through our Raízen joint venture, we produce one of the lowest CO_2 biofuels available today. Raízen produces approximately 2 billion litres of ethanol from sugar cane annually. Brazilian sugar-cane ethanol can reduce CO_2 emissions by around 70% when compared with conventional gasoline, from cultivation of the sugar cane to using the ethanol as fuel.

In 2015, Raízen opened its first advanced biofuels plant at the Costa Pinto mill in Brazil. The technology was first developed from our funding of the Iogen Energy venture, which was subsequently transferred to Raízen. In 2019, the plant produced 19.5 million litres of cellulosic ethanol from sugar-cane residues. It is expected to produce 40 million litres a year once fully operational.

Outside Brazil, we continue to invest in new ways of producing biofuels from sustainable feedstocks, such as biofuels made from waste products or cellulosic biomass. In 2017, we completed construction of a demonstration plant at the Shell Technology Centre Bangalore, India. The plant demonstrates a technology called IH2® that turns waste feedstock into transport fuel. The plant can process around five tonnes per day of feedstock, such as agricultural waste, and aims to demonstrate the technology for possible scaling up and commercialisation.

We continue to look for opportunities to invest in third-party technologies and to collaborate in scaling these up for commercialisation. In February 2019, Shell became an equal equity partner in a commercial-scale waste-to-chemicals project called W2C Rotterdam – in partnership with Air Liquide, Enerkem, Nouryon and the Port of Rotterdam. The partners plan to build Europe's first commercial-scale facility for producing chemicals and biofuels from waste materials which cannot otherwise be recycled. The facility in the Botlek area of the Port of Rotterdam in the Netherlands will use Enerkem's proprietary technology.

Also in 2019, Shell signed an equity investment agreement with PRESPL, an Indian company specialising in biomass aggregation and processing for energy production.

In line with our strategy of developing more sustainable feedstocks for transport, we are also investing in renewable natural gas (RNG) for use in natural-gas-fuelled vehicles, in the USA and Europe. RNG is produced from biogas collected from landfill sites, or via anaerobic digestion of food waste or manure and then processed until it is fully interchangeable with conventional natural gas. The use of RNG in natural-gas vehicles, either in the form of compressed natural gas (CNG) or LNG, offers customers using these vehicles an attractive way of lowering their CO_2 footprint.

In the USA, in May 2018, we acquired the JC Biomethane plant in Junction City, Oregon. We aim to start production after completing an expansion of the facility in 2020. This will increase the facility's capacity to produce RNG.

CLIMATE CHANGE AND ENERGY TRANSITION continued

Power

Power is the fastest-growing segment of the energy system. We expect that people and companies around the world will use more electricity to power transport and industry, instead of coal and oil, as part of the drive to lower carbon emissions. To help meet this demand, Shell aims to become an integrated power player and grow, over time, a material new business. We are working to deliver more electricity generated by renewable energy, from developing wind and solar projects to selling electricity generated by renewable sources.

See "Integrated Gas" on **page 49**.

NATURE-BASED SOLUTIONS

We believe that nature will play an important role in the transition to a lower-carbon world. Using nature to capture carbon from the atmosphere presents an immediate opportunity. It can help to bridge the gap until other low-carbon solutions are deployed at scale, or to compensate for emissions which cannot be avoided. Nature-based solutions are expected to be one of Shell's tools to reduce our Net Carbon Footprint. Nature-based projects typically involve the protection or redevelopment of natural ecosystems such as forests and wetlands, allowing those ecosystems to capture and store more carbon on our behalf. These projects, which also support local communities and conserve biodiversity, generate carbon-emission rights that can then be bought by energy consumers around the world. In 2019, we launched a programme to invest in natural ecosystems as part of our strategy to act on global climate change. For example, in the UK, we are working with Forestry and Land Scotland, a government agency, to generate carbon credits by helping to plant or regenerate around 1 million trees over the next five years. See the Shell Sustainability Report to be published in April 2020 for more information.

OUR STRATEGY ON CLIMATE CHANGE

Our strategy to assess and manage risks and opportunities resulting from climate change includes consideration of different time horizons and specific risks:

- commercial risk: the potential for structural shifts in demand profiles for industry products;
- regulatory risk: the potential for strengthening of existing and introduction of new regulations;
- physical risk: the potential impact on our facilities and the communities in which we operate due to changing physical conditions; and
- societal risk: the potential for a deteriorating relationship with the public, other companies, and governments in countries where Shell operates.

This is how we describe the different time horizons and the relevance for the identification of risks and business planning:

- Short term (up to three years): detailed financial projections are developed and used to manage performance and expectations on a three-year cycle. This three-year plan is shared with the Board;
- Medium term (three years up to around 10 years): the majority of production and earnings expected to be generated in this period come from our existing assets; and
- Long term (beyond around 10 years): for this period, it is expected for the current Shell portfolio to go through changes and evolution with the energy transition. Decision-making and risk identification on the thematic structure of the future portfolio are guided by the pace of progress of society and in step with society as it moves towards the goals of the Paris Agreement.

Shell has a rigorous approach to understanding, managing and mitigating climate risks to its facilities. Shell also requires each business and function to monitor, communicate and report changes in the risk environment and the effectiveness of actions taken to manage identified risks on an ongoing basis. This is outlined in a toolkit for risk management including our Risk Management Manual and complementary guidance documents covering specific aspects such as climate risk. The potential, timing, and severity of the impact of the risks highlighted above are largely dependent on the geographical location and the asset type.

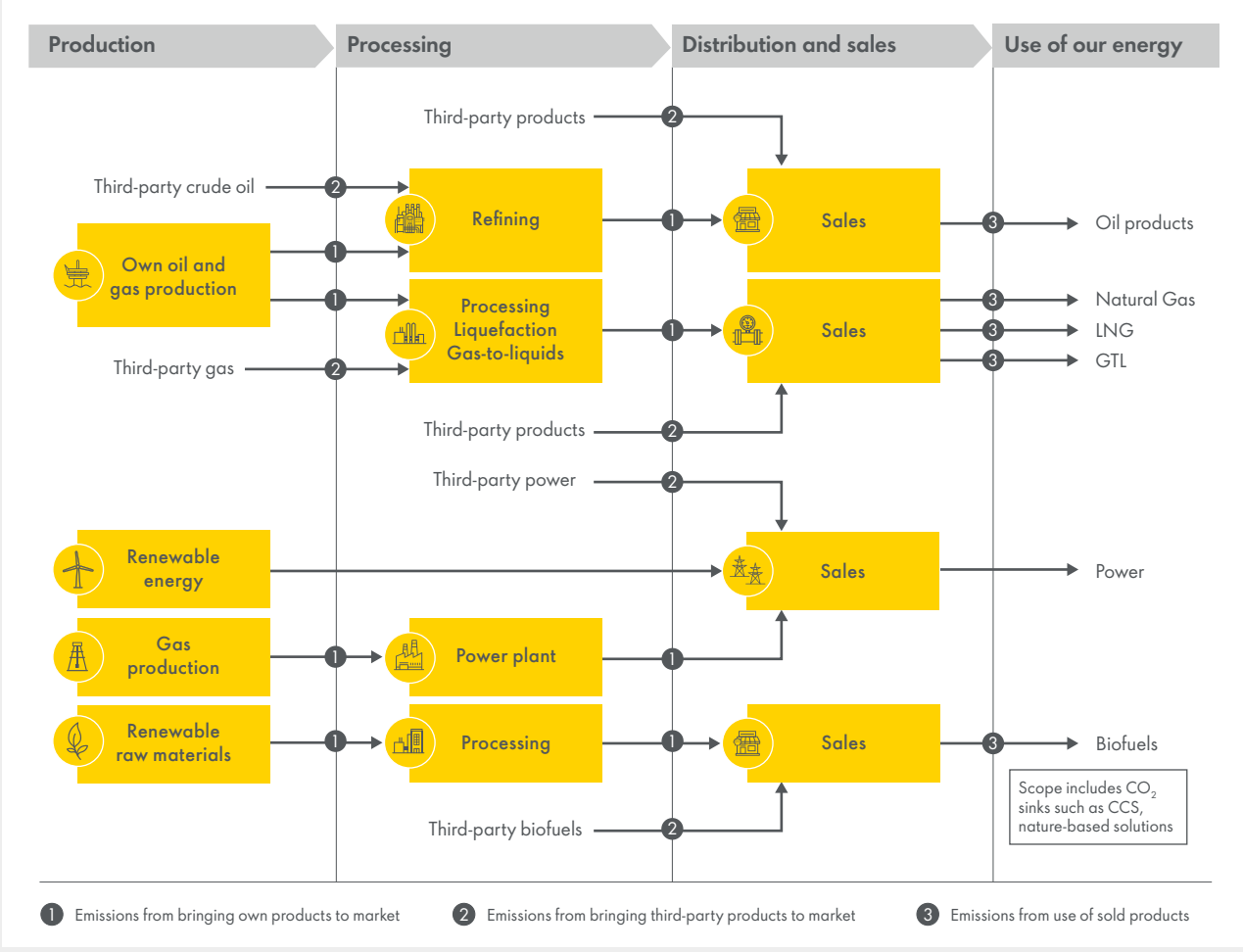
Each Shell business unit needs to consider the adequate management of climate-related risks in their portfolios. To ensure informed judgements are made, businesses' senior managers present their current assessments of how likely climate risks are to happen, what their potential impact would be, and what is being done to mitigate the risk. Each risk is then categorised as either adequately managed or needing improved mitigation and this aims to guide their ongoing operations and maintenance schedules and response planning. In some instances, Shell may also deploy a risk assessment approach which includes the work of a team of experts to analyse, for example, the physical impact of weather and climatic-related issues and the associated adaptation aspects.

We aim to reduce the GHG intensity of our portfolio and we continue to work on improving the energy efficiency of our existing operations. As discussed above, and as a better way to inform and drive our investment choices and adapt our business over time, in 2017, we announced our Net Carbon Footprint ambition. Our approach to calculating the Net Carbon Footprint covers emissions directly from Shell operations (including from the extraction, transportation and processing of raw materials, and transportation of products), those generated by third parties who supply energy to us for production, and our customers' emissions from their use of our energy products. Also included are emissions from elements of this life cycle not owned by Shell, such as oil and gas processed by Shell but not produced by Shell, or from oil products and electricity marketed by Shell that have not been processed or generated at a Shell facility. The calculation also includes biofuels, as well as emissions that we offset by using CCS or natural carbon sinks, such as forests and wetlands. Chemicals and lubricants products, which are not used to produce energy, are excluded from the scope of this ambition.

When selecting our Net Carbon Footprint ambition, we have deliberately chosen a wide and meaningful frame against which to manage our performance. The emissions from our operations are important but those of our customers from their use of the energy products are much larger in proportion. More information on our Net Carbon Footprint ambition is available on our webpage.

The diagram below illustrates the scope of the Net Carbon Footprint calculation:

Scope of our Net Carbon Footprint
Emissions from energy products included within the Net Carbon Footprint framework.



To meet the decarbonisation goals of the Paris Agreement, society needs an increasing supply of energy products that produce lower or zero GHG emissions over their full life cycle, to use those products more efficiently and to store emissions that cannot be avoided in sinks. Within this framework, our strategy is to keep increasing the share of such low-carbon energy products in our portfolio, while also developing carbon sinks. By broadening our focus to the full life-cycle emissions from the energy products that we sell to our customers, instead of solely on our operational emissions, we believe we will be better aligned with societal need and growing customer demand for more energy with lower life-cycle GHG emissions. Therefore, our strategy is to reduce our Net Carbon Footprint, mainly by increasing the proportion of lower-carbon products such as natural gas, biofuels, electricity and hydrogen in the mix of products we sell.

We will publish annual updates on our progress towards lowering the Net Carbon Footprint of our energy products. See the Shell Sustainability Report to be published in April 2020 for more information.

Our long-term ambition is to reduce the Net Carbon Footprint of our energy products to be in line with that of society as a whole by 2050. This is a stretching aspiration that aims to ensure that Shell continues to develop a resilient and relevant portfolio over the coming decades. While this is a long-term aspiration that will need periodic recalibration in line with the pace of change in broader society and the wider energy system, it is intended to help ensure that we remain relevant and are competitively positioned in the energy transition. This means supplying energy products and services that our customers need, now and in the future, and developing a resilient portfolio in line with our purpose of providing more and cleaner energy to society.

In the period to 2035, we believe that all forms of GHG reduction measures must be accelerated and increased in scale by society. Major improvements in energy efficiency and new sources of energy, such as renewables, combined with the use of cleaner fossil fuels, such as replacing coal with natural gas, are needed to meet the growing global population's energy needs while reducing GHG emissions. In addition,

CLIMATE CHANGE AND ENERGY TRANSITION continued

the world will need significant growth in CCS and sustained improvements in efficiency. Massive reforestation is also needed to limit temperature rises to 1.5°C. The management of GHG emissions is increasingly important to our shareholders as concerns over climate change lead to tighter environmental regulations. Policies and regulations designed to limit the increase in global temperatures to well below 2°C could have a material adverse effect on Shell – through higher operating costs and reduced demand for some of our products. We actively monitor and assess these potential developments and believe we are best able to manage them when local policies provide a stable and predictable regulatory foundation for our future investments. At this stage, industry is still facing significant uncertainty about how local regulatory policies and consumer behaviour will shape the evolution of the energy system and which technologies and business models will thrive.

In December 2018, we announced our intention to set short-term Net Carbon Footprint targets. In early 2020, it was decided to set a Net Carbon Footprint target for 2022 of 3-4% lower than our 2016 Net Carbon Footprint of 79 grams of CO_2 equivalent per megajoule. We have received third-party limited assurance on our Net Carbon Footprint for the years 2016 to 2019. For 2019, our Net Carbon Footprint was 78 grams of CO_2 equivalent per megajoule. The reduction in our Net Carbon Footprint was due to an increase in sales of electricity in markets with declining grid carbon intensity, and growth in customer demand for carbon-neutral product offerings.

OUR PERFORMANCE

Data in this section are reported on a 100% basis in respect of activities where we are the operator. Reporting on this operational control basis differs from that applied for financial reporting purposes in the "Consolidated Financial Statements" on pages 191-239. Detailed data and information on our 2019 environmental and social performance is expected to be published in the Shell Sustainability Report in April 2020.

Our direct GHG emissions decreased from 71 million tonnes of CO_2 equivalent in 2018 to 70 million tonnes of CO_2 equivalent in 2019. The main contributors to this decrease were divestments (for example in Argentina, Canada, Norway, Iraq, Malaysia and the UK). The level of flaring in our Upstream and Integrated Gas businesses combined increased by around 15%, compared to 2018, primarily as a result of the start-up of our Prelude floating liquefied natural gas installation in Australia and higher levels of flaring in Nigeria, partially offset by our Majnoon divestment in Iraq (mid-2018).

In 2015, we signed up to the World Bank's Zero Routine Flaring by 2030 initiative. This is an important initiative to ensure that all stakeholders, including governments and companies, work together to address routine flaring. Flaring, or burning off, of gas in our Upstream and Integrated Gas businesses contributed around 8% of our overall direct GHG emissions in 2019. Around 25% of this flaring took place at facilities where there was no infrastructure to capture the gas produced with oil, known as associated gas.

Around 35% of flaring in our Upstream and Integrated Gas facilities in 2019 took place in assets operated by The Shell Petroleum Development Company of Nigeria Limited (SPDC). Flaring from SPDC-operated facilities fell by around 20% between 2015 and 2019. Flaring intensity levels in SPDC in 2019 increased by around 10% compared to 2018. SPDC continues to make progress in close collaboration with its joint-venture partners and the Federal Government of Nigeria towards the objective of ending the continuous flaring of associated gas. Two new gas-gathering projects (Adibawa and Otumara) came on stream at the end of 2017, followed by two more (the Forcados Yokri Integrated Project and Southern Swamp Associated Gas Gathering Solutions) in 2019.

GHG emissions data are provided below in accordance with UK regulations. GHG emissions comprise CO_2, 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 a number of sources of uncertainty can contribute to the overall uncertainty of a corporate emissions inventory.

Greenhouse gas emissions

	2019	2018
Emissions (million tonnes of CO_2 equivalent)		
Direct [A]	70	71
Energy indirect [B]	10	11
Intensity ratio (tonne/tonne)		
All facilities [C]	0.24	0.24

[A] Emissions from the combustion of fuel and the operation of facilities, calculated using global warming potentials from the IPCC's Fourth Assessment Report.
[B] Emissions from the purchase of electricity, heat, steam and cooling for our own use, calculated using a market-based method as defined by the GHG Protocol Corporate Accounting and Reporting Standard.
[C] In tonnes of total direct and energy indirect GHG emissions per tonne of crude oil and feedstocks processed and petrochemicals produced in Downstream manufacturing, oil and gas available for sale, LNG and GTL production in Integrated Gas and Upstream. Additional information by segment will be published on our webpage.

Detailed information on our 2019 GHG emissions is expected to be published in the Shell Sustainability Report in April 2020 and on our webpage.

The statements in this "Climate change and energy transition" section, including those related to Net Carbon Footprint, are forward-looking statements based on management's current expectations and certain material assumptions and, accordingly, involve risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied herein.

See "About this Report" on **pages 2-3** and "Risk factors" on **pages 27-36**.

OUR PEOPLE

Performing competitively in the evolving energy landscape requires competent and empowered people working safely together across Shell.

Employees

83,000
employees and a further 4,000 in certain New Energies and Downstream companies at December 31, 2019

Region

>70
countries in which we operate

Training

373,000
formal training days for employees and joint-venture partners

Female employees

31%
female employees

Directors

42%
women on the Board of Directors

Senior leaders

26%
women in senior leadership positions

Experienced hires

2,800
experienced people joined Shell (32% female)

Operations centre hires

3,600
recruited for Shell Business Operations centres (51% female)

Graduate hires

500
graduate hires (48% female)

All metrics except for the Employees metric exclude the 4,000 employees in certain New Energies and Downstream companies.

We recruit, train and recompense people according to a strategy that aims to organise our businesses effectively. Our people are essential to the successful delivery of the Shell strategy and to sustaining business performance over the long term. We accelerate development of our people; grow and strengthen our leadership capabilities; and enhance employee performance through strong engagement.

EMPLOYEE OVERVIEW

The employee numbers presented here are the full-time equivalent number of people employed by Shell on a full- or part-time basis, working in Shell subsidiaries, Shell-operated joint operations, seconded to non-Shell-operated joint operations, or joint ventures and associates.

At December 31, 2019, there were 83,000 employees in Shell and an additional 4,000 in certain New Energies and Downstream companies, compared with 81,000 at December 31, 2018, and 83,000 at December 31, 2017. The net increase in 2019 was driven by accelerated growth of the Information Technology hub in Bangalore, increased project activity in Projects & Technology, growth in Lubricants Asia, and growth in Customer Operations in Downstream Global Commercial. These changes were partly offset by reductions in Upstream and Integrated Gas which were driven by portfolio activities and our continued effort to improve operational efficiency and to reduce costs.

Further statements about employees in this section and data presented in the tables excludes the 4,000 employees in certain New Energies and Downstream companies. Note 26 to the "Consolidated Financial Statements" on page 237 provides the average number of employees by business segment.

Actual number of employees by geographical area

Thousand

	2019	2018 [A]	2017 [A]
Europe	24	24	24
Asia	30	28	28
Oceania	2	2	2
Africa	4	4	5
North America	21	21	21
South America	2	2	3
Total	83	81	83

[A] As revised, numbers have been changed from average number to actual number to align with current year definition. These numbers exclude the 4,000 employees in certain New Energies and Downstream companies.

In 2019, a total of 373,000 formal training days were provided for employees and joint-venture partners, compared with 315,000 in 2018. We continue to invest in people and capabilities, and in our continued focus on safety and personal development.

EMPLOYEE COMMUNICATION AND INVOLVEMENT

We strive to maintain a healthy employee and industrial relations environment in which dialogue between management and our employees – both directly and, where appropriate, through employee representative bodies – is embedded in our work practices. On a regular basis, management engages with our employees through a range of formal and informal channels, including all-staff messages from the Chief Executive Officer, webcasts, townhalls, team meetings, face-to-face gatherings, breakfast briefings, interviews with senior management and online publications via our intranet. For further information on stakeholder engagement, see the "Governance" section on page 113.

We promote safe reporting of views about our processes and practices. In addition to local channels, the Shell Global Helpline enables our people and third parties to report potential breaches of the Shell General Business Principles and Shell Code of Conduct, confidentially and anonymously, in a variety of languages. In 2018, there were 1,584 reported cases via the Shell Global Helpline: 1,232 allegations and 352 inquiries. In 2019, there were 1,686 reported cases via the Shell Global Helpline: 1,278 allegations and 408 inquiries. Shell Internal Audit (SIA) is the custodian of the Shell Global Helpline process in Shell, which is managed by an independent third party. SIA is accountable for ensuring that the Shell Global Helpline functions as intended and that all allegations of Code of Conduct breaches (including bribery and corruption) are investigated and followed up appropriately. The Board has formally delegated the responsibility for reviewing the functioning of the Shell Global Helpline, and the reports arising from its operation, to the Audit Committee. The Audit Committee is also authorised to establish and monitor the implementation of procedures for the receipt, retention, proportionate and independent investigation and follow-up action of reported matters.

Strong employee engagement is especially important in maintaining strong business delivery in times of change. The Shell People Survey is one of the principal tools used 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 2019, the response rate was 85.5%, which was an increase of 3.5 percentage points compared to 2018. The average employee engagement score was 78 points out of 100, an increase of one point compared to 2018, and places us among the leading results across a range of industries.

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. We believe that a diverse workforce, and an inclusive and caring environment that respects and nurtures diverse people, is a way to improve our safety and business performance.

We continue our relentless 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.

We provide equal opportunity in recruitment, career development, promotion, training and rewards for all our people. In 2019, Shell joined the disability campaign The Valuable 500 to eliminate the exclusion of disabled people worldwide. Since 2018, we have completed the implementation of workplace accessibility service to 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.

We also run an initiative called I'm Not OK to promote open and honest conversations about mental health. In 2019, we focused on stigma by launching an online portal for employees worldwide to share their stories about the support that helped them most when they struggled. In doing so, they addressed the issue of stigma by demonstrating that mental ill-health can happen to anyone irrespective of job, nationality, age, gender or culture.

Our focus on workplace inclusion also continues in other areas. At Shell, we support and enable remarkable people from every background, and strive to be a pioneer of lesbian, gay, bisexual and transgender (LGBT) inclusion in the workplace. In 2019, we were again recognised in the top tier as a Workplace Pride Advocate in the Workplace Pride global LGBTI inclusive workplace benchmark and earned a 100% score in the Human Rights Campaign Foundation's Corporate Equality Index.

In 2019 the Hampton Alexander Review ranked Shell second out of the Financial Times Stock Exchange (FTSE) 350 Oil & Gas Industry index companies and 14th out of the FTSE 100 rankings of Women on Boards and in Leadership. We actively monitor representation of women and local nationals in senior leadership positions and have talent-development processes to support us in mitigating any biases and delivering a more diverse representation.

In 2019, 48% of our graduate recruits were female. At the end of 2019, the proportion of women in senior leadership positions was 26.4%, an increase of 2.4 percentage points compared to end of 2018. "Senior leadership positions" is a Shell measure based on salary group levels (circa 1,400 staff) and is distinct from the term "senior manager" in the statutory disclosures set out below.

Gender diversity data (at December 31, 2019)

			Number	
		Men		Women
Directors of the Company	7	58%	5	42%
Senior managers [A]	632	72%	250	28%
Employees (thousand)	57	69%	26	31%

[A] Senior manager is defined in section 414C(9) of the Companies Act 2006 and, accordingly, the number disclosed comprises the Executive Committee members who were not Directors of the Company, as well as other directors of Shell subsidiaries.

The local national coverage is the number of senior local nationals (both those working in their respective base country and those expatriated) as a percentage of the number of senior leadership positions in their base country.

Local national coverage (at December 31)

	Number of selected key business countries		
	2019	2018	2017
Greater than 80%	12	10	10
Less than 80%	8	10	10
Total	20	20	20

[A] These numbers exclude the 4,000 employees in certain New Energies and Downstream companies.

CODE OF CONDUCT

In line with the UN Global Compact Principle 10 (Businesses should work against corruption in all its forms, including extortion and bribery), we maintain a global anti-bribery and corruption/anti-money laundering (ABC/AML) programme designed to prevent or detect, and remediate and learn from, potential violations. The programme is underpinned by our commitment to prohibit bribery, money laundering and tax evasion, and to conduct business in line with our Shell General Business Principles and Code of Conduct.

We do not tolerate the direct or indirect offer, payment, solicitation or acceptance of bribes in any form. Facilitation payments are also bribes and are prohibited. The Shell Code of Conduct includes specific guidance for Shell staff (which comprises employees and contract staff) on requirements to avoid or declare actual, potential or perceived conflicts of interest, and on offering or accepting gifts and hospitality.

Communications from leaders emphasise both the importance of these commitments and compliance with requirements. These are reinforced with both global and targeted communications to ensure that Shell staff

are frequently reminded of their obligations. Supporting the Code of Conduct, we have mandatory risk-based procedures and controls that address a range of compliance risks and ensure we focus resources, reporting and attention appropriately. By making a commitment to our core values – honesty, integrity and respect – and following the Code of Conduct, we protect Shell's reputation.

In 2019, we continued mandatory ethical leadership workshops for senior executives across our global operations, to reinforce and explore the level of commitment to ethics and compliance expected of leaders at this level. The workshops focus on values, behaviours, business pressures and leadership practices. The workshops are part of our wider work to cultivate a strong corporate culture where impeccable ethics are a matter of personal pride for every employee, rather than only a compliance issue.

As part of our commitment to ethics and compliance, we ensure that our policies, standards and procedures are communicated to Shell employees and contract staff and, where necessary and appropriate, to agents and business partners. Particular areas of focus with third parties include our due diligence procedures, and clearly articulated requirements (for example, through the use of standard contract clauses). In addition, we publish our Ethics and Compliance Manual on shell.com to demonstrate our commitment in this area.

The Shell Ethics and Compliance Office assists the businesses and functions with the ABC/AML and other programme implementation, and monitors and reports on progress. Legal counsel provides legal advice globally and supports the programme's implementation. The Shell Ethics and Compliance Office regularly reviews and revises all ethics and compliance programmes to ensure they remain up to date with applicable laws, regulations and best practices. This includes incorporating results from relevant internal audits, reviews and investigations as well as periodically commissioning external reviews.

We have a duty to investigate all good faith allegations of breaches of the Code of Conduct, however they are raised. We are committed to ensuring all such incidents are investigated by specialists in accordance with our Investigation Principles. Violation of the Code of Conduct or its policies can result in disciplinary action, up to and including contract termination or dismissal. In some cases, we may report a violation to the relevant authorities, which could lead to legal action, fines or imprisonment.

Internal investigations confirmed 263 substantiated breaches of the Code of Conduct in 2019. As a result, we dismissed or terminated the contracts of a total of 93 employees and contract staff.

EMPLOYEE SHARE PLANS

We have a number of share plans designed to align employees' interests with our performance through share ownership. For information on the share-based compensation plans for Executive Directors, see the "Directors' Remuneration Report" on pages 135-154.

PERFORMANCE SHARE PLAN, LONG-TERM INCENTIVE PLAN AND EXCHANGED AWARDS UNDER THE BG LONG-TERM INCENTIVE PLAN

Under the PSP, 50% of the award is linked to certain indicators described in "Performance indicators" on pages 144, averaged over the performance period. From 2017 to 2019, 12.5% of the award is linked to free cash flow (FCF) and the remaining 37.5% is linked to a comparative performance condition which involves a comparison with four of our main competitors over the performance period, based on three performance measures. Under the LTIP, awards made in 2017 and 2018, 25% of the award is linked to the FCF measure and the remaining 75% is linked to the comparative performance conditions mentioned above. From 2019 onwards, 22.5% of the award is linked to the FCF measure and 10% is linked to an energy transition measure. The remaining 67.5% is linked to the comparative performance condition mentioned above.

Separately, following the BG acquisition, certain employee share awards made in 2015 under BG's Long-Term Incentive Plan were automatically exchanged for equivalent awards over shares in the Company. The outstanding awards take the form of either conditional awards or nil-cost options.

Under all plans, all shares that vest are increased by an amount equal to the notional dividends accrued on those shares during the period from the award date to the vesting date. In certain circumstances, awards may be adjusted before delivery or reclaimed after delivery. None of the awards result in beneficial ownership until the shares vest.

See Note 21 to the "Consolidated Financial Statements" on page 232.

RESTRICTED SHARE PLAN

Under the Restricted Share Plan, awards are made on a highly selective basis to senior staff. Shares are awarded subject to a three-year retention period. All shares that vest are increased by an amount equal to the notional dividends accrued on those shares during the period from the award date to the vesting date. In certain circumstances, awards may be adjusted before delivery or reclaimed after delivery.

GLOBAL EMPLOYEE SHARE PURCHASE PLAN

Eligible employees in participating countries may participate in the Global Employee Share Purchase Plan. This plan enables them to make contributions from net pay towards the purchase of the Company's shares at a 15% discount to the market price, either at the start or at the end of an annual cycle, whichever date offers the lower market price.

UK SHELL ALL EMPLOYEE SHARE OWNERSHIP PLAN

Eligible employees of participating Shell companies in the UK may participate in the Shell All Employee Share Ownership Plan, under which monthly contributions from gross pay are made towards the purchase of the Company's shares. For every six shares purchased by the employee, one matching share is provided at no cost to the employee.

UK SHARESAVE SCHEME

Eligible employees of participating Shell companies in the UK have been able to participate in the UK Sharesave Scheme. Options have been granted over the Company's shares at market value on the invitation date. These options are normally exercisable after completion of a three-year or five-year contractual savings period. From 2017 no further grants were made under this plan.

Separately, following the acquisition of BG, certain participants in the BG Sharesave Scheme chose to roll over their outstanding BG share options into options over the Company's shares. The BG option price (at a discount of 20% to market value) was converted into an equivalent Company option price at a ratio agreed with Her Majesty's Revenue and Customs. These options are normally exercisable after completion of a three-year contractual savings period.

Strategic Report signed on behalf of the Board

/s/ Linda M. Coulter

LINDA M. COULTER
Company Secretary
March 11, 2020

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THE BOARD OF ROYAL DUTCH SHELL PLC

CHARLES O. HOLLIDAY
Chair

Tenure

Chair – 4 years and 9 months (appointed Chair May 19, 2015). On Board – 9 years and 6 months (appointed September 1, 2010) (see page 113 for further information)

Board Committee membership

Chair of the Nomination and Succession Committee

Outside interests/commitments

Presiding Director of HCA Holdings, Inc. Director of Deere & Company. Member of the Critical Resource's Senior Advisory Panel. Member of the Royal Academy of Engineering (UK).

Age	Nationality
72	US citizen

Career
Charles (Chad) Holliday was appointed Chair of the Board of Royal Dutch Shell plc with effect from May 19, 2015.

He was Chief Executive Officer of DuPont from 1998 to 2009, and Chairman from 1999 to 2009. He joined DuPont in 1970 after receiving a BS in industrial engineering from the University of Tennessee and held various manufacturing and business assignments, including a six-year Tokyo-based posting as President of DuPont Asia/Pacific.

He has previously served as Chairman of the Bank of America Corporation, The Business Council, Catalyst, the National Academy of Engineering, the Society of Chemical Industry (American Section) and the World Business Council for Sustainable Development. He is a founding member of the International Business Council.

Relevant skills and experience
Chad has a distinguished track record as an international businessman. He was originally appointed to the Board as a Non-executive Director in September 2010 and, prior to his May 2015 appointment as Chair of the Board, served as Chair of the Safety, Environment and Sustainability Committee and Member of the Remuneration Committee.

He has a deep understanding of international strategic, commercial and environmental issues, and gained extensive experience in the areas of safety and risk management during his time with DuPont. In his role as Chair, Chad is committed to developing and maintaining a strong dialogue with investors and other key stakeholders and ensures that their views are considered during Board discussions and decision-making. He has also demonstrated a strong commitment to ensuring that the highest standards of corporate governance, safety, ethics and compliance are maintained. Chad is a particularly avid advocate of greater diversity, which is reflected in the Board's current diversity mix and increased diversity goals across the Shell Group.

Chad's performance was evaluated by the other Directors, led by Gerard Kleisterlee, Deputy Chair and Senior Independent Director, in 2019. More information on the external board evaluation process can be found on page 114.

GERARD KLEISTERLEE
Deputy Chair and Senior Independent Director

Tenure

9 years and 4 months (appointed November 1 2010). On January 29, 2020, the Board announced that Gerard Kleisterlee would not be seeking re-election at the 2020 Annual General Meeting.

Board Committee membership

Chair of the Remuneration Committee and member of the Nomination and Succession Committee

Outside interests/commitments

Chairman of Vodafone Group plc and Chairman of the Supervisory Board of ASML Holding N.V.

Age	Nationality
73	Dutch

Career
Gerard was President/Chief Executive Officer and Chairman of the Board of Management of Koninklijke Philips N.V. from 2001 to 2011. Having joined Philips in 1974, he held several positions before being appointed as Chief Executive Officer of Philips' Components division in 1999 and Executive Vice President of Philips in 2000.

He was a member of the Board of Directors of Dell Inc. from 2010 to 2013 and a member of the Supervisory Board of Daimler AG from 2009 to 2014. From 2014 to 2016, he was a Non-executive Director of IBEX Global Solutions plc.

Relevant skills and experience
Gerard is a Dutch businessman with a distinguished career with one of the largest electronics companies in the world. Through a variety of senior roles, he was responsible for operations in places such as China, Europe, Hong Kong, Taiwan. Gerard is also currently Chair of Vodafone, one of the UK's largest global companies, which provides services to more than 500 million customers.

Gerard's business experience provides him with a broad and deep understanding of the geopolitical, strategic and commercial challenges faced by an evolving business. His experience – gained at Philips, Dell and Vodafone, businesses that have seen significant changes in technology and consumer behaviour – has been a great asset to the Board as Shell transitions to a lower-carbon energy system.

Gerard is a skilled leader, making him ideally suited to his position as our Senior Independent Director, Deputy Chair and Chair of our Remuneration Committee. He raises the bar on the level of Board debate, with his insightful, concise and direct questions.

BEN VAN BEURDEN
Chief Executive Officer

Tenure
6 years and 2 months (appointed January 1, 2014)

Board Committee membership
N/A

Outside interests/commitments
No external appointments

Age
61

Nationality
Dutch

Career

Ben was Downstream Director from January to September 2013. Before that, he was Executive Vice President Chemicals from 2006 to 2012. In this period, he also served on the boards of a number of leading industry associations, including the International Council of Chemicals Associations and the European Chemical Industry Council. Prior to this, he held a number of operational and commercial roles in both Upstream and Downstream, including Vice President Manufacturing Excellence. He joined Shell in 1983, after graduating with a master's degree in chemical engineering from Delft University of Technology, the Netherlands.

Relevant skills and experience

Ben has more than 35 years of Shell experience and has built a deep industry understanding and proven management experience across the technical and commercial roles which he has undertaken over his career.

Since 2016, Ben has led Shell to deliver strong financial results, total shareholder returns and earnings per share. He also led Shell through ending the scrip dividend and the start of a $25 billion share buyback programme. Under his leadership Shell New Energies has been established and Shell has announced industry-leading initiatives in response to the global challenge of the energy transition to a lower-carbon future, including the introduction of Shell's Net Carbon Footprint ambition. Shell is now at the forefront of a cross-industry push to reduce the greenhouse gas impact of natural gas with the Methane Guiding Principles.

Ben led the Company through the acquisition and integration of BG Group, executed an impressive reshaping of our portfolio and completed a divestment programme of $30 billion of non-core assets, making the Shell Group simpler.

JESSICA UHL
Chief Financial Officer

Tenure
3 years (appointed March 9, 2017)

Board Committee membership
N/A

Outside interests/commitments
No external appointments

Age
52

Nationality
US citizen

Career

Jessica was Executive Vice President Finance for the Integrated Gas business from January 2016 to March 2017. Previously, she was Executive Vice President Finance for Upstream Americas from 2014 to 2015, Vice President Finance for Upstream Americas Unconventionals from 2013 to 2014, Vice President Controller for Upstream and Projects & Technology from 2010 to 2012, Vice President Finance for the global Lubricants business from 2009 to 2010, and Head of External Reporting from 2007 to 2009. She joined Shell in 2004 in finance and business development, supporting the Renewables business.

Prior to joining Shell, Jessica worked for Enron in the USA and Panama from 1997 to 2003 and for Citibank in San Francisco, USA, from 1990 to 1996. She obtained a BA from UC Berkeley in 1989 and an MBA at INSEAD in 1997.

Relevant skills and experience

Jessica is a highly regarded executive with a track record of delivering key business objectives, from cost leadership in complex operations to mergers and acquisitions delivery. Jessica's extensive experience combines an external perspective with more than 15 years of Shell experience: she has held finance leadership roles in Europe and the USA, in Shell's Upstream, Integrated Gas and Downstream businesses, as well as in Projects & Technology and Corporate.

Jessica's tenure as CFO has also been impressive. She was appointed not long after the BG acquisition, when Shell's debt, gearing and development costs were high and when the oil price was still recovering from the lower levels in 2016.

In these challenging conditions, but with great enthusiasm, clarity and discipline, Jessica has overseen Shell's delivery of industry leading cash flow from operating activities (for the 14th consecutive quarter at the end of 2019) and shareholder distributions ($25 billion in 2019). Jessica has also been a leading force for transparency in the energy industry, including on taxes and climate change. Under her tenure, Shell has continued to expand and enhance disclosures related to climate change in line with the Task Force on Climate-Related Financial Disclosures principles. Most recently, under her guidance, Shell published the Tax Contribution Report, which includes country-by-country report data, a standard set by the Organisation for Economic Co-operation and Development (OECD).

THE BOARD OF ROYAL DUTCH SHELL PLC continued

NEIL CARSON OBE
Independent Non-executive Director

Tenure
9 months (appointed June 1, 2019)

Board Committee membership
Member of the Safety, Environment and Sustainability Committee and member of the Remuneration Committee [A]

Outside interests/commitments
Non-executive Chairman of Oxford Instruments plc and TT Electronics plc [B]

Age
62

Nationality
British

Career
Neil is a former FTSE 100 chief executive. After completing an engineering degree, Neil joined Johnston Matthey in 1980 where he held several senior management positions in both the UK and the US, before being appointed Chief Executive Officer in 2004. Since retiring from Johnston Matthey in 2014, Neil has focused his time on his non-executive roles.

Relevant skills and experience
Neil is highly experienced, has a broad industrial outlook and a highly commercial approach with a practical perspective on businesses. He brings a track record of strong operational exposure, familiarity with capital-intensive business and a first-class international perspective on driving value in complex environments. Neil was awarded an OBE for services to the chemical industry in 2016. Neil has leveraged upon his current and past experience in non-executive positions and, despite being new to the Shell Board, he has already made significant contributions to Board discussions. He has also provided valuable insight based on his former executive position and operational experience.

[A] On January 29, 2020, the Board appointed Neil Carson as Chair of the Remuneration Committee with effect from May 20, 2020. Neil has been a member of this Committee since June 1, 2019 and has previously served on a Remuneration Committee before joining the Shell Board.
[B] On December 9, 2019 TTE plc announced Neil's intention to step down as Non-executive Director and Chair of TTE plc, once his successor has been found.

ANN GODBEHERE
Independent Non-executive Director

Tenure
1 year and 9 months (appointed May 23, 2018)

Board Committee membership
Chair of the Audit Committee

Outside interests/commitments
Fellow of the Institute of Chartered Professional Accountants and a Fellow of the Certified General Accountants Association of Canada.

Age
64

Nationality
Canadian and British

Career
Ann started her career with Sun Life of Canada in 1976 in Montreal, Canada, and joined M&G Group in 1981, where she served as Senior Vice President and Controller for both life and health, and property and casualty businesses throughout North America. She joined Swiss Re in 1996, after it acquired the M&G Group, and served as Chief Financial Officer from 2003 to 2007. From 2008 to 2009, she was interim Chief Financial Officer and an Executive Director of Northern Rock bank in the initial period following its nationalisation.

Ann has also held several non-executive director positions at Prudential plc, British American Tobacco plc, UBS AG, and UBS Group AG. Most recently, and until May 2019, Ann served as a Non-executive Director of Rio Tinto plc and Rio Tinto Limited. She was also Senior Independent Director of Rio Tinto plc.

Relevant skills and experience
Ann is a former CFO, a Fellow at the Institute of Chartered Professional Accountants, and has more than 25 years of experience in the financial services sector. She has worked her entire career in international business and has lived in or served on boards in nine countries. Ann makes significant contributions and adds exceptional value by bringing both her extensive experience and a new perspective to Board discussions.

Ann's long international business career brings with it an invaluable global perspective and understanding, which is reflected in the insights and constructive challenges she brings to the boardroom. Ann was appointed Chair of the Audit Committee on July 1, 2019, and has made significant contributions in this role. Her highly relevant skills, particularly in investment appraisal and financial risk management, have been a welcome addition to our Board and Audit Committee.

EULEEN GOH
Independent Non-executive Director

Tenure

5 years and 6 months (appointed September 1, 2014)

Board Committee membership

Member of the Nomination and Succession Committee [A]

Outside interests/commitments

Chairman of SATS Ltd. Non-executive Director of DBS Bank Ltd and DBS Group Holdings Ltd. Trustee of the Singapore Institute of International Affairs Endowment Fund. Chairman of the Governing Council of the Singapore Institute of Management and Non-executive Director of Singapore Health Services Pte Ltd, both of which are not-for-profit organisations.

Age

64

Nationality

Singaporean

Career

Euleen is an Associate of the Institute of Chartered Accountants in England and Wales, a Fellow of the Singapore Institute of Chartered Accountants and has professional qualifications in banking and taxation. She has held various senior management positions within Standard Chartered Bank and was Chief Executive Officer of Standard Chartered Bank, Singapore, from 2001 until 2006. She is also a Fellow of the Singapore Institute of Directors.

She has also held non-executive appointments on various boards including Aviva plc, MediaCorp Pte Ltd, Singapore Airlines Ltd, Singapore Exchange Ltd, Standard Chartered Bank Malaysia Berhad, Standard Chartered Bank Thai plc, CapitaLand Ltd and Temasek Trustees Pte Ltd. She was previously Non-executive Chairman of the Singapore International Foundation, and Chairman of International Enterprise Singapore and the Accounting Standards Council, Singapore.

Relevant skills and experience

Euleen's current roles as Chair of the Board of Directors of various international companies provide significant experience in the area of strategy development and international businesses. She is a champion of diversity and constructively challenges the Board and management to continue to progress in this area.

Based in Singapore and as Chair of the Risk Committee of the largest bank in south-east Asia, Euleen is close to key emerging/growth markets for our business. Euleen's risk management expertise has elevated the Board's deep deliberations around risk governance. Her extensive travel around the world, through her various executive and non-executive roles, has equipped her with broad geopolitical insight and significant knowledge of operating in the Asian region.

Euleen uses her financial acumen to pose probing and insightful questions, both in and beyond the boardroom. This contributes to well-rounded and incisive Board discussions.

[A] On January 29, 2020, the Board appointed Euleen Goh as Deputy Chair and Senior Independent Director with effect from May 20, 2020.

CATHERINE J. HUGHES
Independent Non-executive Director

Tenure

2 years and 9 months (appointed June 1, 2017)

Board Committee membership

Member of the Safety, Environment and Sustainability Committee and member of the Remuneration Committee

Outside interests/commitments

Non-executive Director of SNC-Lavalin Group Inc.

Age

57

Nationality

Canadian and French

Career

Catherine was Executive Vice President International at Nexen Inc., from January 2012 until her retirement in April 2013, where she was responsible for all oil and gas activities including exploration, production, development and project activities outside Canada. She joined Nexen in 2009 as Vice President Operational Services, Technology and Human Resources.

Prior to joining Nexen Inc., she was Vice President Oil Sands at Husky Oil from 2007 to 2009 and Vice President Exploration & Production Services, from 2005 to 2007. She started her career with Schlumberger in 1986 and held key positions in various countries, including France, Italy, Nigeria, the UK and the USA, and was President of Schlumberger Canada Ltd for five years. She was a Non-executive Director of Statoil from 2013 to 2015.

Relevant skills and experience

Catherine contributes her industry knowledge and ease of engagement with other Directors and managers in the boardroom. With her 30 years of oil and gas sector experience, she brings a geopolitical outlook and deep understanding of the industry. An engineer by training, she has also spent a significant part of her career working in senior human resources roles. The Board highly regards her perspectives on our industry and our most important asset, our people.

Catherine has a strong track record of executing operational discipline with a focus on performance metrics and a continual drive for excellence. Her knowledge of the technology underpinning oil and gas operations, logistics, procurement and supply chains benefits the Board greatly as it considers various projects and investment or divestment proposals.

She also uses her industry knowledge – combined with her commitment to the highest standards of corporate governance and safety, ethics and compliance – in her membership of our Safety, Environment and Sustainability Committee, while using her human resources experience in her membership of the Remuneration Committee.

THE BOARD OF ROYAL DUTCH SHELL PLC continued

ROBERTO SETUBAL
Independent Non-executive Director

Tenure

2 years and 5 months (appointed October 1, 2017) On March 11, 2020, the Board announced that Roberto Setubal would not be seeking re-election at the 2020 Annual General Meeting.

Board Committee membership

Member of the Audit Committee

Outside interests/commitments

Member of the board of the International Monetary Conference (IMC), the Economic and Social Development Council of the Presidency of Brazil, and the International Business Council of the World Economic Forum. He is also President of the Fundação Itaú Social and a member of the Executive Committee of the Instituto Itaú Cultural.

Age	Nationality
65	Brazilian

Career
Roberto was Chief Executive Officer and Vice Chairman of the Board of Directors of Itaú Unibanco Holding S.A. in Sao Paulo, Brazil, until April 2017. At that time, he retired as Chief Executive Officer and currently serves as Co-Chairman of the Board of Directors. Following a brief period with Citibank in New York, he joined Banco Itaú in 1984 where he held a variety of senior roles in investment banking, consumer credit operations and retail banking before being appointed Chief Executive Officer in 1994. After the merger of Banco Itaú and Unibanco, he was appointed to the position of President and Chief Executive Officer of Itaú Unibanco Holding S.A. Previously, he was a Non-executive Director of Petrobas S.A., President of the IMC and Vice-Chairman of the Institute of International Finance.

Relevant skills and experience
Roberto brings significant experience in capital markets and financial services to the Board and has a deep understanding of international strategic management, commercial operations and risk management. He was instrumental in designing and then executing a strategy that led to Itaú becoming the largest bank in Brazil.

His deep financial knowledge enables him to make robust, demanding and constructive challenges to our investment considerations and helps to ensure that projects are aligned with our strategic intent.

Despite spending most of his life in Brazil, Roberto has a strong understanding of global business. Naturally, he also brings an invaluable perspective and insight into operating in his native country, a key growth market for Shell. His contributions also demonstrate his strong advocacy for the highest standards of corporate governance, ethics and compliance. This, combined with his experience of operating in challenging markets, helps to deepen the Board's analyses of difficult matters with multi-faceted risks.

SIR NIGEL SHEINWALD GCMG
Independent Non-executive Director

Tenure

7 years and 8 months (appointed July 1, 2012)

Board Committee membership

Chair of the Safety, Environment and Sustainability Committee and member of the Remuneration Committee

Outside interests/commitments

Non-executive Director of Invesco Ltd and Raytheon UK. Senior Adviser to Tanium Inc. and to the Universal Music Group. Visiting Professor and Council Member of King's College, London.

Age	Nationality
66	British

Career
Sir Nigel was a senior British diplomat who served as British Ambassador to the USA from 2007 to 2012, before retiring from the Diplomatic Service. Prior to this, he served as Foreign Policy and Defence Adviser to the Prime Minister and as British Ambassador and Permanent Representative to the European Union in Brussels. He joined the Diplomatic Service in 1976 and served in Brussels, Moscow, Washington and in a wide range of policy roles in London. Since 2012, he has taken on a number of international business roles, and has supported organisations involved in higher education and international affairs.

Relevant skills and experience
Sir Nigel's distinguished track record including three of the most senior international roles in British public service has given him broad geopolitical and public policy experience, as well as knowledge of regulatory issues, communications and stakeholder management. He has a global and strategic outlook which enables him to identify emerging issues that could present geopolitical or reputational challenges.

Sir Nigel brings a unique government policy perspective to our strategic discussions particularly on topics such as the energy transition, that are strongly influenced by the views of governments and a complex range of interested parties. His many contributions to the Board on this and other strategic and operational topics often reflect the interconnections between geopolitics, business and external stakeholder engagement.

He is used to operating in challenging environments and is committed to active external engagement. This, and his understanding of public policy and regulatory issues through his career in government service and membership of think tank and university boards, makes him well suited to the role of Chair of our Safety, Environment and Sustainability Committee.

LINDA G. STUNTZ
Independent Non-executive Director

Tenure

8 years and 9 months (appointed June 1, 2011)
On January 29, 2020, the Board announced that Linda G. Stuntz would not be seeking re-election at the 2020 Annual General Meeting.

Board Committee membership

Member of the Safety, Environment and Sustainability Committee and member of the Nomination and Succession Committee

Outside interests/commitments

Director of Edison International.

Age	Nationality
65	US citizen

Career
Linda retired from her position as founding partner of the law firm of Stuntz, Davis & Staffier, P.C. in January 2019. She was a member of the US Secretary of Energy Advisory Board from 2015 to 2017. She chaired the Electricity Advisory Council of the US Department of Energy from 2008 to 2009. Linda was a member of the board of Directors of Schlumberger Ltd from 1993 to 2010 and of Raytheon Company from 2004 to 2015.

From 1989 to 1993, she held senior policy positions at the US Department of Energy, including Deputy Secretary.

Relevant skills and experience
Linda's Harvard legal training and deep practical legal experience bring unique and valuable expertise in energy-industry and environmental law, as well as extensive public policy experience, to our Board. This is conveyed through her in-depth knowledge of the gas and power industries and her work on issues related to climate change and energy-related measures to minimise greenhouse gas emissions.

As a board director of publicly traded companies for more than 25 years, Linda has provided strategic and legal advice to many energy companies and has substantial experience in overseeing and working with businesses with operations around the world. She has a broad understanding of technology and its development/commercialisation within our industry, from her work with the US government and on the Schlumberger board. She has significant knowledge and understanding of cyber risks as a result of her Raytheon and Edison International board service.

Linda's unique background, coupled with her exceptional ability to frame clear questions that tackle the key points of complex issues, helps deepen the Board's constructive challenges and considerations of critical industry-related matters, particularly those related to the energy transition.

GERRIT ZALM
Independent Non-executive Director

Tenure

7 years and 2 months (appointed January 1, 2013)

Board Committee membership

Member of the Audit Committee and member of the Remuneration Committee

Outside interests/commitments

Director of Moody's Corporation inc and Danske Bank A/S

Age	Nationality
67	Dutch

Career
Gerrit was an adviser to PricewaterhouseCoopers during 2007, Chairman of the Trustees of the International Accounting Standards Board from 2007 to 2010, and an adviser to Permira from 2007 to 2008. He was Chief Economist of DSB Bank from July 2007 to January 2008, Chief Financial Officer from January 2008 to December 2008, and Chairman of the Managing Board of ABN AMRO Bank N.V. from 2010 to 2016. He was Minister of Finance of the Netherlands, twice, from 1994 to 2002 and from 2003 to 2007. In between, he was Chairman of the parliamentary party of the VVD.

Prior to 1994, he was head of the Netherlands Bureau for Economic Policy Analysis, a professor at Vrije Universiteit Amsterdam, and held various positions at the Ministry of Finance and the Ministry of Economic Affairs. He studied general economics at the Vrije Universiteit Amsterdam, from where he also received an honorary doctorate in economics.

Relevant skills and experience
An economist by background, Gerrit's distinguished 12-year service as the Minister of Finance to the Netherlands, coupled with his experience gained from his time with ABN AMRO Bank, brings a deep and valuable understanding of Dutch politics and financial markets to the Board. His international financial management expertise and strategic development experience also benefits the Audit Committee.

A highly regarded and seasoned leader in both the public and private spheres, his significant experience in analysing financial commitments from a wider public stakeholder and a global business standpoint serves the Board well, particularly when considering investment proposals. Gerrit consistently and concisely articulates the logic and reasoning behind his views, benefiting the Board and management. His questions often trigger other analytical questions from fellow Directors, which serves to deepen and widen Board discussions.

THE BOARD OF ROYAL DUTCH SHELL PLC continued

LINDA M. COULTER
Company Secretary

Tenure
3 years and 2 months (appointed January 1, 2017)

Age
52

Nationality
US citizen

Career

Linda was General Counsel of the Upstream Americas business and Head of Legal US, based in the USA, from 2014 to 2016. Previously, she was Group Chief Ethics & Compliance Officer based in the Netherlands from 2011 to 2014. Since joining Shell in 1995, she has also held a variety of legal positions in the Shell Oil Company in the USA, including Chemicals Legal Managing Counsel and other senior roles in employment, litigation, and commercial practice.

Relevant skills and experience

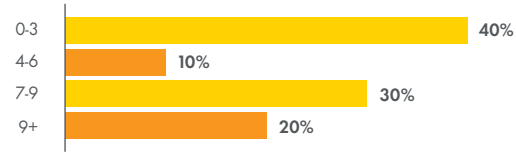
Linda is our Company Secretary and plays an important role as Shell's General Counsel Corporate, overseeing corporate legal teams in Belgium, Canada, the Netherlands, Switzerland, the UK and the USA.

The various legal roles Linda has undertaken at our headquarters, and in supporting both the Upstream and Downstream businesses, have provided her with a strong understanding of our global operations and people. Her experience of engaging with the Board in previous roles, coupled with her broad understanding and engagement across Shell's businesses and functions, helps to ensure that the right matters come to the Board at the right time.

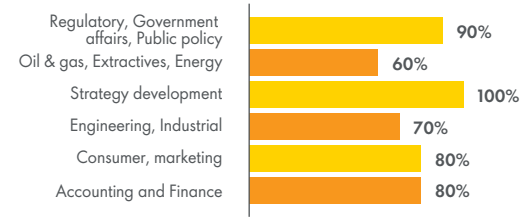
BOARD DIVERSITY

Gender diversity

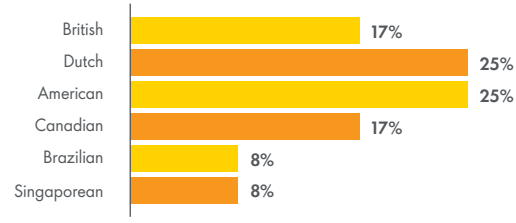
Non-executive Director tenure (years)



Non-executive Director sector experience



Director nationality



ATTENDANCE

Board meeting attendance for 2019 is provided below in the table [A]. The Board held eight scheduled meetings in 2019.

[A] For attendance at Committee meetings during the year, please refer to individual Committee Reports.
[B] Ben van Beurden was not able to attend one Board meeting due to illness. He reviewed the key agenda topics and had a discussion with the Chair prior to the Board meeting. He also conveyed his opinions and comments on the matters to be considered via the Chairman of the Board.
[C] Neil Carson joined the Board in June 2019. Ahead of his appointment, he attended the Board meeting in May 2019. This is not reflected in the table as his appointment was not effective until June 1, 2019. Neil was unable to attend the Board meeting in October due to an immovable commitment which was scheduled prior to his appointment to the Shell Board.

Board Member	Meetings attended
Ben van Beurden[B]	7/8
Neil Carson[C]	3/4
Ann Godbehere	8/8
Euleen Goh	8/8
Charles O. Holliday	8/8
Catherine J. Hughes	8/8
Gerard Kleisterlee	8/8
Roberto Setubal	8/8
Sir Nigel Sheinwald	8/8
Linda G. Stuntz	8/8
Jessica Uhl	8/8
Gerrit Zalm	8/8

DIRECTOR INDEPENDENCE

All the Non-executive Directors are considered by the Board to be independent in character and judgement. The Chair is not subject to the Code's independence test other than on appointment.

SENIOR MANAGEMENT

The Senior Management of the Company comprises the Executive Directors, Ben van Beurden and Jessica Uhl, and those listed below. All are members of the Executive Committee (see "Governance Framework" on page 117).

HARRY BREKELMANS
Projects & Technology Director

Tenure
5 years and 5 months (appointed October 2014)

Age	Nationality
54	Dutch

Career
Harry was previously Executive Vice President for Upstream International Operated based in the Netherlands. He joined Shell in 1990 and has held various management positions in Exploration and Production, Internal Audit, and Group Strategy and Planning. From 2011 to 2013, he was Country Chair Russia and Executive Vice President for Russia and the Caspian region.

DONNY CHING
Legal Director

Tenure
6 years and 1 month (appointed February 2014)

Age	Nationality
55	Malaysian

Career
Donny was previously General Counsel for Projects & Technology based in the Netherlands. He joined Shell in 1988 based in Australia and then moved to Hong Kong and later to London. In 2008, he was appointed Head of Legal at Shell Singapore, having served as Associate General Counsel for Gas & Power in Asia-Pacific.

RONAN CASSIDY
Chief Human Resources & Corporate Officer

Tenure
4 years and 2 months (appointed January 2016)

Age	Nationality
53	British

Career
Ronan was previously Executive Vice President Human Resources, Upstream International. He joined Shell in 1988 and has held various human resources positions in Upstream and Downstream.

WAEL SAWAN
Upstream Director

Tenure
8 months (appointed July 2019)

Age	Nationality
45	Lebanese and Canadian

Career
On July 1, 2019, Wael succeeded Andy Brown as Upstream Director and was appointed to the Executive Committee.

Wael was previously the Executive Vice President, Deep Water and a member of the Upstream Leadership Team. He joined Shell in 1997 and has worked in a variety of roles in each of Shell's core business units: Upstream, Integrated Gas and Downstream.

SENIOR MANAGEMENT continued

HUIBERT VIGEVENO
Downstream Director

Tenure
2 months (appointed January 2020)

Age
50

Nationality
Dutch

Career
On January 1, 2020, Huibert succeeded John Abbott as Downstream Director and was appointed to the Executive Committee.

Huibert was previously Executive Vice President Global Commercial. He joined Shell in 1995 and led many Downstream businesses across Shell in Europe, Africa, North and South America, and Asia. This included acting as Executive Chairman of Shell in China, and in 2016 leading the integration of BG Group.

MAARTEN WETSELAAR
Integrated Gas and New Energies Director

Tenure
4 years and 2 months (appointed January 2016)

Age
51

Nationality
Dutch

Career
Maarten was previously Executive Vice President of Integrated Gas based in Singapore. He joined Shell in 1995 and has held various financial, commercial and general management roles in Downstream, Trading and Upstream.

2019 LEAVERS

JOHN ABBOTT
Downstream Director until December 2019 (appointed October 2013)

ANDREW BROWN
Upstream Director until June 2019 (appointed January 2016)

INTRODUCTION FROM THE CHAIR

CHAD HOLLIDAY
Chair

As communicated at the start of this Annual Report, and reflected in the reported results, 2019 was not an easy year for the sector in which we operate. The year provided a tough macroenvironment, lower Liquified Natural Gas (LNG) and gas prices, as well as weaker realised refining and chemicals margins. As we look forward, we see continued risk from the difficult-to-predict outcomes of the trade conflicts in some regions, uncertainties within Europe over post-Brexit arrangements, the slowdown and vulnerability of some markets and regional geopolitical tensions. However, we also see robust economic growth in some regions and stronger than expected cyclical recoveries.

Society is also changing, which we welcome, accelerating its perspective on what companies should be doing, increasing the pressure and encouraging us to rise to the challenges ahead as the world moves to an environment supported by lower-carbon energy products. Shell agrees with the importance attached by its stakeholders to the issue of climate change and Shell's future success depends on effectively navigating the risks, opportunities and uncertainties presented by the energy transition. All businesses, governments, and even individuals must work together and have a role to play in shifting demand away from carbon-intensive resources. However, oil and gas will not only be needed by some parts of society for many decades to come, they are key cash generators that support our investment through the energy transition and underpin delivering our ambitions aligned to the goals of the Paris Agreement while providing a world-class investment case to Shell's investors.

BOARD LEADERSHIP AND SHELL'S PURPOSE

The UK Corporate Governance Code (the "Code") provides that the Board should promote the long-term sustainable success of Shell, generating value for shareholders and contributing to wider society. The Board believes that Shell's efforts give it an effective framework to play its part in the energy transition as a growing, successful, commercial organisation. In the Board's view, this framework will allow Shell to provide the energy solutions that consumers will want and buy through this period of uncertain change. The Board also thinks that Shell will be able to reduce the carbon intensity of the energy products it supplies.

The Code asks us to report on our business purpose, which is provided at the start of this Report. However, we have carried the concept of purpose through other reporting areas to provide a further understanding of our operations and the benefits of particular activities.

The key themes of the Code are used in this Report to form the framework for articulating our narrative and we have sought to provide a genuine understanding of how governance supports and protects the business and our stakeholders.

The impact of the Code on Shell's existing governance processes and reporting practices, as well as certain implementation recommendations, were reviewed and considered by the Nomination and Succession Committee, at the end of 2018 and over the course of 2019. Its findings were then discussed and agreed with the Board. Overall, it was considered that while Shell was already applying the principles and the spirit of the Code, the Board recognises that enhanced reporting in this area could help make this clearer for stakeholders. The Board's approach to certain provisions (as explained in further detail below) is considered appropriate, when taking into account circumstances based on a range of factors that are particular to Shell, including its global nature, size, complexity and history. To provide greater insight into our current governance practices, we have highlighted some provisions on page 115, and signposted where more information can be found in the report and, where possible, explain how we see our practices evolving over time.

The importance of stakeholder engagement has received greater external focus in recent years. Given the nature of our business, engagement is considered key to our operations and has been a key focus for some time. How and why we engage with our stakeholders is also provided on page 122. The Board's discharge of its duty in relation to key stakeholder interests, including those of our workforce, and an explanation of how it considered these when making principal decisions is set out on page 124 in the Strategic Report. Additionally, on page 120 we provide information on our Board activities and highlight which stakeholder we considered. We have also enhanced our reporting on our workforce engagement methods. We believe that constructive relationships built on mutual respect and transparency helps Shell attract and retain employees while supporting greater productivity and operational efficiency. Ensuring that the employee voice is heard in the boardroom in practical ways is key to understanding the broader impact of business decisions including with respect to company culture.

The Board clearly recognises the importance of culture and its link to delivering Shell's purpose and strategy. Given our culture's importance it requires long-term commitment. The Board believes that our people and safety culture is strong, something we take pride in. Moreover, our culture reflects the values of the business – honesty, integrity and respect for people – which underpin all the work we do and is embedded within our Strategy and Purpose.

DIVISION OF RESPONSIBILITIES

How the Board and its Committees support the business operations is provided on page 117 with more detail within the Terms of Reference for each Committee, which are provided on our website. Each year the Board Committees' Terms of Reference are reviewed and updated, as required. This year we have also changed the name of our Corporate Social Responsibility Committee to the Safety, Environment and Sustainability Committee (SESCo), reflecting the Committee's focus on safety and environmental matters, including climate change and sustainability. The updates have been made in consideration of external developments.

The importance of independent judgement on the Board is a fundamental governance principle and one supported by the Board. The Code provides circumstances that it considers are likely to impair, or could appear to impair, a Non-executive Director's independence, and tenure is one of these. At the time of the 2020 Annual General Meeting (AGM), Gerard Kleisterlee, Senior Independent Director, will reach a tenure of nine years since his appointment to the Board by shareholders. However,

INTRODUCTION FROM THE CHAIR continued

as he was appointed to the Board by the Directors some seven months ahead of his first election by shareholders, his independence for the period of October 2019, to the 2020 AGM requires deeper evaluation under a new Code provision. Within our statement of compliance with the Code on page 115 we provide the questions the Board considered when testing Gerard's independence.

COMPOSITION, SUCCESSION AND EVALUATION

The Director biographies in this Report provide insight into our Directors' careers, skills and experience. Further, our Board diversity reporting extends past gender and nationality, and outlines the varying sector experience across the Board.

At the 2019 AGM, Neil Carson was elected to the Board by shareholders. An overview of his induction programme is provided on page 120. At the end of the 2020 AGM, both Gerard Kleisterlee, Senior Independent Director, and Linda Stuntz, Independent Non-executive Director will retire from the Board after nine years of service. They both leave strong leadership track records, and the Board is deeply grateful for their many years of dedicated commitment to the business. As we announced on January 29, 2020, Euleen Goh will become Deputy Chair and Senior Independent Director when Gerard retires and Neil Carson will become Chair of our Remuneration Committee.

The Board completed its annual performance evaluation in December 2019, which was facilitated externally. The process again proved to be a valuable exercise, generating reflective discussions and planned actions. The process was led by me and undertaken by Independent Board Evaluation. On page 120 we have sought to provide insight into the process, the outcome and some of the areas we plan to enhance.

One of the Code provisions introduces a recommended nine-year limit to the tenure of the Board Chair. As this is a provision directly relating to me, our Senior Independent Director, Gerard Kleisterlee, provides an explanation on page 115 of how the Board considered this provision and when the Board proposes that my tenure concludes.

AUDIT, RISK MANAGEMENT AND INTERNAL CONTROL

The Audit Committee assists the Board in maintaining a sound system of risk management and internal control and oversight over Shell's financial reporting. A variety of standing matters and more specific topics are discussed by the Audit Committee throughout the year. As part of the year-end reporting process, the Audit Committee advises the Board on the adequacy of the system of risk management and internal control in place, the appropriateness of the viability statement and going concern basis of accounting. The Audit Committee also advises on whether this Report, taken as a whole, is fair, balanced and understandable and provides the information necessary for stakeholders to assess Shell's position and performance, business model and strategy. More information on the Audit Committee's activities, highlights and priorities can be found in its report on page 132.

REMUNERATION

In 2020, shareholders will vote on our revised Directors' Remuneration Policy. Under the new Policy, we have focused on simplifying remuneration structures to improve clarity and transparency while maintaining the existing connection with our business strategy. In keeping with recent governance developments and societal views, we are placing increasing emphasis on the discretionary management of pay to ensure reward outcomes are appropriate. We will also be asking shareholders to vote on the energy transition metric which links reward with our ambitions to reduce our Net Carbon Footprint. Further information can be found on page 163.

Finally, we hope that this new format of document provides a clearer format for our reporting and enhances the understanding of our governance processes for our stakeholders. I would also again like to thank my fellow Directors, my colleagues and our workforce around the world for their continued and considerable efforts to the success of the Company.

CHAD HOLLIDAY
Chair
March 11, 2020

CHANGES TO OUR REPORTING

To assist with providing stakeholders greater insight into Board operations and the governance activities that support the business, we have chosen to split the UK-governed Annual Report from the US-governed Form 20-F. The key strategic messages continue to be provided within both documents. We are now at the start of a journey with the Annual Report and are seeking to adopt a practical approach that is more responsive to the requests of our readers. To avoid duplication, and excessive cross referencing, **the Directors' Report now spans the governance section of this report from page 104 to page 171**. It provides the necessary governance assurances and confirmations, and focuses on the factors that we believe will be of most interest to readers and important to the long-term prospects of Shell.

As society changes we are committed to changing the business to support it and, with this, become more transparent in our operations and the information that we share, especially when working to earn and maintain trust. Building on our disclosures from 2019, such as our Industry Associations Report, the enhancement of our quarterly financial disclosures and our Tax Contribution Report (available on the Shell website). We have also sought to share more information in this Report on Shell's ways of working and how the Board operates.

STATEMENT OF COMPLIANCE WITH THE UK CORPORATE GOVERNANCE CODE

The Board confirms that, throughout the year, the Company has applied the Principles, both in spirit and in form, and complied with the provisions set out in the UK Corporate Governance Code issued by the Financial Reporting Council (FRC) in July 2018 ("the Code"). A copy of the Code can be found on the FRC's website: www.frc.org.uk.

Shell's governance arrangements have been considered alongside the Code. The information set out in the Directors' Report, including the Board Committee Reports on (pages 126-127, 128, 129-134 and 135-138) is intended to provide an explanation of how the Principles of the Code were applied practically throughout the year. We have also chosen to provide information below where we believe stakeholders may benefit from a more specific explanation on particular Code provisions.

Chair Tenure (Provision 19)

Note: The text relating to Chair tenure is provided by Gerard Kleisterlee, Senior Independent Director.

Charles O. Holliday (Chad) was appointed as Chair in 2015 after four and a half years on the Board as a Non-executive Director. In September 2019, he reached a tenure of nine years.

The provisions of the Code address Chair tenure and provide a limit of nine years from the date of first appointment to the Board. However, the Code pragmatically acknowledges that this period can be extended for a limited time to facilitate orderly, effective succession planning and the development of a diverse board. In the 2018 Annual Report and Form 20-F we highlighted that Chad's tenure had been discussed in numerous shareholder engagements and it was disclosed that shareholders were supportive of the extension of his tenure to the 2021 AGM. This meets the Code's limited exception, particularly as the Chair was an existing Non-executive Director on appointment. The Board also takes comfort from the support for Chad's re-election at the 2019 AGM (96% votes in favour) and ongoing support from shareholders.

The Board continues to believe that retaining Chad on the Board and in the position of Chair until the 2021 AGM is right for the business. The Board is confident that this facilitates more effective phasing of his succession. As stated last year, and agreed by shareholders, an earlier departure would be disruptive and could leave a significant deficiency in Shell's corporate knowledge when taking into account the forthcoming departures of other long-serving Directors: both myself and Linda Stuntz.

The Board believes that Chad remains an effective Chair, which was strongly recognised in the independent evaluation of the Board. Although the Board will continue to assess his objectivity, the Board is assured that Chad will continue to exercise objective judgment, despite his tenure surpassing nine years. The Board finds that the continuity of his corporate knowledge and experience is essential to complement and support the new skills and experience of Director appointments of the last few years, as well as those that we will need to make in the coming year.

Chad's innate understanding and knowledge of the Shell Group, coupled with the strong Shell relationships he has established, are appreciated and highly valued by the Board. His skills enable him to effectively challenge management and coach other, particularly new, Non-executive Directors on the intricacies and nuances of the business, thereby better equipping them to effectively challenge management and enhance overall governance. The Board has also achieved increased diversity under Chad's leadership as Chair. Chad's leadership of the Board through to 2021 is critical to the Board's effective succession planning through the short term.

Director Independence (Provision 10)

As referenced in the Chair's statement, Gerard Kleisterlee has served on the Board for more than nine years, having joined in November 2010. The Board acknowledges the potential impairment of his independence owing to his length of tenure, as outlined in a Code provision. In the Board's view, there has been no notable negative change in Gerard's performance as a Director and in his various Board roles in recent years. The Board continues to regard him as an independent Non-executive Director and undertook a rigorous evaluation to reach this conclusion. Gerard did not participate in his own assessment.

The result of this assessment was positive and given that Gerard's independence is only questioned by one of the seven parameters outlined in the Code, the Board has determined that he remains independent. The Directors have also observed that Gerard continues to be independent of mind and will. He regularly leverages his deep understanding and knowledge of the Shell Group and insightful perspectives based on his corporate memory, coupled with his external background and knowledge to enrich Board discussions while also providing objective judgement and effective challenge to management and the wider Board. Gerard's fellow Directors have also noted, during the evaluation, that he uses his skills and experience to assist the Chair in driving productive discussions and offers considered advice based on objective judgement. The continuity of his Board tenure, corporate knowledge and experience has complemented and supported the skills and experience of relatively newer Director appointments over the years, including those of the Chief Executive and Chief Financial Officers.

ASSESSING DIRECTOR INDEPENDENCE

The following questions were used to assess Gerard's independence:

- Was the Director's re-election supported at the last AGM? Did the level of support, or communication from investors ahead of the AGM indicate concern about the Director's independence?
- Have the conferred interests of other Directors or management unduly influenced behaviour or approach to decision-making?
- How has any potential influence – as a result of familiarity amongst Directors and between Directors and management who have served together for more than the nine years – been avoided?
- How proactive is the Director? Have they stood themselves apart from, or avoided, any potential influence when making decisions?
- Where good working relationships with fellow Directors and management have been developed, are these strictly professional and limited to work-related matters only? Are there any known situations where they have attended the same events in a non-Shell-related capacity and in what context?
- Has the Director previously been involved in the industry in which the Company operates? Is there a network of contacts that could reduce the ability to be objective or contaminate their views?
- Are the views and opinions of Directors and management challenged appropriately and at what frequency?
- Have there been circumstances when the Board is reaching consensus, but the Director has not been afraid to speak up or offer an alternative view?
- Are boardroom behaviours indicative of a strong culture of collaboration, but with robust debate, and in a way that means no one Director dominates discussions?
- How is the Board satisfied that there is no reliance on one or certain viewpoints and that there is inclusive, diverse-thinking boardroom culture?
- How has performance as a Director and, where relevant, performance in a particular role or duty changed over recent years, and since reaching more than nine years of service?

STATEMENT OF COMPLIANCE WITH THE UK CORPORATE GOVERNANCE CODE continued

Workforce engagement (Provision 5)

Our people are essential to the successful delivery of the Shell strategy, and the Board recognises the importance of understanding their views through engagement. However, the size and diversity of our employee base as well as that of our wider workforce complicates the feasibility of implementing any of the three specific workforce engagement methods recommended in the Code. Given the required coverage needed for a global organisation such as ours, the Board believes that its current approach to workforce engagement continues to be pragmatic and effective.

However, the Board has also decided that in 2020 it will increase its direct engagements when the Board, Committees and individual Directors visit our sites across the world and its indirect engagements through enhanced stakeholder engagement information in relevant management reports. The Board also agreed to keep under review the effectiveness of the engagements. More information on the current approach and a description of the channels used by the Board, its Committees, and the Executive Committee are outlined in "Workforce engagement" on pages 124-125.

Appointment of independent Non-executive Director as Senior Independent Director (Provision 12)

Information on the independence of the appointed Senior Independent Director, at the date of publication, is explained under the "Director Independence" heading on the previous page. As provided earlier in this report, Euleen Goh will succeed Gerard in this role following the 2020 AGM, subject to her reappointment by shareholders. Details on succession planning and the work of the Nomination and Succession Committee is contained on pages 126-127.

Composition of the Remuneration Committee (Provision 32, independence)

The Remuneration Committee has five Non-executive Directors making up its membership, four of which are deemed to be independent under the parameters of the Code, and the fifth (Gerard Kleisterlee) is considered to be independent by the Shell Board for the reasons provided in its explanation. Remuneration Committee members have served this Committee for periods ranging from over two years to just over five years, the exception being Neil Carson, who joined the Board and Remuneration Committee on June 1, 2019. As announced on January 29, 2020, Neil Carson will succeed Gerard in the role of Committee Chair following the 2020 AGM, subject to his reappointment by shareholders. Neil has been a member of this Committee since June 1, 2019 and has previously served on a remuneration committee before joining the Shell Board. Having Gerard remain as Committee Chair beyond his nine-year tenure to the natural conclusion of his tenure at the 2020 AGM was a practical step promoting smooth succession. Further details on the composition of the Remuneration Committee are provided on page 139 of the Remuneration Committee Report.

Corporate governance requirements outside the UK

In addition to complying with applicable corporate governance requirements in the UK, the Company complies with the rules of Euronext Amsterdam as well as Dutch securities laws because of its listing on that exchange. The Company likewise adheres to US securities laws and the New York Stock Exchange (NYSE) rules and regulations because its securities are registered in the USA and listed on the NYSE.

GOVERNANCE FRAMEWORK

BOARD OF DIRECTORS

Chair

- Responsible for ensuring that the Board and its Committees function effectively. One way in which this is achieved is by ensuring Directors receive accurate, timely and clear information; and
- Responsible for making sure that there is an adequate induction and training programme followed by all Directors (see page 127 below), with assistance from the Company Secretary.

Board

- Promotes the long-term sustainable success of the Company, generating value for shareholders and contributing to wider society as detailed throughout our Strategic Report;
- Meets eight times a year and has a formal schedule of matters reserved to it;
- Responsibilities include:
  - Approval of overall strategy and oversight of management;
  - Changes to the corporate and capital structure;
  - Approval of financial reporting and controls (including approval of the Annual Report and Accounts, approval of the Annual Report on Form 20-F, and interim dividends);
  - Oversight of risk management and internal control;
  - Approval of significant contracts;
  - Determining succession planning and new Board appointments;
  - Remuneration for the Chair and Executive Directors; and
  - Corporate governance matters.

Roles and responsibilities

- The roles of the Chair, a non-executive role, and the CEO are separate and clearly defined. The Board has agreed their respective responsibilities and set these out in writing. These are available on request from the Company Secretary.

Board Committees

Audit Committee

- Carries out certain oversight functions on behalf of the Board; and
- Assists the Board in fulfilling its responsibilities in relation to internal control and financial reporting.

More information on the Committee's composition and its role and activities during the year are on pages 130-133.

Safety, Environment and Sustainability Committee [A]

- Carries out certain oversight functions on behalf of the Board; and
- Advises the Board on safety, the environment including climate change, and Shell's overall sustainability performance.

More information on the Committee's composition and its role and activities during the year are on page 128.

Nomination and Succession Committee

- Leads the process for appointments to the Board;
- Recommends Board appointments and re-appointments;
- Reviews and makes recommendations on succession planning; and
- Reviews and makes recommendations on corporate governance guidelines.

More information on the Committee's composition, and its role and activities during the year, including its recommendations made to the Board on the application of the Code, are on pages 126-127.

Remuneration Committee

- Determines and agrees with the Board the remuneration policy for the Chair, Executive Directors and senior management of the Company;
- Within the terms of such agreed policy, determines individual remuneration packages for the Chair, and Executive Directors; and
- Monitors and makes recommendations regarding the structures and levels of remuneration structures and levels for other senior executives, if appropriate.

More information on the Committee's composition, and its role and activities during the year are on page 139.

[A] Formerly known as the Corporate and Social Responsibility Committee.

From time to time the Board may create other special ad-hoc Committees to monitor and/or approve certain matters. One such Committee is the Nigeria Special Litigation Committee, which among other things, monitors the status of the OPL-245 litigation and investigations. Its members consist of Linda Stuntz (Chair), Chad Holliday, Euleen Goh and Ann Godbehere.

GOVERNANCE FRAMEWORK continued

BOARD OF DIRECTORS continued

Deputy Chair/Senior Independent Director

- Sounding board for the Chair;
- Serves as an intermediary for the other Directors and shareholders; and
- Leads the annual appraisal of the Chair's performance.

Non-executive Directors

- Appointed by the Board or by shareholders at general meetings and, in accordance with the Code, seek re-election by shareholders on an annual basis;
- Letters of appointment refer to a specific term of office, the provisions of the Code and the Company's Articles of Association;
- Upon appointment, Non-executive Directors confirm they are able to allocate sufficient time to meet the expectations of the role. Appointments are subject to a minimum of three months' notice of termination, and there is no compensation provision for early termination;
- The Non-executive Directors bring a wide range and balance of skills and international business experience. Through their contribution to the Board and Board Committee meetings, respectively, they are expected to challenge and help develop proposals on strategy and bring independent judgement on issues of performance and risk; and
- Before each Board meeting, the Chair and Non-executive Directors meet without the Executive Directors being present. At these "pre-meetings", the Non-executive Directors discuss, among other matters, the performance of individual Executive Directors. A number of Non-executive Directors also meet major shareholders over the course of the year.

EXECUTIVE MANAGEMENT

Chief Executive Officer

- Has overall responsibility for the implementation, by the Executive Committee, of the overall strategy approved by the Board, the operational management of the Company and the business enterprise connected with it; and
- Supported in this by the Executive Committee that he chairs.

Executive Committee

- Operates under the direction of the Chief Executive Officer (CEO) in support of his responsibility for the overall management of Shell's business. The CEO has final authority in all matters of management that are not within the duties and authorities of the Board or of the shareholders' general meeting; and
- Executive Committee members are listed in the senior management biographies on page 111.

GOVERNANCE DOCUMENTS

- Articles of Association
- Matters Reserved for the Board
- Board Committee Terms of Reference
- Modern Slavery Statement
- Shell General Business Principles
- Shell Code of Conduct
- Code of Ethics for Executive Directors and Senior Financial Officers

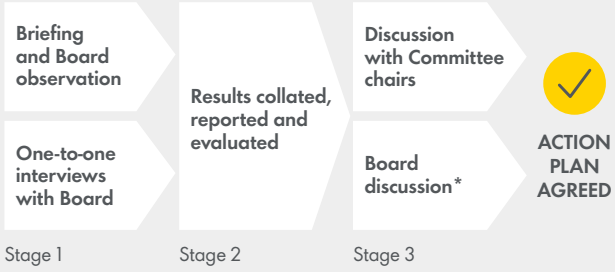
Are available on the website
www.shell.com/investor

BOARD EVALUATION AND ACTIVITIES

The evaluation of the Board was conducted according to the guidance in the Code and was facilitated by Ffion Hague at Independent Board Evaluation. [A]

[A] Ffion Hague and Independent Board Evaluation have no connection or relationship to the Company or to any Director.

Board review process



Note: The above activities were undertaken by Ffion Hague of Independent Board Evaluation.
*Ffion Hague also attended the Board discussion.

Discussion and observation (Stage 1)

A comprehensive brief was given to the assessment team by the Chair in September 2019. The evaluation team also observed Board and Committee meetings in October 2019. Copies of all pre-read materials were provided to the evaluation team, for briefing purposes, ahead of the meeting.

In October and November 2019, detailed interviews were conducted with every Director. All participants were interviewed by Ffion according to a set agenda tailored for the Board. Ffion was supported by her colleague for each interview. In addition, Ffion interviewed each Executive Committee member and the Company Secretary.

Analysis (Stage 2)

A report was compiled by the evaluation team based on the information and views supplied by the Board and other interviewees. All views or comments quoted in the report were made by participants during interviews. All recommendations were based on best practice as described in the Code and other current corporate governance guidelines.

Conclusions (Stage 3)

Draft conclusions were discussed with the Chair and subsequently discussed with the whole Board at a meeting in December 2019 with Ffion present. The conclusions of that discussion were recorded in the minutes of the meeting. Following the Board meeting, Ffion gave feedback to Committee Chairs on the performance of each Committee and discussed the report on the Chair's performance with Gerard Kleisterlee, the Senior Independent Director. In addition, the Chair received a report on individual Directors and provided individual feedback to every Director on their contributions. In January 2020, Gerard led a separate discussion in relation to the performance of the Chair (in the absence of the Chair).

Insight

The feedback from Board Directors was positive throughout, with particular praise for the culture of the Board and the leadership provided by both the Chair and the Chief Executive Officer. Although areas of Board work were identified for improvement, the Evaluation Report clarified that such improvements were to fine-tune versus radically overhaul the Board's performance.

Feedback themes included noting the strength of the relationship between the Board and management team, the Board process and the Board's confidence in the Management.

Accountability – Board Directors are aware of their accountability to a range of stakeholders including shareholders, employees, communities and society at large; and conscious of the societal scrutiny to which Shell is subject.

Strategy – The strategy process is highly regarded, and Directors appreciate the efforts made to keep them updated on key items, for example, on the science behind climate change, via deep dives into various new energies, and through the Board's engagement with external experts. While the Board appropriately challenges management on strategic issues, Directors agree that strategy is a key focus for the business and the Directors feel well informed and engaged on strategic issues. Going forward, the Board noted the need to further consider the prioritisation of the approved strategic ambitions and to ensure that Board time spent on strategic and operational matters was appropriately balanced.

Governance – Directors note that Shell's identification and follow-up of governance and compliance concerns, including with regard to substance and processes, are dealt with well and thoroughly.

Succession – Succession planning and talent management were identified by Directors as a clear area of strength. Directors particularly noted the attention to talent development within the business, evident in the quality of emerging talent for various roles.

Culture – Board culture was another area of strength highlighted by Directors, crediting the Chair for setting a strong lead in this respect. The Board's values are felt to blend well with the Company's own values and Directors actively enjoy their engagement with their fellow Directors and the business.

BOARD EVALUATION AND ACTIVITIES continued

Planned enhancements include

Board Papers – Board papers contain high-quality, data-rich analysis but could benefit from being shortened and less technical. We will therefore continue to enhance the information provided to the Board to ensure the right information is provided in a digestible format while outlining the necessary facts of a given proposal.

Ongoing training – Induction sessions that combine new and existing Directors proved valuable. The same applied for visits to key sites, which also led to increased quality acquaintance time among Directors, time-efficiency for the management team and further opportunities for Non-executive Director workforce engagement.

We will look to build on our current processes with the development of a calendar of Board travel, that all Directors can opt into, aligned to the Board calendar of forthcoming topics. In addition, details of other induction sessions, Committee trips and Chair visits will be shared with Directors enabling them to also attend as appropriate.

Chair

Ongoing performance evaluation – Directors strongly commend the Chair's diligence, openness, Board preparation, knowledge of the business and positive relationship with the Chief Executive Officer. They also highlight his skill in strengthening individual Director performance through coaching and feedback, which he provides in real-time via his regular contact with all Directors between meetings, rather than awaiting the formal annual process, which many found profiled him as the best Chair of their Non-executive Director careers. On the improvement side, Directors relayed to the Chair the organisational feedback they had received regarding the Chair's suggestions or questions to the business sometimes being misinterpreted as instruction requiring specifically responsive extra work versus simply provoking thought or deepening Board understanding which was recognised as the likely actual intention.

A few Directors also queried whether deliberations on certain Board decisions could have been brought forward where feasible. The Chair fully accepted the feedback and agreed to reflect and act upon it.

BOARD ACTIVITIES

A rolling Board agenda is reviewed at Board meetings, providing effective forward management of meetings and focused discussions. The agenda for each Board meeting includes a number of regular and important items, including reports from the Chief Executive Officer, the Chief Financial Officer, other Executive Committee members and from each Board Committees. Further updates are provided from the various business functions and other key functions, including Investor Relations; Health and Safety, Security and Environment; HR; and Legal, as well as the Company Secretary. The Board also considers and approves the quarterly, half-year and full-year financial results and dividend announcements and, at most meetings, considers investment, divestment and/or financing proposals.

To enable purposeful debates and/or focus on particular aspects of agenda topics, including the impact on key stakeholders, Directors have an opportunity to specify information they require to be provided in advance of Board meetings.

As in previous years, certain Board Committees and Non-executive Directors conducted site visits of various Shell operations and overseas offices. These visits were designed to provide Directors with first-hand insights into certain key portfolio positions. Directors also held various workforce engagements in these locations, as well as external stakeholder engagements, where feasible.

Some of the activities and areas of Board focus from the year, and where not described in further detail elsewhere in this Report, are summarised in the table below.

Topic	Discussion/Activity/Updates included	Examples of Outcome/Progress	Stakeholders considered
Strategy and management			
Management Day	▪ Reviewed and discuss the communications for the 2019 Management Day; ▪ Reviewed and discussed Messaging to clarify Shell's Net Carbon Footprint ambition; and ▪ Considered trading, capital efficiency and supply chain management.	▪ Considered feedback from the investor community regarding progress towards a world-class investment case; and ▪ Feedback from investors on sustainability of medium-term growth potential.	A E F
External business environment	▪ Frequent updates on activity occurring within industries and political environments in which Shell operates.	▪ Considered potential risks and mitigation, where possible.	A B D E

A Investor Community B Employees/Workforce/Pensioners C Regulators/Governments/NGOs D Communities E Customers F Suppliers/Strategic Partners

Topic	Discussion/Activity/Updates included	Examples of Outcome/Progress	Stakeholders considered
Risk management and internal controls			
Safety and Environment	▪ In addition to regular updates from Management on health, safety, security and the environment, each Board meeting begins with a reflection or anecdote from a Director or Executive Committee member on the topic of values and/or safety.	▪ In Board meetings, Directors use learnings gained outside Shell to provide perspective and diversity of thought to Board discussions. At times, the Executive Directors have also provided practical commentary and examples of how safety has permeated Shell culture.	B D
Risk management and internal control	▪ Review Risk Report, covering external trends, proposed changes to the Group's strategic and operational risks and deeper analysis of the Conduct Risk Register.	▪ Proposed changes.	B C D
Board membership and other appointments			
Board membership, other appointments	▪ Directors' tenure, external commitments, conflicts of interests and succession planning.	▪ Policy for approving external commitments. ▪ Non-executive Director appointments and changes to Committee membership.	A E F
Talent overview and senior succession review	▪ RDS Senior Succession and Resourcing Review covering Executive Director and Executive Committee (EC) succession, EC direct reports and the senior executive group.	▪ Enhanced insight of Shell talent and future leaders; and ▪ Assurance of robust succession and contingency plans.	D
Remuneration Committee updates			
Remuneration and reward matters	▪ Reporting and society opinions on executive pay, implementation of UK Shareholder Rights Directive, AGM reflections, Remuneration Policy.	▪ The Remuneration Committee accelerated a planned 2020 policy change which would withdraw element of CEO and CFO bonuses, making these effective from 2019, following consideration of the views of proxy voting firms and other key stakeholders.	A D E
Corporate governance matters			
Distributions to shareholders	▪ Reviewed dividend payment process in conjunction with strategic ambition of world-class investment case; and ▪ Discussed the dividend payments that had remained unclaimed by shareholders for a period of more than twelve years.	▪ Streamlining the dividend payment process by introducing a US dollar option and moving to fully electronic settlement in US dollars, euros and sterling; and ▪ Agreed that the payments discussed should be forfeited (as per the Articles), and donated to The Shell Foundation.	A B E
Governance	▪ Ethics and compliance, including how to continue to build a strong corporate culture; ▪ Senior management succession and corporate governance developments; ▪ Modern Slavery Statement and assurance; ▪ The Code, changes to process and reporting; ▪ Other regulatory and legislative requirements; and ▪ Review and assessment of Shell's governance practices against the new Code.	▪ HR strategy on senior succession and regulatory/ legislative disclosures approved; and ▪ New requirements outlined in the Code were discussed and agreed.	B C D

A Investor Community B Employees/Workforce/Pensioners C Regulators/Governments/NGOs D Communities E Customers F Suppliers/Strategic Partners

UNDERSTANDING AND ENGAGING WITH OUR STAKEHOLDERS

Shell's commitment to public collaboration and stakeholder engagement is inherent in our three strategic ambitions, most notably in our ambitions to thrive through the energy transition and sustain a strong societal licence to operate. Understanding the views and interests of our key stakeholders is important to the Board, and the Directors have taken steps to consider stakeholders' views in Board discussions and decision-making, as described on page 121. In addition to direct Board engagement, significant levels of engagement are undertaken by the broader business ahead of many of Shell projects or activities. This engagement is often governed by formulated policies, control frameworks, regulation, legislation and may differ by region.

We have categorised our key stakeholders into six groups. Where appropriate, each group is considered to include both current and potential stakeholders. Shell stakeholders include: Investor Community, Employees/Workforce/Pensioners, Regulators/Governments/NGOs, Communities, Customers and Suppliers/Strategic Partners.

Site visits

The Chair, certain Board Committees and Non-executive Directors conduct site visits of various Shell operations and overseas offices. These visits are designed to provide Directors with first-hand insights into portfolio positions. Directors also held various workforce engagements in these locations, as well as external stakeholder engagements.

New Energies, the Energy Transition and the Shell Power Strategy

During 2019, the Board visited the USA (Colorado and California) and SESCo visited operations in Singapore to gain a better understanding of Shell businesses in these countries and elements of the energy transition. The visits included engagements with different internal and external stakeholders and interest groups which provided the Directors with multiple perspectives and considerations on the energy transition including the impact on communities, companies and Shell itself.

Shareholders

The Board recognises the importance of two-way communication with the Company's shareholders. The Chair, the Deputy Chair and Senior Independent Director, the Chief Executive Officer, the Chief Financial Officer and the Executive Vice President Investor Relations each meet regularly with major shareholders and report the views of such shareholders to the Board. Committee Chairs also seek engagement with shareholders on significant matters related to their areas of responsibility. Over the year, the Chair met with 76 major shareholders including at roadshows. The Deputy Chair, Senior Independent Director and Remuneration Chair met with 70 shareholders over the course of the year. A variety of topics were discussed.

Shareholders can also contact the Company directly via a dedicated email address or via dedicated shareholder telephone numbers, provided on the inside back cover of this report. Shell's website also contains information for institutional and retail shareholders alike.

The Company's registrar operates an internet access facility for registered shareholders, providing details of their shareholdings. Facilities are also provided for shareholders to lodge proxy appointments electronically. The Corporate Nominee service, facilitated by Equiniti, provides a facility for investors to hold their shares in the Company in paperless form.

Board Governance Event

In the past, the Board has held a governance event, "Board Engagement Day" that is attended by Directors including the Chair, Senior Independent Director, Audit Committee Chair and SESCo Chair. This is a biennial event providing investors with an overview of the Board's roles, activities and its key focus areas including stakeholder engagement. The last event was in December 2018. The event covered topics relevant to the Code including stakeholder engagement expectations, Chair tenure and diversity and inclusion on the Board and in the senior management talent pipeline. Attendees could also provide feedback to Directors via a question and answer session, and also informally over refreshments after the event. The next event is scheduled for the latter part of 2020.

The table below further demonstrates examples of various ways in which the Board or others (providing feedback to the Board) engaged with stakeholders during 2019. Further insight on our engagement with stakeholders can be found within our Sustainability Report and our report on payments to governments, scheduled for publication in April 2020.

Engagement before event	Event/Activity	Engagement following event
Annual General Meeting in the Netherlands & Annual shareholder presentation in London [A]		
Directors engaged with investors ahead of the event on a number of matters, including those being voted on at the AGM.	As well as the Company giving a balanced report of results and progress at each AGM, all shareholders had an opportunity to ask questions in person. Shareholders also engaged with Directors prior to and after the formal business of the AGM and informally over refreshments. A separate engagement not part of the AGM was provided in the UK. Shareholders (predominantly retail investors) heard about the Company's progress and asked questions in person.	A number of additional engagements including follow-up meetings and answering of queries.
The Responsible Investment Annual Briefing [B]		
Directors engaged with investors ahead of the event on a number of matters, including the agenda, which was based on topics of interest. Additional speakers from outside Shell, NGOs and charities also invited.	The addition of non-Shell speakers added an interesting perspective and dimension to the presentations and discussions which covered our three strategic ambitions in the context of sustainable development. The speakers included representatives from the Human Rights & Business Initiative, the International Union for the Conservation of Nature, and the World Business Council of Sustainable Development. This event also served as an excellent opportunity to hear from investors and other stakeholders on Environmental, Social and Governance issues which is gaining prominence as a topic amongst the stakeholder community.	Following the event, there were a number of additional engagements including follow-up meetings and presentations with stakeholders.
Engagement with three leading climate scientists		
The Board continued to commit time to this topic throughout the year. The Chair engaged with presenters in preparation for the Board engagement.	This engagement increased the Board's and the Executive Committee's understanding of the underlying science of climate change and helped provide a clearer understanding of this key driver of the energy transition. The engagement included presentations from the scientists and the discussions/presentations: ▪ were valuable to leaders that are not deep into the science but are charged with navigating the energy transition; ▪ built further foundations for future updates as the world's understanding of the science advances and suggests the best sources of information; ▪ described key scientific discovery that is underway that could impact actions by governments, business and the population overall; and ▪ included subjects that often do not make the popular press coverage but could be important to the organisation.	The Board recognises the significance and importance of this topic to all stakeholders and Shell's business operations, both now and in the future. The Board reflected on and used learnings from the session as background considering short-term and future investment/divestment decisions, financial and operational plans.

Engagement before event	Event/Activity	Engagement following event
MD19 [C]		
The Board reviewed and approved the Management Day 2019 (MD19) material and outlook and provided feedback to the CEO and CFO.	Engaged with investors on the progress of delivery of Shell's 2020 outlook and plans for positioning the Company for the future of energy, into the next year and further. The session also included presentations by business Directors and a high-level "question and answer" session. Investors were also provided with opportunities to pose detailed business-specific questions in "business breakout panels".	Roadshows with Executive Committee Members were held in London and the US.
Remuneration Committee Chair address		
A number of calls with proxy voting agencies and investors to engage on potential Remuneration Policy changes.	The Chair of the Remuneration Committee/Senior Independent Director provided an update on remuneration and the Company's policy via a video published on the Shell website. He had met and engaged with major investors during a roadshow conducted in November 2019, around choices to be made as part of the 2020 Remuneration Policy update including proposed changes, use of discretionary measures and energy transition in remuneration.	Investors were able to liaise with the Board and discuss their views and opinions; these views were shared with the REMCO, Board and the Chief HR & Corporate Officer to further formulate the policy.
Chair Roadshow		
A number of preparation meetings were held to provide insight into key topics of interest to the investor community.	The Chair of the Board provided an update on the governance of Shell and key investors had opportunities to ask questions to the Chair. Key topics included governance, remuneration, energy transition and business outlook.	Investors were able to engage with the Chair and there was also subsequent dialogue with Investor Relations.
Board visits to Colorado and California		
The Board provided guidance to the planning team ahead of the visit to formulate the agenda and ensure that key areas of interest were covered.	In addition to engagements with various different stakeholders and external experts, the Board met with academics, policy and business leader members of the External Advisory Board, which was established to provide the business with external perspectives in Power and Mobility domains. The Board also visited the National Renewable Energy Laboratory to witness the science and engineering of energy efficiency, sustainable transportation and renewable power technologies. Directors also met with employees and local stakeholders including government representatives, partners and start-ups which Shell has invested in.	
Audit Committee visit to the finance operations centre in Chennai and the IT Hub in Bangalore		
Discussions were held with Audit Committee members ahead of the visit to formulate the agenda and ensure that key areas of interest were covered.	Chennai and Bangalore – Engagements covered presentations from a number of individuals from various parts of the business, on matters such as data analytics and engineering, market risk, reporting and analysis and centres of excellence, digitalisation, and the context of the IT hub, local collaboration with Shell retail operations, process automation and how the business contributes to Shell's overall strategy on digitalisation. Further, the Committee received an overview of the Shell India Diversity and Inclusion Network, and spent time with the women's network, senior leaders and local employees.	The Committee gained an understanding of the operations and met with the local teams in both regions, gaining a deeper understanding of the different processes and challenges the business and its workforce faces.
SESCo visit to Singapore		
Discussions were held with the SESCo Committee members ahead of the visit to formulate the agenda and ensure that key areas of interest were covered.	The Committee met and engaged with a range of representatives from the contractor workforce, communities and social investment partners. Other engagements were held with Shell's partners in the energy transition, a women's network, government and the World Business Council for Sustainable Development. The Directors also had lunch with frontline staff and extended leadership team members. Over the course of these various engagements, a range of topics were considered and discussed including process safety and the environment and societal expectations.	This visit provided Directors with many insights, including Shell's broad and growing capability in developing cleaner energy solutions and the energy transition journey in Singapore.
Director Visits included		
Discussions were held with the respective Directors ahead of the visit to formulate the agenda and ensure that key areas of interest were covered.	**Shell QGC Midstream operations in Queensland, Australia** The visit included a site tour of the Control room, the LNG plant and the maintenance centre, providing opportunity to engage with the workforce in each location. The Director also spent time with the local leadership team, graduates, engineers and others from the broader functions. **Houston** The Director attended the Engagement with Emerging Leaders meeting. This is a formal programme established to develop US-based Senior Executive potential talent. The group meets quarterly with the US Country Coordination Team and is led by the US Country Chair. These meetings provide an opportunity for cross-business collaboration and networking. The Director also toured the remote drilling centre and received an update on how technology has been instrumental in delivering continuous improvement, optimisation and standardisation for the drilling of wells. Further, they received an overview of the lubricants business and spent time with global brand managers, marketing and commercial teams. **Permian Basin** The Directors received updates from senior leaders, a tour of the central processing facility, drilling rig and other operations. **Shell Energy** During their visit, Directors met with Shell Energy CEO and the Executive Team. In addition, Directors toured the offices meeting several teams, including leaders from customer services, customer experience, continuous improvement, and telecommunications where they were able to learn more about recent changes to a customer-centric operating model and growth plans for broadband operations.	The visits provided Directors further opportunity to engage with the workforce, and gain a deeper understanding of the business and its operations.

[A] The London shareholder meeting was attended by the Chair, CEO and CFO.
[B] Attended by the CEO and Chair of the SESCo, along with the Senior Independent Director.
[C] Attended by CEO and CFO.

WORKFORCE ENGAGEMENT

The publication of the new UK Corporate Governance Code (the "Code"), and The Companies (Miscellaneous Reporting) Regulations 2018, now require companies to report on their engagement with their employees and wider workforce. The Code outlines three suggested workforce engagement approaches. Following an analysis of Shell's application of the Code in late 2018 and over the course of 2019, the Nomination and Succession Committee (NOMCO) and Board reviewed, considered and discussed Shell Group's and Board's existing workforce engagement. Although the Board and NOMCO recognised merit in each of the Code's workforce engagement mechanism proposals, it noted that boards must consider the size and structure of their business, including its international workforce scope, and select an approach within that context that most practically delivers the underlying spirit and ambition of the Code even if it is not one of the three prescribed approaches. The Code is also supportive of alternate methods where an explanation is provided.

The Code states that its use of the term 'workforce' is not meant to align with legal definitions of workforce, employee, worker or similar terms. However, for a global organisation bound by the laws of more than 70 countries, blurring clearly prescribed legal definitions that impact complex issues (such as local HSSE requirements, work contract terms, legal accountability, employment rights) or merging two definitions of the same term could have notable impact on the business, its operations and its stakeholder relationships (including with suppliers). Therefore, Shell considers its workforce to be employees of companies in the Shell Group. However, the Board also engages with others outside of this group (for example, on site visits), and some of this engagement is shared on page 122.

Although our reporting and formal engagement focuses predominantly on our employees, all individuals working on Shell sites (including Shell offices) are required to undertake certain Shell training (for example, HSSE and Code of Conduct-related training). Adhering to the Life Saving Rules (HSSE) and the Code of Conduct compliance obligations is included within our contracts with suppliers, and the Shell Global Helpline is available for all workers to report matters of concern.

For many years Shell has recognised the importance of engaging with its workforce. Engagement is especially important in maintaining strong business delivery in volatile times of change. We therefore strive to maintain a dialogue between management and our workforce – both directly and where appropriate, through representative bodies. Management regularly engages with the workforce through a range of formal and informal channels, including via emails from the Chief Executive Officer and other senior executives, webcasts, townhalls, team meetings, face-to-face gatherings, breakfast briefings, interviews with senior management and online publications via our intranet.

The Board considers effective engagement a key element of its understanding of the Company's ability to create value as it recognises that our people are our greatest asset. Workforce views can help inform the Board on matters such as operational effectiveness, Shell culture, risk identification and strategy development and delivery.

The Board considers the current workforce engagement approach effective. The information provided in the table below exemplifies various methods of Board engagement.

Board's Direct Engagements with the Workforce

Informal Engagement

Chair lunches are held from time to time with a select cross-section of employees in various regions. The Board has also held an informal drinks/discussion with select cross-section of employees; for example, to meet future leaders and listen to current issues, challenges, concerns and opportunities.

Nomination and Succession Committee members meet with various senior leaders and high-potential individuals throughout the year. (B) (E)

The Chair has commented that his meetings provide great insight into the Shell culture and our capacity to deliver on our strategy and purpose. He notes that such direct engagement provides snapshots of employee perspectives across the various countries and cultures within which Shell operates. Further, he considers this a helpful method of engaging with high-potential-talent individuals in an informal environment.

Off-Site Visits

People engagements during Board and/or Committee off-sites. (B) (A) (S) (N)

Meeting talent/leadership teams (B) (E)

Townhall discussions (B) (E)

Company Chair engaging with various individuals by attending team meetings Country visits (China, India, Japan, Kazakhstan, Kuwait, Malaysia, the Netherlands, Poland, Singapore, UK and USA). (B) (A) (S) (N)

Through these more formal engagements, the Chair and other Non-executive Directors (either individually or with their Committees) are able to deepen their understanding of how the Company's purpose, strategy and values are embedded in particular sites and countries. The benefits are mutual as the Board obtains direct insight into local business operations and projects as well as local strengths and challenges while our people have an opportunity to better understand the Board and provide direct feedback on topics of importance to them, their business or function and/or their location.

Employee Network and Related Sessions

Conducted by Directors with for example, female Directors engaging with Shell women's networks. (B)

Shell female employees who have engaged with female Directors informally (via dinners or through women networks) credit those engagements for not only providing them Board exposure but also in affording them the opportunity to communicate about gender-specific topics and to learn from established female leaders. Directors involved in these engagements likewise note the opportunity to enrich their understanding of the female perspective within Shell as well as the depth of Shell talent and effectiveness of Shell's Diversity and Inclusion initiatives.

Committee Engagement Key: (B) BOARD (A) AUDIT (S) SESCo (N) NOMCO (E) EXEC DIRECTORS

Formal reports and information updates to the Board

Shell People Survey (anonymous survey facilitated externally)

Annual Board discussion to keep it fully apprised of employee engagement levels and quality of leadership across Shell's workforce, as well as a broad range of subjects including collaboration, working conditions, the job, people development, reputation, benefits and rewards, diversity and inclusion, operational excellence, and responsible business. B E

The Board considers the Shell People Survey one of its principal tools used to measure employee engagement, motivation, affiliation and commitment to Shell. It provides insights into employee views and has a consistently high response rate. In 2019, the response rate was 85.5%, which was an increase of 3.5% compared to 2018. The average employee engagement score was 78 points out of 100, an increase of one point compared to 2018, and among leading results across a range of industries.

The Board also utilises this engagement to, for example, understand how Shell is leveraging the survey outcomes in: i) data analytics, for example, to identify potential correlative relationships between employee engagement and safety or ethics & compliance incidents; and ii) strengthening Company culture and values.

Senior Succession Resourcing Review

The annual Senior Succession and Resourcing Review focused on the strength of senior leadership and plans for its development and succession, while highlighting the breadth, depth and diversity of its pipeline, the developing profile of the leadership cadre, and recruitment and attrition levels. B N

The Nomination and Succession Committee noted the disciplined approach to succession planning and execution, the holistic view taken of leadership and the high levels of information and transparency underpinning it. It particularly noted improved focus on performance and on the talent pipeline of high potential individuals beyond just senior management levels. Along with the results of the annual Shell People Survey, it provided a deeper understanding of culture, leadership talent and the strong levels of employee engagement across the business.

Assessment of key trends and material incidents

Presented by Chief Ethics & Compliance Officer. This is based on the established channels for staff and others to file complaints or report on suspected breaches in relation to the Shell General Business Principles (SGBP), the Code of Conduct or any breaches of law or regulations, including accounting control and auditing concerns. A S E

The update covers Shell employees and our wider stakeholder base. The Board (including via the Audit Committee and SESCo) obtains insight into incidents and on reporting levels and remediation which provide indicators of conduct risks and, together with the related Board reports noted below, of the strength of embedding and awareness of the Code of Conduct and SGBP obligations and employees' comfort levels in raising incidents.

The Shell Control Framework

Significant HSSE, Ethics and Compliance, and more broadly, business control incidents are brought to the attention of senior management and Board through regular reporting. A B S E

The Board discussed how the organisation could learn more from incidents and how the business could drive safety performance to the next level. The Board requested additional information on incidents from both Shell operated and non-operated ventures and a greater visibility of incidents and investigations.

Conduct Risk Dashboard

Provides a consolidated overview of statistics on Code of Conduct violations. Risk indicators in the Dashboard are potentially linked to organisational culture. Examples that the Dashboard measures are: the number of terminations as a result of formally investigated Code of Conduct violations, and the number of overdues on mandatory Ethics & Compliance training. B E

A further update on positive culture and identity leadership is scheduled to be provided, along with an update on conduct risk, to the Board and relevant Board Committees in 2020.

Speaking Up in Shell

Data and insights are provided from the Global Helpline, Shell Ethics & Compliance Organisation and the Shell People Survey. The SESCo endorsed the recommendations with focus on how Speaking Up supports a caring organisation and encourages staff to come forward to raise a concern in good faith. B S E

The Audit Committee is kept updated when matters highlighted through the Global Helpline are investigated, and on the associated remediations. For more information please see page 133 within the Audit Committee report.

Assurance activities

Assurance activities, including items raised by Businesses and Functions (through the Group Assurance Letters Process) and independent assurance (from Internal Audit, HSSE, Ethics and Compliance, Reserves Assurance and Reporting), provide additional comfort to the Board of the commitment to high standards of risk management and internal control. The assurance activities ensure that work can be done safely, within regulatory frameworks. B A E

The information provided within these reports further support the Board's annual review of the effectiveness of the Group's system of risk management and internal control and feed into the Group Scorecard, which staff bonuses are calculated against.

Other

The Board receives updates on other specific topics. For example, to inform the Board's focus on enhancing ethical leadership and assuring ethical decision-making in the organisation it received updates on the roll out of the Ethical Leadership Expectations Programme (ELEP). B E

To better understand the success of the ELEP as reported to the Board, the Chair and the SESCo Chair attended a three-hour ELEP session themselves alongside Shell senior executives. The Chair and SESCo Chair shared feedback from the session in the January 2019 Board meeting with each commending the programme for authentically promoting open and meaningful dialogue and shared learnings on the Company's values and leadership behaviours as well as on the practical dilemmas and business pressures confronting Shell leadership within those topics.

Committee Engagement Key: B BOARD A AUDIT S SESCo N NOMCO E EXEC DIRECTORS

NOMINATION AND SUCCESSION COMMITTEE

CHAD HOLLIDAY
Chair of the Nomination and Succession Committee

Highlights of 2019

- Appointment of two new Executive Committee members
- Appointment of new Non-executive Director and continued discussion on Non-executive Director succession

Priorities for 2020

- Appointment and onboarding of new Non-executive Directors
- Continued discussions on Non-executive Director, and Executive Committee, succession

COMMITTEE ATTENDANCE FOR 2019

Committee member	Member since	Maximum possible meetings	Number of meetings attended	% of meetings attended
Chad Holliday (Chair)	May 19, 2015	5	5	100%
Euleen Goh	July 1, 2019	3	3	100%
Gerard Kleisterlee	May 23, 2018	5	5	100%
Linda Stuntz	June 1, 2016	5	5	100%

"We know we play a crucial role today in selecting those who make the future of Shell. The recognition of that responsibility not only humbles us but also drives our passion to entrust that future into the hands and hearts of those that will safeguard and grow it."

CHAD HOLLIDAY
Chair

PURPOSE

The Nomination and Succession Committee (the "Committee") leads the process for appointments to the Board and Senior Management [A] positions, ensures plans are in place for orderly, well planned succession, and oversees the development of a diverse succession pipeline of candidates. Further, it reviews the Company's policy and strategy on diversity and inclusion, and monitors the effectiveness of diversity initiatives. It makes recommendations to the Board on corporate governance guidelines, as referred to in the Chair's statement.

[A] "Senior management" refers to the Executive Committee and the Company Secretary.

TALENT MANAGEMENT AND SUCCESSION

The Committee manages Board and Senior Management succession against clear and agreed selection principles. For Non-executive Director succession, the Committee adopted in January 2019 a set of revised Principles for the Strategic Composition of the Board. The principles include both quantitative and qualitative principles, considering both: (i) the overall Board composition and diversity of gender, nationality, background experience and skillsets desired that align with the Company's strategy and purpose; and (ii) the values, attitudes, and behaviours expected. For Senior Management succession, the principles include process-specific principles, including the identification and development of succession candidates and the long-term nature of the succession planning process. Each Committee meeting includes both sets of principles and, utilising those, the Committee executes changes through a well-defined and diligent process with overall Board engagement. The Committee agrees candidate profiles and meets prospective candidates well ahead of any selection decision being necessary. It also engages the Board early in the process to ensure all Directors have an opportunity to meet and assess prospective candidates. Consequently, some of the leaders whom the Committee and Board have engaged with extensively in the past are now members of the Board or the Executive Committee.

The Committee maintains short, medium and long-term succession plans, and thus an overview of potential candidates multiple years ahead It oversees a continuous and proactive process of planning, review, engagement and assessment, taking into account the strategic priorities and main factors affecting the long-term success and future of the Company and the associated diversity, skillsets and breadth of perspectives needed to help achieve that in the evolving business environment.

The Committee is fully engaged with the broader senior succession and resourcing across Shell, and with the overall end-to-end approach to talent management that is adopted. This ranges from recruitment to leadership identification and from leadership development to leadership appointment, all of which are underpinned by talent priorities and a commitment to advancing Diversity and Inclusion.

Diversity of leadership

Female representation has steadily improved in recent years. Amongst overall recruitment, Shell companies consistently recruit 40% females, and amongst graduates this is approaching 50%. Female representation in the top 1,400 roles ("Senior Leadership" positions) has been raised by 2.4 percentage points during 2019 to 26.4%, and further improvement is actively pursued. Nationality diversity, such as Asian and American talent, continues to advance in a manner reflective of the business outlook. Senior Leadership is a Shell measure and different from that which we are required to report under the Code, being female representation in Senior Management and their direct reports, where the percentage is 28.9%.

The Committee recognises that improving diversity at each level across the Shell Group is crucial, and therefore takes an active role in reviewing diversity objectives and strategies for the group as a whole, and monitoring the impact of diversity and inclusion initiatives.

More information on diversity within Shell is included within the Our People section on page 99.

Committee Activity

In addition to its considerations regarding succession, the Committee made recommendations on corporate governance guidelines, monitored compliance with corporate governance requirements and made recommendations on disclosures connected with corporate governance. The Committee continues to monitor and review this area, as well as consider whether and how current Company governance matters should be strengthened. Further insight on some of the Committee's areas of consideration in 2019 is provided below.

Succession [A]	Topic of discussion/Example of Board activity
Recommendation	▪ Appointment of Neil Carson to the Board; and ▪ Changes to the composition of the Board committees.
Review and oversight	▪ Royal Dutch Shell Senior Succession Resourcing review.
Oversight	▪ Appointment of Wael Sawan as Upstream Director (replacing Andrew Brown); and ▪ Appointment of Huibert Vigeveno as Downstream Director (replacing John Abbott).

Governance	Topic of discussion/ Example of Board activity
Governing the Board and its committees	▪ Reviewed its Principles for the Strategic Composition of the Board; and ▪ Updated its Terms of Reference, and reviewed changes proposed to the Terms of Reference for other Committees and the Matters Reserved for the Board.
Regulation, legislation and other governance-related guidance	▪ Alignment to the recommendations within the 2018 UK Corporate Governance Code; ▪ Key governance matters impacting the Company's external reporting; and ▪ Other governance and regulatory changes agreed or proposed and their impact or potential impact on the Company, its processes and its reporting.
RDS matters	▪ Considered any potential conflicts of interest and the independence of the Non-executive Directors; ▪ Determined who would undertake the 2019 External Board Evaluation; ▪ Reviewed the proposed changes to the Company's Articles of Association, subsequently approved by shareholders at the 2019 AGM; and ▪ Reviewed changes proposed to the dividend payment process (announced December 2019).

[A] The Committee was assisted during the year by Russell Reynolds Associates ("Russell Reynolds"), an external global search company whose main role was to propose suitable candidates. Russell Reynolds does not have any connection with the Company other than that of search consultants. The Chair does not participate in discussions regarding his own succession. Russell Reynolds is a signatory to The Voluntary Code of Conduct for Executive Search Firms which aims to improve board diversity.

Director Induction and Training

Following Board appointment, Directors receive a comprehensive induction tailored to their individual needs. This includes site visits and meetings with senior management to enable them to build up a detailed understanding of Shell's business and strategy, and the key risks and issues that Shell faces.

As part of the Board evaluation, director induction was a discussion topic. Directors commented positively on the induction programme and reported that it is comprehensive, well-organised and fully in line with their expectations. Directors shared that they have been able not only to benefit from a comprehensive programme of meetings but also to steer the programme towards their own personal interests and information needs.

Some of the areas Neil Carson's induction has covered are provided below:

Company Operations and Strategy, including:

Strategy & Portfolio; Integrated Gas and New Energies; Downstream, including Chemicals, Retail and Global Commercial; Upstream; and Projects and Technology. Time was spent with the EC members managing these operations and senior leaders from the operations. Further, updates were provided with regard to the internal governance process, the Shell Control Framework, the Board's calendar, minutes from earlier meetings, Company performance, operating plans and key business relationships. Neil also met with the Chief Internal Auditor.

The environment in which we operate, including:

Engagements were held with the Chief Ethics and Compliance Officer, Safety and Environment and senior leaders from the Sustainability Strategy team, and the Global Business Environment team, which is best known for developing forward-looking scenarios to support strategic thinking and direction-setting. Time was also spent with senior leaders from Investor Relations and Group Reporting and the Chief Human Resources and Corporate Director, the Legal Director and the Company Secretary.

Feedback on Board induction

"Given the complexity of the business, I believe that Director induction takes at least a year. The sessions with people in the business benefit from being gradually phased and aid the absorption of information. Site visits are incredibly helpful and can be utilised to a greater extent in the early stages of the programme."

NEIL CARSON
Non-executive Director

SAFETY, ENVIRONMENT AND SUSTAINABILITY COMMITTEE

SIR NIGEL SHEINWALD GCMG
Chair of the Safety, Environment and Sustainability Committee

COMMITTEE ATTENDANCE FOR 2019

Committee Member	Member since	Maximum possible meetings	Number of meetings attended	% of meetings attended
Sir Nigel Sheinwald (Chair of the Committee)	July 1, 2012	8	8	100%
Neil Carson [A]	June 1, 2019	4	3	75%
Catherine J. Hughes	November 1, 2017	8	8	100%
Linda Stuntz	May 23, 2018	8	8	100%

[A] Neil Carson was unable to attend the Committee meeting in October 2019 due to an immovable commitment which was scheduled prior to him joining the Shell Board.

HIGHLIGHTS OF 2019

During 2019, we reviewed the purpose of the Committee and transitioned from the Corporate and Social Responsibility Committee to become the Safety, Environment and Sustainability Committee (the "Committee"). This sharpened focus will allow the Committee to play a more influential role in overseeing the practices and performance of the Company with respect to safety, environment including climate change, and broader sustainability issues.

FOCUS FOR 2020

In 2020, the Committee will continue with the sharpened focus areas established last year. The Committee will use site visits to examine Shell's approach and performance across these focus areas. The Committee will also review Shell's response to developments regarding climate change and the energy transition.

PURPOSE

The Committee assists the Board in reviewing the practices and performance of the Shell Group of companies, primarily with respect to Safety, Environment including Climate Change, and Sustainability.

OVERVIEW

The Committee assesses Shell's overall sustainability performance and provides input into Shell's annual reporting and disclosures on sustainability. It also advises the Remuneration Committee on metrics relating to sustainable development and energy transition that apply to the Executive Committee scorecard and incentive programme.

The Committee also endorses Shell's annual HSSE&SP assurance plan and reviews execution of the plan and audit outcomes.

In addition, it reviews and considers external stakeholder perspectives in relation to Shell's business, and reviews how Shell addresses issues of public concern that could affect its reputation and licence to operate. Examples include plastic waste, human rights, and ethical conduct and culture.

In line with the strategic importance of the Committee's agenda, the Chair and the Chief Executive Officer regularly attend the Committee meetings for discussions on specific topics. The Committee appreciated the assistance throughout the year from the Projects & Technology Business Director, Harry Brekelmans, who continues to be a strong champion for sustainability within Shell.

The overall accountability for sustainability within Shell is with the Chief Executive Officer and the Executive Committee. They are assisted by the HSSE&SP executive team.

ACTIVITIES

During 2019 the Committee reviewed its purpose and updated its terms of reference to ensure it focuses on the areas of most strategic importance to Shell.

It met regularly to review and discuss a range of prioritised topics. These included the safe and responsible operation of Shell's facilities, environmental protection and greenhouse gas emissions, major incidents that impact safety and environmental performance, progress towards meeting Shell's Net Carbon Footprint Ambition and short-term targets, and climate change and the energy transition.

The topics discussed in greater depth included personal and process safety, Shell's Net Carbon Footprint Ambition and the energy transition, and Shell's ethics programme. The Committee also reviewed Shell companies' operations and the challenges faced in Nigeria.

SITE VISITS

One major site visit was conducted in 2019, which was to Singapore. Over three days the Committee met with Shell employees, staff, contractors, Government officials, local community leaders, and representatives from local non-governmental organisations to gain a deeper understanding of Shell's business in Singapore. The Committee visited refinery operations at Palau Bukom and chemicals operations at Jurong Island, and reviewed Shell's developing New Energies businesses in the country.

AUDIT COMMITTEE REPORT

ANN GODBEHERE
Chair of the Audit Committee

Focus areas for 2019

- First-year application of IFRS 16 Leases
- Shell's Trading and Supply Control Framework
- Net Carbon Footprint Assurance and Reporting Framework
- Oil and Gas Reserves Control Framework

Priorities for 2020

- Decommissioning
- Integrated Risk Management
- New Business Models and Ventures
- Pensions

"The primary role of the AC is to assist the Board in fulfilling its oversight responsibilities in areas such as the integrity of financial reporting, the effectiveness of the risk management framework and internal control system as well as consideration of compliance matters."

ANN GODBEHERE

Dear Shareholders,

I am pleased to present our Audit Committee Report for 2019, having assumed chairmanship of the Audit Committee (AC) when Euleen Goh stepped down in June of last year.

The primary role of the AC is to assist the Board in fulfilling its oversight responsibilities in areas such as the integrity of financial reporting, the effectiveness of the risk management framework and internal control system as well as consideration of compliance matters. We are also responsible for assessing the quality of the audit performed by and the independence and objectivity of the external auditor, and making a recommendation to the Board on the appointment or reappointment of the external auditor. Further, we oversee the work and quality of the internal audit function.

I meet regularly with the Chief Financial Officer, EVP Taxation and Controller, Chief Internal Auditor and the external auditor. Further, these same individuals attend every AC meeting as well as any other members of Shell's management, as necessary, to provide in-depth analysis on specific topics or on more detailed technical matters that may arise.

Over the course of a year, the AC has a rolling agenda covering a variety of standing matters such as the control framework for the reporting of Shell's oil and gas reserves; information risk management; tax matters; and briefings from the Chief Internal Auditor on the effectiveness of Shell's risk management and internal control system and on outcomes of significant audits and notable control matters. Specific attention is given to topics that we consider particularly significant, including issues and judgements relating to Shell's Consolidated Financial Statements, as discussed in more detail later in this report. In 2019 in addition to standing matters, the AC addressed a number of areas of special focus including evaluating the first year of application of the new accounting standard IFRS 16 Leases; Shell's Trading and Supply control framework; and the control framework for the reporting of Shell's Net Carbon Footprint ambition. The AC visited Shell's advanced security operations in the Netherlands, the finance operations centre in Chennai and the IT Hub in Bangalore. With these site visits we deepen our understanding of the operations in the respective locations and how they interface with Shell's business functions. The visits also provide the AC with an opportunity to engage with a cross-section of Shell staff in each location.

In closing I would like to take this opportunity to thank Euleen for her excellent chairmanship of the AC since 2016 and for the valuable insights she provided as both a member since September 2014 and as the Chair.

ANN GODBEHERE
Chair of the Audit Committee
March 11, 2020

AUDIT COMMITTEE REPORT continued

COMPOSITION AND MEETINGS OF THE AUDIT COMMITTEE

During 2019, the members and meeting attendance of the AC were as follows:

Committee Member	Member since	Maximum possible meetings	Number of meetings attended	% of meetings attended
Ann Godbehere (Chair)	May 23, 2018	6	6	100%
Euleen Goh [A]	September 1, 2014	3	3	100%
Roberto Setubal	October 1, 2017	6	6	100%
Gerrit Zalm	March 8, 2017	6	6	100%

[A] Euleen Goh stood down as Chair and a member of the AC on June 30, 2019.

All members of the AC are financially literate, independent Non-executive Directors. In respect of the year ended December 31, 2019, for the purposes of the UK Corporate Governance Code, Ann Godbehere qualifies as: a person with "recent and relevant financial experience" and competence in accounting; and, for the purposes of US securities laws, is an "audit committee financial expert".

The experience of the AC members outlined on page 130 demonstrates that the AC as a whole has competence relevant to the sector in which Shell operates, as well as the necessary commercial, regulatory, financial and audit expertise required to fulfil its responsibilities. The AC members have gained further knowledge and experience of the sector as a result of their Board membership and through various site visits since their respective appointments.

The AC covers a variety of topics in its meetings. These include both standing items that the AC considers as a matter of course, typically in relation to the quarterly financial reporting, control matters, accounting policies and judgements and reporting matters, and a range of topics relevant to Shell's control framework.

The AC invites the Chief Financial Officer, the Legal Director, the Chief Internal Auditor, the Executive Vice President Taxation and Controller, the Vice President Accounting and Reporting and the external auditor to attend each meeting. The Chief Executive Officer attends each meeting where the quarterly, half-year and year-end results are discussed. The Chair of the Board also regularly attends the meetings. Other members of management attend when requested. The AC regularly holds private sessions separately with the external auditor and the Chief Internal Auditor without members of management, except for the Legal Director, being present.

RESPONSIBILITIES

The roles and responsibilities of the AC as set out in its Terms of Reference are reviewed annually, taking into account relevant regulatory changes and recommended best practice. The key responsibilities of the AC include, but are not limited to:

- Evaluating the effectiveness of the system of risk management and internal control;
- Reviewing the integrity of the financial statements, including annual reports, half-year reports, and quarterly financial statements;
- Reviewing and discussing with management the appropriateness of judgements involving the application of accounting principles and disclosure rules;
- Advising the Board whether the Annual Report is fair, balanced and understandable and provides the information necessary for shareholders to assess Shell's position and performance, business model and strategy;
- Reviewing the functioning of the Shell Global Helpline and reports arising from its operations;
- Overseeing compliance with applicable legal and regulatory requirements, including monitoring ethics and compliance risks;
- Monitoring the qualifications, expertise, resources and independence of both the internal and external auditor;
- Assessing the internal and external auditor's performance and effectiveness each year; and
- Recommending to the Board the appointment or reappointment of the external auditor.

The AC keeps the Board informed of its activities and recommendations and the Chair of the AC provides an update to the Board after every AC meeting. The AC promptly reports concerns to the Board if it is not satisfied with or believes that action or improvement is required concerning any aspect of financial reporting, risk management and internal control, compliance or audit-related activities.

A copy of the AC's Terms of Reference can be found at www.shell.com.

ACTIVITIES

During 2019, the AC received comprehensive reports from management and the external auditor on a variety of topics related to management controls and accounting policies, practices and reporting. The AC also reviewed whistleblowing reports and internal audit reports, and considered management's responses and conclusions to the various findings in these reports.

In addition to the items discussed under significant issues on page 133, the AC also dedicated time to the following matters during 2019:

- **Trading and Supply's Control Framework.** Following its 2018 visit to the Trading and Supply office in London and given the growth in this area, the AC continued to focus on key control matters and improvements in processes underway within Trading and Supply. The AC was briefed on various actions which management is undertaking to further strengthen controls, including system controls and new hires in the areas of compliance and risk management;
- **Shell's Net Carbon Footprint Control Framework.** Following Shell's announcement to link a Net Carbon Footprint target and other measures to executive remuneration starting in 2019, the AC reviewed the processes and procedures governing the annual preparation and assurance of Shell's Net Carbon Footprint value. The AC considered the methodology, key aspects of the Net Carbon Footprint model, important control points, assurance mechanisms to validate the integrity of the data and disclosure, and the process for managing and verifying any changes to the model;
- **Tax risks.** In addition to the regular review of Shell's tax position, the AC discussed with management the key tax risks stemming from the evolving tax landscape, including intensified audit scrutiny and increasing demands for transparency. The AC also discussed measures underway in response to these trends and developments, including for example Shell's publication of its first Tax Contribution Report in 2019;
- **Information Risk Management.** The Chief Information Officer briefed the AC on the activities undertaken in 2019 with respect to information risk management, information security controls, security improvement initiatives and Shell's cyber monitoring and defence capabilities and controls. The AC discussed with the Chief Information Officer the evolving digital landscape and the steps management is taking to manage change, including planned activities for 2020; and
- **Oil and Gas Reserves Control Framework.** The AC was briefed on the framework in place to ensure accurate reserve information is reported in an efficient manner. The AC considered the processes and controls in place to assure compliance with reporting requirements and annual updates to maintain a robust framework.

The AC also reviewed: the year-end reported proved oil and gas reserves, including management judgements and adjustments made to reflect changes in geological, technical, contractual and economic information, the Brent crude oil and Henry Hub natural gas long-term price assumptions; estimated refining margins; discount rates used for financial reporting, particularly with respect to impairment testing and decommissioning and other provisions (see Note 2 to the "Consolidated Financial Statements" on pages 195-204 for further information); and the effectiveness of financial controls.

The AC discussed with the Chief Ethics and Compliance Officer his report on compliance matters, including an overview of the effectiveness of the Shell ethics and compliance programme in managing ethics and compliance risk in Shell's business activities, regulatory developments and compliance risks. The AC also discussed investigations of cases involving ethics and compliance concerns. The AC discussed management's findings in such cases to satisfy itself that a rigorous process had been followed, and, where appropriate, learnings had been embedded by management into the systems and controls of the organisation.

The AC was briefed on litigation matters (see "Governance Framework" on page 117 and Note 25 to the "Consolidated Financial Statements" on pages 235-237); new regulatory requirements, including the UK Financial Reporting Council's (FRC's) 2018 UK Corporate Governance Code, and various market studies and proposals into the external audit market. The AC was also briefed on corporate governance developments, including the EU Sustainable Finance initiatives and related legislative proposals.

In March 2019, the AC visited the advanced security operations in the Netherlands and in May 2019, the finance operations centre in Chennai and the IT Hub in Bangalore. These visits provided the opportunity for the AC to gain a deeper understanding of the various activities undertaken in each location including new technologies and digital opportunities, and how they support Shell's business activities. Topics discussed during the site visits included: threat intelligence; incident management; vulnerability management and forensics; use of data analysis; bots; data engineering; market risk analyses; impairment analysis process; digitalisation; new applications/solutions development process; process automation; and Information Technology General Controls. The AC was provided with information on the external environment and the relevant regulations within each location's operations. During the visits to the Chennai and Bangalore sites, the AC was also briefed on Shell's operations in India.

In 2019, the AC updated its Terms of Reference to reflect applicable provisions from the 2018 UK Corporate Governance Code published by the FRC, including the Chair's engagement with the Company's Shareholders on significant matters related to the AC's responsibilities and the AC's oversight of the audit tender process. The Terms of Reference were also updated to reflect the AC's responsibilities regarding Shell's Global Helpline as well as ethics and compliance risks.

As part of a review of Shell's external reporting, the decision was taken to produce a separate Annual Report and Form 20-F beginning with fiscal year 2019. The AC provided its input on the merits of this initiative and considered the control framework which has been put in place to ensure the disclosures in both reports comply with relevant requirements.

The AC discussed the Company's 2019 Annual Report, half-year report and quarterly unaudited interim financial statements with management and the external auditor. The AC advised the Board that in its view the 2019 Annual Report including the financial statements for the year ended December 31, 2019, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess Shell's position and performance, business model and strategy (see "Governance" on page 114). To arrive at this conclusion, the AC critically assessed drafts of the 2019 Annual Report including the financial statements and discussed with management the process undertaken to ensure that these requirements were met. This process included: verifying that the contents of the 2019 Annual Report are consistent with the information shared with the Board and management during the year to support their assessment of Shell's position and performance; ensuring that consistent materiality thresholds are applied for favourable and unfavourable items; considering comments from the external auditor; and receiving assurance from the Executive Committee (EC). The AC further reviewed and considered the Directors' half-year and full-year statements with respect to the going concern basis of accounting. As noted in the viability statement, the Board also reviews the strategic plan which takes account of longer-term forecasts and a wide range of outlooks. Factors considered included: the impact of commodity prices; exchange rates; future carbon costs; major agreements such as LNG contract renewals; planned growth programmes; the financial framework; Shell's business portfolio developments; the project funnel to support future growth; and running models of the financial impact of certain of Shell's principal risks materialising using severe but possible scenarios. The AC considered the mitigating measures and sensitivities that management had applied to the modelling of such scenarios when evaluating the viability statement. The AC also considered external commentaries suggesting that viability statements should be extended beyond a period of three years and concluded that the three-year period selected by the Board for the review of Shell's prospects, in line with the operating plan, remained appropriate. The AC supported the inclusion of Shell's viability statement in "Governance" on page 165 and considered such statement in line with best practice guidance issued by the FRC.

The AC considered and approved the internal audit function's annual audit plan, including focus areas for 2019 comprising of management controls of IT systems and infrastructure, information and data, operational assets and businesses, contracting and procurement, resource and project delivery, and ethics and compliance. The AC also considered and approved proposed updates to the Shell Internal Audit Charter which take into account the revised UK Corporate Governance Code and other regulatory changes. The AC assessed the performance of the internal audit function under the new Chief Internal Auditor, who was appointed with effect from September 2018, as effective. The AC also assessed the performance of the Chief Internal Auditor. With respect to the external auditor, the AC considered the annual external audit plan (including assessing whether the planned materiality levels and proposed resources to execute the audit plan were consistent with the audit scope) and approved related remuneration to ensure that the level of fees would allow an effective and high-quality audit to be conducted by the external auditor.

SYSTEM OF RISK MANAGEMENT AND INTERNAL CONTROL

The AC reviewed reports on risks, controls and assurance, including the annual assessment of the system of risk management and internal control, in order to monitor the effectiveness of the procedures for internal control over financial reporting, compliance and operational matters. This included the Company's evaluation of the internal control over financial reporting as required under Section 404 of the Sarbanes-Oxley Act.

AUDIT COMMITTEE REPORT continued

AUDIT COMMITTEE ACTIVITIES DURING 2019

Activities performed	Frequency
Reporting	
Reviewed Shell's accounting policies and practices, including compliance with accounting and reporting standards	Q
Reviewed the appropriateness of material judgements and the interpretation and application of accounting principles	Q
Considered the integrity of the year-end financial statements and recommended to the Board whether the audited financial statements should be included in the Annual and statutory reports	A
Considered the integrity of the half-yearly report and quarterly financial statements	Q
Reviewed management's assessment of going concern and longer-term viability and endorsed the annual viability statement	P
Reviewed Shell's policies with respect to earnings releases; financial performance information and earnings guidance; oil and gas reserves accounting and reporting; and significant financial reporting issues	Q
Reviewed the internal controls in relation to financial reporting	P
Advised the Board of the AC's view on whether taken as a whole, the Annual Report is fair, balanced and understandable and provides the information necessary for shareholders to assess Shell's position and performance, business model and strategy.	A
Assessed management's response to significant audit findings and recommendations	P
Risk Management and Internal Control	
Monitored the effectiveness of the Shell's risk management and internal control system	P
Received briefings on regulatory developments	P
Reviewed management's SOX 404 assessment	A
Discussed the control framework related to Shell's Net Carbon Footprint	P
Considered the control framework related to oil and gas reserves	P
Discussed significant matters arising from the internal audit with the Chief Internal Auditor, management and Ernst & Young LLP (EY)	Q
Evaluated the quality, efficiency and effectiveness of the internal audit function including the competence, qualifications, expertise, compensation and budget	A
Reviewed and approved the internal audit function's remit, charter and audit plan	A
Assessed the performance of the Chief Internal Auditor	A
Reviewed significant legal matters with Shell's Legal Director	Q
Discussed and reviewed Finance Group's succession planning	A
Reviewed the Chief Financial Officer's significant business and investment transactions for potential conflicts or related party transactions	A
Assessed the Chief Financial Officer's performance	A
Reviewed Shell's information risk management	P
Reviewed Shell's tax function, key tax risks and discussed evolving area of tax transparency	P
Received briefings regarding Shell's Trading and Supply control framework	P
Reviewed and discussed Shell Finance's IT strategy	P
External Auditor	
Considered the independence of EY	A
Reviewed and approved the engagement letter for EY's annual audit of the Company's consolidated and parent company financial statements	A
Approved the remuneration for audit and non-audit services, including pre-approval of permissible non-audit services	Q
Considered the annual external audit plan and monitored the execution and results of the audit	P
Monitored the qualifications, expertise, resources and independence and objectivity of EY	A
Reviewed the Company's representation letter prior to signing by management	A
Assessed the performance and effectiveness of EY, the audit process, the quality of the audit, the handling of key judgements by EY, and EY's response to questions from the AC	P
Recommended to the Board for the re-appointment of EY to be put to the Company's shareholders for approval at the Annual General Meeting (AGM)	A
Compliance and Governance	
Monitored the receipt, retention, investigation and follow-up actions of complaints received, including those from the Shell Global Helpline	P
Reviewed with the Chief Ethics and Compliance Officer the implementation and effectiveness of the Ethics and Compliance programme and function	A
Discussed compliance with applicable external legal and regulatory requirements	P
Performed an evaluation of the AC's performance and effectiveness	A
Reviewed and updated the AC's Terms of Reference	P

Committee Activity Key: A Annually Q Quarterly P Periodically

SIGNIFICANT ISSUES

The AC assessed the following significant issues, including those related to Shell's 2019 Consolidated Financial Statements. The AC was satisfied with how each of the issues below was addressed. As part of this assessment, the AC received reports, requested and received clarifications from management, and sought assurance and received input from the internal and external auditors.

Significant issues

Subject	Issue	How the AC addressed the issue
DISPOSALS See Notes 5 and 8 to the "Consolidated Financial Statements" on **pages 209 and 210-213**.	Several significant disposals were completed in 2019. Prior to disposal, judgement is required in determining whether a sale is highly probable. If it is, the asset should be classified as held for sale, which is a trigger for impairment testing. Judgement may also be required when accounting for the disposal, for example in estimating the amount of any liabilities retained by Shell.	The AC considered the application of the held-for-sale classification, as well as the accounting for any ensuing disposals, including the divestment of Upstream assets in Denmark and US Gulf of Mexico, as well as Downstream assets in the US and Saudi Arabia. Particular attention was given to the assessments of any impairment indicators, as well as the accounting for any retained obligations, together with the assumptions used in determining any resulting charges and the tax treatment thereof.
IMPAIRMENTS See Notes 2 and 8 to the "Consolidated Financial Statements" on **198-204 and 210-213**.	The carrying amount of an asset should be tested for impairment when there is an indication of possible change in carrying value such as a reduction in performance, other than short term, or being classified as held for sale.	The AC challenged whether there were indicators of impairment or reversals of previously recorded impairments and carefully considered the impairment assessments that were performed. In so doing, the AC reviewed the oil and gas price and refining margin outlooks against market developments and benchmarks. The potential impact of certain price sensitivities was also considered, together with the relevant discount rates applied. The AC also reviewed other significant inputs to impairment assessments, including proved oil and gas reserves. The AC also considered the potential impact of climate change and energy transition.
TAXATION See Notes 2 and 16 to the "Consolidated Financial Statements" on **pages 198-204 and 220-222**.	The determination of tax assets and liabilities requires the application of judgement as to the ultimate outcome, which can change over time depending on facts and circumstances. In particular, the recognition of deferred tax assets requires management to make assumptions regarding future profitability and is therefore inherently uncertain.	The AC considered tax exposures, including those associated with 2019 disposals. The AC also evaluated the appropriateness of the recognition of deferred tax assets. The AC deemed the resulting assessments of uncertain tax exposures and the recognition of deferred tax assets to be reasonable.
FIRST-YEAR APPLICATION OF IFRS 16 See Note 3 to the "Consolidated Financial Statements" on **page 204**.	With effect from January 1, 2019, IFRS 16 Leases replaced IAS 17 Leases. Under the new standard, all lease contracts, with limited exceptions, are recognised in the financial statements by way of right-of-use assets and corresponding lease liabilities. Shell applied the modified retrospective transition approach without restating comparative information. In March 2019, the IFRS Interpretation Committee (IFRIC) decision on recognition of lease liabilities in unincorporated joint operations was concluded. During Q2 and Q3 2019 potential exposures were assessed to determine where Shell, as operator, has primary responsibility for the lease liability and would therefore be required to recognise these leases.	In 2018, the AC appraised and approved accounting policy changes resulting from the implementation of IFRS 16. In 2019, the AC reviewed management's analysis of the first-year application of IFRS 16, including key judgements, and concurred with their recommendations. The AC also reviewed the impact of the application of IFRS 16 on the relevant Alternative Performance Measures (APM). The AC assessed management's application of the IFRIC's decision regarding the recognition of lease liabilities by a joint operator in relation to its interest in an unincorporated joint operation.
DISCOUNT RATE FOR PROVISIONS	A review was carried out to consider the discount rate applied for provisions due to a lower rate for 30-year US Treasury bonds. Based on management's review the discount rate for provisions was lowered from 4% to 3% in 2019. This was applied to provision balances at December 31, 2019.	The AC considered the impact that this change will have in relation to increasing provisions. There was specific discussion on the impact to decommissioning and restoration provisions and corresponding assets.

INTERNAL AUDIT

The internal audit function is an independent and objective assurance function which supports Shell in improving its overall control framework. The internal audit function contributes to the maintenance of a systematic and disciplined approach to evaluate and improve the design and effectiveness of Shell's risk management, control and governance processes. The primary role of the internal audit function, through its assurance and investigation activities, is to safeguard value by protecting Shell's assets, reputation and sustainability in relation to the organisation's defined goals and objectives.

The AC defines the responsibility and scope of the internal audit function and approves its annual plan. The Chief Internal Auditor reports functionally to the Chair of the AC and administratively to the Chief Financial Officer. The Chair of the AC approves, in consultation with the Chief Financial Officer, all decisions regarding the performance evaluation, appointment or removal of the Chief Internal Auditor.

The Chief Internal Auditor periodically assesses whether the purpose, authority, and responsibilities of the internal audit function continue to enable it to accomplish its objectives. The results of this periodic assessment are communicated to the EC and AC. The Chief Internal Auditor maintains an internal quality assurance and improvement programme covering all aspects of the internal audit activities, to evaluate the conformance of these activities with the Chartered Institute of Internal Auditors' standards. The programme also assesses the efficiency and effectiveness of the internal audit activities and identifies opportunities for improvement. The results of this annual assessment are communicated to the EC and AC and include a reconfirmation to the AC of the continued validity of the charter of the internal audit function, or proposals for an update. At least every five years, the effectiveness and quality of the internal audit function are assessed externally and the report shared with the AC. An independent assessment of internal audit was conducted in 2018 and the next such external assessment is planned to take place in 2023.

AUDIT COMMITTEE REPORT continued

EXTERNAL AUDITOR

The AC is responsible for considering whether, in order to ensure continuing auditor quality and/or independence, there should be a rotation of the independent registered public accounting firm, including consideration of the advisability and potential impact of selecting a different independent public accounting firm. The Company's current external auditor, EY, was first appointed at the AGM in May 2016 following the conclusion of a competitive tender process. The Company has complied with The Statutory Audit Services for Large Companies Market Investigation (Mandatory Use of Competitive Tender Processes and Audit Committee Responsibilities) Order 2014 for the 2019 financial year.

At the AGM in May 2019, a resolution to reappoint EY as external auditor until the conclusion of the next AGM was approved by shareholders. There are no current plans to retender the appointment. The current external audit partner is Allister Wilson, who has held this position since EY's initial appointment as external auditor in 2016 and will therefore be rotating off the Shell audit following the 2020 audit engagement. As part of its annual assessment of EY, the AC discussed the upcoming partner rotation and measures EY has taken for an orderly transition.

The AC evaluated the objectivity and independence of EY and the quality and effectiveness of the external audit process. As part of its evaluation, the AC, considered: (i) the results of Shell management's internal survey relating to EY's performance over the financial year 2019; (ii) views and recommendations from management and the Chief Internal Auditor; (iii) EY's audit quality priorities and actions by EY as part of its sustainable audit quality programme; and (iv) the AC's own experiences, including interactions throughout the year with the external auditor. Key criteria of the evaluation included: professionalism in areas including competence, integrity and objectivity; constructive challenge of management and key judgements; efficiency, covering aspects such as service level and innovation in the audit process; thought leadership and value added; and compliance with relevant legislative, regulatory and professional requirements. Taking into account the above, the AC is satisfied that EY has continued to provide a high-quality and effective audit in its fourth year as auditor and maintained its independence and objectivity.

During 2019, there was no review of EY's audits of Shell's Consolidated Financial Statements by the Audit Quality Review (AQR) team of the FRC.

Following due consideration, the AC has recommended to the Board to propose at the 2020 AGM that EY be reappointed as the external auditor of the Company for the year ending December 31, 2020. There are no contractual obligations that restrict the AC's ability to make such a recommendation.

As required under UK and US auditing standards, the AC received a letter from EY confirming its independence.

NON-AUDIT SERVICES

The AC maintains an independence policy in respect of the provision of services by the external auditor. The AC regularly reviews this policy for necessary changes in response to changes in related standards and regulatory requirements. Following the issuance of the Revised Ethical Standards by the FRC in December 2019, the AC updated its independence policy to reflect these new standards.

This policy, designed to safeguard auditor objectivity and independence, includes rules relating to the provision of audit services, audit-related services and other non-audit services, and stipulates which services require specific prior approval by the AC.

The policy also defines prohibited services that are not to be provided by the auditor as these represent a risk to external auditor independence. Prohibited services are any that relate to management decision-taking or any other service that would compromise auditor independence or the perception thereof. These prohibited services include all services listed as prohibited in the UK and US auditor independence rules.

For certain services that are not prohibited, because of the knowledge and experience of the external auditor and/or for reasons of confidentiality, it can be more efficient or prudent to engage the external auditor rather than another party. This is particularly the case in relation to audit-related assurance services that are closely connected to the audit function where the external auditor has the benefit of knowledge gained from work already performed as part of the audit.

Under the policy, the AC will only approve services to be carried out by the external auditor or its affiliates where such services do not present a conflict of interest risk in fact or in appearance. The AC reviews quarterly reports from management on the audit and non-audit services reported in accordance with the policy or for which specific prior approval from the AC is being sought. To the extent that the fee value of an additional audit service contract does not individually exceed $50,000 (as from March 15, 2020: $100,000), then no prior approval of the AC is required. All non-audit services where the fee for an individual contract exceeds $100,000, including audit-related services, require individual prior approval by the AC. In each case where the audit or non-audit service contract does not exceed the relevant threshold, the matter is subsequently reported at the next quarterly AC meeting.

The scope of the non-audit services contracted with the external auditor in 2019 consisted mainly of interim reviews and other audit-related assurance services. The associated compensation for these audit-related services and other non-audit services amounted to 4% and 1%, respectively, of the external auditor's audit and audit-related remuneration.

FEES

Note 28 to the "Consolidated Financial Statements" on page 238 provides details of the auditor's remuneration.

AC EVALUATION

The AC undertakes an annual evaluation of its performance and effectiveness. Consistent with the Board's annual performance evaluation for 2019, the AC's performance evaluation was facilitated by Independent Board Evaluation, an independent consulting firm. Each AC member was interviewed for their views covering topics relating to: the management of the AC in areas such as the annual cycle of work, agenda for meetings, and time and input in meetings; rating the quality of the information provided to the AC; the effectiveness of the AC's oversight in areas such as the work of internal and external audit, the Group's financial reporting, the system of internal controls and the risk management policies and practices; rating the AC's performance in reviewing and assessing significant accounting and reporting issues; and generally how to improve the AC's performance. When assessing progress against 2018, the AC concluded that 2019 priorities identified in the 2018 evaluation (including a visit to the finance operations in Chennai and discussions related to the first-year application of IFRS 16, regulatory developments, information risk management and the Net Carbon Footprint control framework) had all been undertaken by the AC in 2019. The AC discussed the outcome of this review as part of its annual evaluation. The AC concluded that its performance in 2019 had been effective and that it fulfilled its role in accordance with its Terms of Reference.

In preparing its workplan for 2020 the AC has agreed the following focus areas in addition to the standing items: Trading and Supply, regulatory developments, decommissioning, integrated risk management, new business models and ventures, pensions and visits to Shell's operations in Singapore, Kuala Lumpur, Malaysia, and the finance operations centre in Krakow, Poland.

GERARD KLEISTERLEE
Chair of the Remuneration Committee

"Listening to shareholders has been critical for the REMCO in shaping our decisions for 2019 and the proposed 2020 remuneration policy"

2019 outcomes

Annual bonus: below-target award, with downward discretion applied for fatalities.

LTIP: above-target vesting, based on long-term performance.

2020 policy features

Alignment to strategy: formalisation of energy transition LTIP condition.

Quantum: reduce CEO LTIP grant and increased focus on the REMCO's use of discretion to manage Single Figure outcomes.

Simplification: removed individual performance factor and reduced CEO target bonus.

THIS REPORT

This Directors' Remuneration Report for 2019 has been prepared in accordance with relevant UK corporate governance and legal requirements, in particular Schedule 8 of The Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 (as amended). The Board has approved this report.

This report consists of two further sections:

- the Annual Report on Remuneration (describing 2019 remuneration as well as the planned implementation of the Directors' Remuneration Policy in 2020) which will be subject to an advisory vote at the 2020 AGM; and
- the Directors' Remuneration Policy which will be subject to a binding shareholder vote at the 2020 AGM.

Dear Shareholders,

I am pleased to present the 2019 Directors' Remuneration Report. This includes my last letter as Chair of the Remuneration Committee (REMCO), our Annual Report on Remuneration and the proposed Directors' Remuneration Policy for 2020 onwards.

It has been another busy year for the REMCO and we have appreciated the ongoing support and engagement of our shareholders as we finalised our proposals on a revised policy and navigated the requirements of the new UK Corporate Governance Code.

In preparing the Annual Report on Remuneration for the year ended December 31, 2018, the REMCO paid particular attention to enhancing disclosures and explaining its decision making, and it was pleased with the level of support (89.93%) received in favour.

The outstanding performance, which underpinned the 2018 pay outcomes, the strong link between pay and performance and the REMCO's prudence in managing pay outcomes over the long term was recognised by many shareholders. Notwithstanding this, a number of shareholders raised concerns over the absolute quantum of the CEO's 2018 remuneration. The REMCO has reflected long and hard on this and quantum has been a matter of careful consideration both in our decisions for the 2019 remuneration outcome as well as in our proposals for the 2020 policy update, as I hope you will appreciate.

So let me now turn to 2019 performance and the remuneration outcomes.

2019 PERFORMANCE AND REMUNERATION OUTCOMES

Annual Bonus

During 2019 the ambition to thrive in the energy transition was progressed; the optimisation and marketing capabilities of the Integrated Gas and Downstream businesses helped deliver above-plan earnings, and project delivery was strong, reflecting the focus on capital discipline. However, assessed against the 2019 scorecard targets, a poor outcome on safety, a difficult macroeconomic environment and areas of operational challenge meant overall performance was below target.

It is worth reiterating that the REMCO has long had a policy of not adjusting remuneration measures to take into account changes in oil and gas prices and currency fluctuations. This means Senior Management also experience the ups and downs of the macroeconomic environment impacting our business and shareholders. In our engagements with our largest shareholders, many have appreciated the transparency this brings.

Financial performance

Cashflow from operations was below the minimum threshold set for 2019. This was driven by challenging macroeconomic conditions, with lower than anticipated oil and gas prices and very difficult market conditions for Shell's Refining and Chemicals businesses. This was exacerbated by operational issues in parts of the Upstream and Integrated Gas businesses.

Operational performance

- Production volumes were below target by 2.53%. This was driven by a number of operational issues and delays bringing projects on-stream;
- LNG liquefaction volumes were below target by 2.20%, mainly due to delayed project start-ups and slower ramp-ups;

- The combined Refinery and Chemicals Availability outcome was above target by 0.44%, with higher downtime from unplanned events being more than compensated by lower downtime from planned events; and
- Combined Project Delivery, which provides an indication of our ability to deliver projects within budget and schedule, was strong, with 90% of projects on-time and with aggregated costs below budget, reflecting the focus on capital discipline and project execution.

Sustainable Development

Shell has made significant progress on safety performance over a long period of time. This is reflected on the scorecard where the targets have been made more challenging over time, and although the total recordable case frequency (TRCF) threshold was not met in 2019, the outcome remains the joint second best on Shell's record, following the record low in 2017. However, the seven fatalities that occurred under Shell's operational control in 2019 are not acceptable and further work on safety is needed.

Performance on the other sustainability metrics was mixed. The process safety measure in 2019 was below target. Greenhouse gas emissions were at target for Upstream and Integrated Gas, and Refining. Chemicals emissions were below target due to a strike at Moerdijk and reliability issues at Deer Park.

Summary of Scorecard Performance

The mathematical outcome of the annual bonus scorecard was 0.48 and the REMCO determined to reduce the outcome to 0.43 for Senior Management. This downward discretion was applied as a result of the increased number of fatalities in 2019. Safety is, and must remain, Shell's number one priority. This reduction is based on the REMCO's judgment and was not a formulaic adjustment.

Reflecting the collective responsibility of senior executives in the safe operation of Shell, internally it was decided to apply the downward discretion to around 150 senior leaders.

This brings the ten-year average scorecard outcome to 1.17. The detailed bonus scorecard breakdown and further commentary on performance are on page 142.

Annual Bonus Outcomes

For 2019, to simplify the annual bonus structure following shareholder feedback, the individual performance multiplier was removed from the bonus calculation formula for the Executive Directors. Annual bonuses are determined based solely on business performance. The CEO's target bonus was also reduced from 150% to 125%.

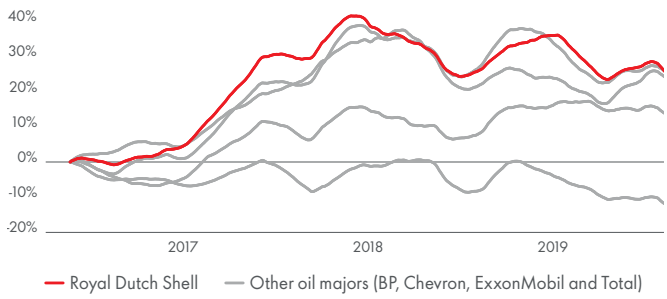
Based on the scorecard outcome of 0.43, the annual bonus outcome for the CEO was €800,000 and for the CFO was €500,000. This represents 41% of target (21% of maximum) and is a 73% reduction from 2018 for the CEO and a 68% reduction for the CFO.

The annual bonus for the Executive Directors is paid 50% in cash and 50% in shares subject to a three-year holding period, which applies beyond an Executive Director's tenure.

Long-term incentive plan (LTIP)

While performance in 2019 assessed against our annual bonus scorecard metrics was below target, on the LTIP we continue to see the impact of the longer-term efforts to transform Shell to deliver increased shareholder value and better performance against the comparator companies.

Total Shareholder Return 2017 – 2019



Shell made $61 billion of distributions to shareholders over the performance period, including dividend payments and share buybacks. Shell was second on total shareholder return (TSR), by less than 0.4%, during a period which has recently been challenging for the sector. Relative CFFO growth was third in the comparator group. Shell generated $131 billion over the period, ranking first in absolute terms. ROACE of 5.6% was also improved, with growth ranking first in the comparator group, reflecting our work to high-grade and reshape the portfolio [A].

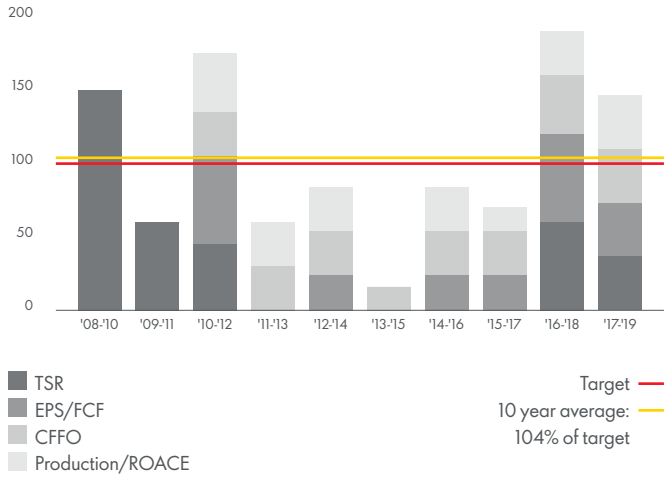
On free cash flow (FCF), Shell exceeded the three-year cumulative target of $85 billion with total FCF over the period of $93.4 billion.

These outcomes continue to reflect the success of Shell's strategy since 2016 and the progress made in building a world-class investment case. Over the 2017-2019 performance period, Shell has delivered on commitments to strengthen the financial framework; cancelling the Scrip Dividend Programme and starting the $25 billion share buyback programme ($14.75 billion completed as at January 22, 2020).

After taking account of the outcome of the performance metrics, as well as considering the wider performance of Shell over the performance period, the final vesting outcome of the 2017 LTIP award was approved at 147%.

This brings the ten-year average vesting outcome to 104%. This is broadly aligned with our target grant, although there have been a number of high and low-vesting outcomes over the past 10 years. The REMCO believes this illustrates the fundamental effectiveness of the LTIP and the close alignment between pay and performance the current LTIP structure has provided over a long period of time.

LTIP Vesting



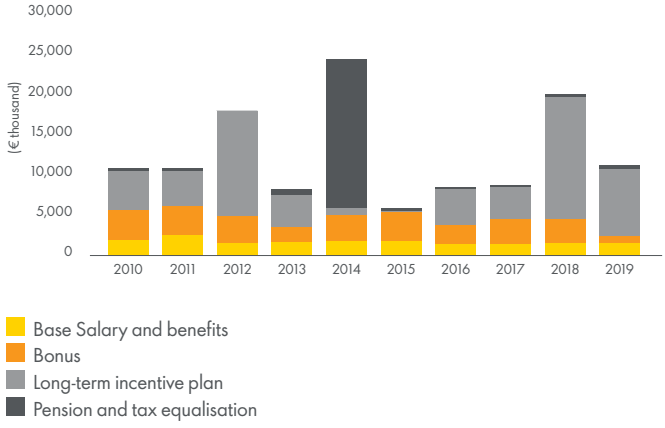
[A] For comparability purposes we calculate ROACE for LTIP purposes on disclosed net income which is not adjusted for the after-tax interest expense, it therefore differs from disclosed ROACE.

CEO Single Figure Outcomes

The REMCO considered the quantum of the Single Figure outcome (€9,963,670 for the CEO) and in finalising their remuneration decisions for 2019, considered a range of factors, further details of which are provided on page 144. These included both Shell's and personal performance in 2019, in the period 2017-2019 and the internal relativity of remuneration compared to the variable pay outcomes for employees.

The REMCO noted that it had already reduced the CEO's target bonus for 2019 from 150% to 125% and the quantum of award was further adjusted downwards on a discretionary basis given the seven fatalities in the year. It recognised the strong competitive results from 2017-2019, but also reflected on the challenging 2019 performance, partly driven by difficult macroeconomic conditions, related to lower cash flow, operational challenges and safety. The REMCO also noted the reductions in annual bonus and LTIP outcomes and that the CEO's overall remuneration was 51% lower than in 2018, and was satisfied that the Single Figure represented an appropriate and competitive level of remuneration within the bounds of the shareholder-approved policy.

CEO's single figure outcomes over last 10 years



PAY IN A WIDER CONTEXT

The REMCO believes that there should be alignment between pay structures for the Executive Directors and employees. This is important, both to reinforce a common commitment to Shell's strategic goals and to give employees the opportunity to share in Shell's success. The majority of Shell's employees share the same scorecard as the Executive Directors. In addition, around 16,500 of Shell's employees are granted performance share awards on terms that are broadly similar to the conditions that also apply to the Executive Directors through the LTIP.

The ratio of the CEO's pay to the median UK worker is 87. The global pay ratio, calculated by comparing the CEO single figure to the average employee headcount cost, is 75. These numbers have significantly decreased from 2018, where the average pay ratio was 143 compared to the UK median ratio and 149 in comparison to the global employee ratio. The principal reasons for the changes are the decrease in the CEO's single figure from 2018, balanced by the reduction in the variable pay outcomes for all employees, and the acquisition of First Utility (now Shell Energy Retail).

The REMCO noted that even with the exceptional CEO pay outcome in 2018 based on strong company performance, our pay ratio was consistent with the pay ratios seen in other major FTSE 30 companies. The REMCO is cautious about drawing any direct conclusions from the comparison of ratios, given the differences in industry and employee profile between companies.

CEO: Pay ratio

2019 CEO single total figure against actual average global employee costs

1. Shell minimum pay ratio [A]
2. Shell 2018 global pay ratio [B]
3. Shell 2019 global pay ratio [C]
4. Shell maximum pay ratio [D]

[A] Based on CEO 'minimum' pay scenario as disclosed on page 160 compared to the average global employee cost in 2019.
[B] Based on the 2018 CEO single total figure compared to the average global employee cost in 2018.
[C] Based on the 2019 CEO single total figure compared to the average global employee cost in 2019.
[D] Based on CEO 'maximum' pay scenario (excluding the 50% share price appreciation) as disclosed on page 160 compared to the average global employee cost in 2019.

Shell's gender pay gap for 2019, published in accordance with the reporting required under the UK Equality Act 2010 (Gender Pay Gap Information) Regulations, increased slightly from 18.6% to 18.7%. This increase is primarily due to the effect of including employees from Shell's acquisition of First Utility in the calculation for the first time. On a like-for-like basis, it would have been 15.1%, an improvement of 3.5 percentage points. Shell's goal is to ensure the equal participation of women and men in all areas of work, at all levels and locations ensuring equal access to the same recognition, reward and career progression opportunities. As 2019 illustrates, these changes will be influenced by changes in our business and may be non-linear. However, the REMCO has confidence in the policies Shell has to increase the representation of women at all levels in the organisation.

2020 REMUNERATION POLICY

I would now like to turn to the remuneration policy that will be voted on at the 2020 AGM.

The REMCO has spent time considering the alignment of remuneration policies to Shell's strategic goals, listening to shareholder views, gathering input on executive pay market developments, and reflecting on wider societal trends in developing the revised policy. I have had the opportunity to meet with many shareholders personally during this process and want to thank them for expressing their point of view. The various perspectives they have provided have helped shape a number of key decisions. Notably, this feedback has been critical in shaping our development of the Energy Transition metric and our intended response to managing the issue of quantum.

In our policy deliberations, we have been guided by three objectives:

Strategy should be set first, and then the remuneration policies designed to support the achievement of those strategic goals. This is our overriding imperative: the decisions we make as the REMCO must be tightly and inextricably linked to Shell's strategy.

Second, we must maintain a package that is externally competitive and ensures the business can attract and retain the management talent capable of ensuring the ongoing success of Shell and delivering a high level of returns for shareholders while navigating through the complexity of the energy transition.

Finally, there must be internal proportionality. The policies we enact for the Executive Directors should be, as far as possible, consistent and aligned with the approach to managing remuneration across the Shell Group.

The REMCO believes the existing structures remain robust and consistent with these objectives. The annual bonus and the LTIP are closely aligned with Shell's strategy: incentivising outperformance of our closest competitors on a number of key financial metrics; the delivery of the annual operational business plan; and progressing the ambition to thrive in the energy transition. While variable pay outcomes have fluctuated over time, the 10-year average vesting outcomes are close to target, demonstrating the effectiveness of these structures in delivering pay for performance over the long term. In discussions with shareholders there was a clear preference for maintaining a strong and direct link between reward and performance. Structures which potentially reduced this link, such as restricted shares, received limited support from shareholders in consultation.

Quantum

There is good support for target reward levels, but some shareholders raised concerns regarding pay quantum at the extremes of performance and this has been a key issue for the REMCO when considering the 2020 policy. In 2019, we reviewed a range of alternative reward structures that might moderate high pay outcomes while keeping target pay competitive. Following extensive consultation with shareholders, we concluded that changing reward design is not the best way to address quantum if it means making compromises on the alignment between pay and performance in the delivery of strategy. This also allows for alignment between reward structures for Executive Directors and employees. The REMCO also considered whether a cap on remuneration levels was appropriate. The REMCO believes it is important to maintain flexibility in order to respond to changing business requirements and/or governance developments if required. The introduction of an arbitrarily defined cap may adversely affect that flexibility and, given the good alignment between pay and performance, would be an unnecessary policy feature. Also some shareholders are of the view that strong performance should be rewarded with strong variable pay outcomes. Accordingly, we have sought ways to manage quantum outcomes within the existing tried and tested performance framework.

Proposals

Under the proposed policy, we are:

- reducing the CEO's target bonus from 150% to 125% (a change already implemented in 2019);
- reducing the maximum LTIP opportunity from 800% of base salary to 600%. In doing so we will reduce the 2020 target LTIP grant level for the CEO from 340% to 300%; and
- introducing a greater emphasis on discretionary management of remuneration outcomes for the CEO. From now on the REMCO will, based on the formulaic Single Figure outcome, undertake a further and final review of the CEO's and company's overall performance and be prepared to adjust the Single Figure in order to ensure that the highest variable pay outcomes are only achieved for the highest quality of performance across all significant areas of activity. It is not expected that this discretion would be applied upwards, and any discretion would be disclosed and explained to shareholders.

As you know, in a first for our industry and following extensive collaboration with shareholders, we incorporated an energy transition measure to our LTIP from 2019, again adopting early a change originally intended for the 2020 policy. That condition continues to feature in the policy, and it remains the REMCO's intent to increase its weighting over time.

The REMCO reflected carefully on the matter of pensions. It is already a long-standing remuneration policy that pensions for Shell's Executive Directors are aligned with those of employees in their home country and we are proposing to continue this policy.

The CEO participates in the mainstream Shell Netherlands pension arrangements on the same terms as all other members. It is a feature of Netherlands pension schemes that the contribution rate increases with age and this is a requirement of Dutch pension legislation. As the CEO is near the top of the ladder based on age, his contribution rate is 27%. The REMCO is aware that this may appear high by UK standards of pension contribution. However, this is the standard contribution rate applicable to all employees of his age in this plan, and we believe that this is aligned with the spirit of recent developments in corporate governance regarding pension provision. Jessica Uhl also participates in the pension arrangements applicable to employees in her home country (USA). The only difference in her arrangements in comparison to other employees is that her bonus is non-pensionable. This is in accordance with UK corporate governance best practice. Further information on pensions is provided on page 145.

We are proposing a number of other changes to simplify the policy and to ensure it remains aligned with shareholder interests and developing corporate governance best practice. These changes include increasing the CFO's shareholding requirement, introducing a post-employment shareholding requirement and extending our malus and clawback provisions.

A summary of the changes from the existing policy are set out on page 145. Having consulted with shareholders on these changes through the course of the last two years, I am confident of your support.

LOOKING AHEAD

The 2020 AGM will be my last as the REMCO Chairman, as I will be stepping down from the RDS Board following the meeting. It has been a privilege to chair the REMCO over a period which has seen a great deal of change, both for Shell and in the executive remuneration landscape. I believe that the proposed 2020 remuneration policy will provide strong support in achieving Shell's strategic ambitions and I wish my successor, Neil Carson, every success for the future.

GERARD KLEISTERLEE
Chair of the REMCO
March 11, 2020

ANNUAL REPORT ON REMUNERATION

The Annual Report on Remuneration sets out

- The REMCO's responsibilities and activities, **page 139**;
- Remuneration at a glance, **page 140**;
- Directors' remuneration for 2019, **page 141**; and
- the statement of the planned implementation of policy in 2020, **page 152**.

The base currency in this Annual Report on Remuneration is the euro, as this is the currency of the base salary of the Executive Directors. Where amounts are shown in other currencies, an average exchange rate for the relevant year is used, unless a specific date is stated, in which case the average exchange rate for the specific date is used.

REMUNERATION COMMITTEE

Biographies are given on pages 104-110; and REMCO meeting attendance is set out below:

Committee Member	Member since	Maximum possible meetings	Number of meetings attended	% of meetings attended
Mr. Gerard Kleisterlee (Chair)	21 May 2014	5	5	100%
Mr. Neil Carson [A]	01 June 2019	3	2	67%
Mrs. Catherine Hughes	26 July 2017	5	5	100%
Sir Nigel Sheinwald	24 May 2017	5	5	100%
Mr. Gerrit Zalm	21 May 2014	5	5	100%

[A] Neil Carson was unable to attend the meeting in October due to an immovable commitment, which was scheduled prior to his appointment to the Shell Board.

The REMCO's key responsibilities include determining:

	Senior Management		
	Executive Directors	Executive Committee	Company Secretary
Performance Framework	✓	✗	✗
Remuneration policy	✓	✓	✗
Actual remuneration and benefits	✓	✓	✓
Annual Bonus and Long-Term Incentive Measures and Targets	✓	✓	✓

In addition, the REMCO has the responsibility for determining the Chair of the Board's remuneration. The REMCO monitors the level and structure of remuneration for senior executives below Senior Management and makes recommendations if appropriate to ensure consistency and alignment with Shell's remuneration objectives. The REMCO reviews workforce remuneration and related policies and the alignment of incentives and rewards with culture, taking these into account when setting the policy for Executive Director remuneration.

In exercising its responsibilities, the REMCO takes into account a variety of stakeholder considerations.

The REMCO operates within its Terms of Reference, which are reviewed annually. They were last updated on March 13, 2019 and are available at www.shell.com.

Advice from within Shell was provided by:
- Ben van Beurden, CEO;
- Ronan Cassidy, Chief Human Resources and Corporate Officer and Secretary to the REMCO; and
- Stephanie Boyde, Executive Vice President Remuneration and HR Operations.

The Chair of the Board was consulted on remuneration proposals affecting the CEO, and the CEO was consulted on proposals relating to the CFO and Senior Management.

During 2019, the REMCO met five times and its activities included:
- setting annual bonus and long-term incentive plan performance measures and targets, including considering the energy transition in the context of long-term remuneration;
- deciding on 2018 annual bonus outcomes, 2019 base salaries, 2019 target bonuses and 2019 LTIP awards for Senior Management;
- determining vesting of the 2016 LTIP award for Senior Management;
- approving the 2018 Directors' Remuneration Report;
- carefully deliberating on quantum for the CEO;
- preparing for shareholder consultation;
- developing the Directors' Remuneration Policy in preparation for the 2020 AGM vote; and
- monitoring external developments and assessing their impact on Shell's Remuneration Policy.

In 2019, PWC provided an update to advice first provided in 2018 regarding market practice in relation to remuneration developments and Shell's remuneration structures. PWC were appointed by the REMCO to provide this advice on the basis of their credentials for assessing the risk profile of remuneration policies and their knowledge of shareholder expectations and international market practice in the oil industry and long-term businesses. PWC is a member of the Remuneration Consultants Group and operates under the group's Code of Conduct when providing advice. PWC provides other consultancy and accountancy services to Shell. However, the REMCO is satisfied that the advice provided on executive remuneration matters was objective and independent. The total fees paid to PWC in relation to this advice were £10,000 (excluding VAT).

PRINCIPLES

The principles that underpin the REMCO's approach to executive remuneration are set out on page 155.

The REMCO considered the provisions of the new UK Corporate Governance code, and has sought to reflect the principles of clarity, simplicity, risk management, predictability, proportionality and alignment to culture in deciding 2019 pay outcomes and developing 2020 policy.

Shell has a consistent global reward and performance philosophy that sets clear expectations of employees. Through the annual bonus scorecard and the LTIP, remuneration is clearly aligned to Shell's operating plan and strategic ambitions and the same measures apply to Senior Management and to a significantly broader employee base. This provides alignment throughout the organisation to Shell's culture and strategy. The annual operating plan translates into targets on the annual bonus scorecard and a quarterly update on performance against scorecard targets is provided to employees. Similarly the LTIP is largely based on outperforming the competition, and regular updates on Shell's performance against competitors is provided to employees. In reviewing the Directors' Remuneration Policy, the REMCO sought to make changes that help to simplify remuneration structures (for example, removing the individual performance factor for Executive Directors) and giving more transparent outcomes (for example, removing the bonus asymmetry from the CEO's remuneration structure). To assist in the mitigation of reputational risk and ensure proportionality, the powers of the REMCO to apply malus and clawback and make discretionary adjustments to variable pay outcomes have been expanded, with the intention that the REMCO will use discretion to ensure the highest pay outcomes are delivered only for outstanding performance.

ANNUAL REPORT ON REMUNERATION continued

REMUNERATION AT A GLANCE

2019

FIXED PAY AND SHAREHOLDING

Base salary

€1,557,000 Ben van Beurden (CEO)

€1,015,000 Jessica Uhl (CFO)

Pension

Executive directors participate in the same home country pension arrangements as other employees

Benefits

Typically include car allowance, transport between home and office, and medical insurance

Shareholding

Target levels, % of base salary at 31 December 2019

700% CEO

400% CFO

Actual levels, % of base salary at 31 December 2019

1,136% CEO

265% CFO

ANNUAL BONUS

2019 annual bonus

€800,000 CEO (73% reduction from 2018)

€500,000 CFO (68% reduction from 2018)

2019 bonus scorecard outcome

Mathematical outcome

0.48

Given safety outcomes in 2019, including seven fatalities, this was reduced to:

0.43

No individual performance factor used in bonus calculation

Bonus Delivery

50% delivered in cash | **50%** delivered in shares

Shares are subject to a 3-year holding period which extends beyond an Executive Directors' tenure

LONG TERM INCENTIVE PLAN

2017 – 2019 LTIP vesting outcome

€7,191,223 CEO (53% reduction from 2018)

$4,357,430 CFO (115% increase from 2018)

Vesting outcome

Measures	Outcome	Vesting
TSR	1 **2** 3 4 5	38%
CFFO	1 2 **3** 4 5	20%
ROACE growth	**1** 2 3 4 5	50%
FCF		39%
		147%

(out of a 200% maximum)

Shares are subject to a 3-year holding period which extends beyond an Executive Directors' tenure

2020

FIXED PAY AND SHAREHOLDING

Base salary

€1,588,000 CEO

↑ 2%

€1,035,000 CFO

↑ 2%

Pension

No change from 2019

Benefits

No change from 2019

Shareholding

Target levels, % of base salary 2020

700% CEO

↑ 500% CFO (increased from 400%)

Actual levels, % of base salary 5 March 2020

1,090% CEO

467% CFO

ANNUAL BONUS

Target % of base salary

Target

125% CEO

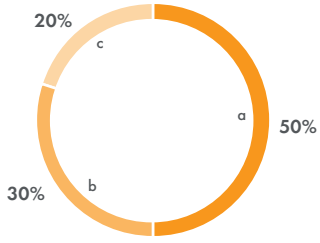
120% CFO

Maximum

250% CEO

240% CFO

Scorecard architecture



a **Operational Excellence** (Project delivery 12.5%, Production 12.5%, LNG liquefaction volumes 12.5%, OP/CH availability 12.5%)

b **Operational Cash flow**

c **Sustainable Development** (GHG 10%, TRCF 5%, Tier 1 & 2 Process Safety 5%)

LONG TERM INCENTIVE PLAN

Target awards % of base salary

Target

↓ 300% CEO (reduced from 340% in 2019)

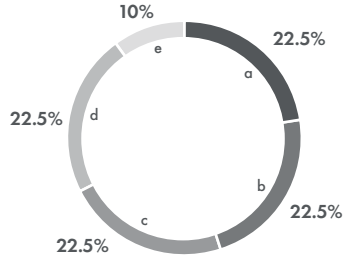
270% CFO

Maximum

↓ 600% CEO (reduced from 680% in 2019)

540% CFO

Performance conditions



a **TSR**

b **ROACE**

c **Cash from operating activities**

d **FCF**

e **Energy transition (new from 2019)**

DIRECTORS' REMUNERATION FOR 2019

Single total figure of remuneration for Non-executive Directors (audited)

€ thousand

	Fees		Taxable benefits[A]		Total	
	2019	2018	**2019**	2018	**2019**	2018
Neil Carson [B]	**99**	N/A	**–**	N/A	**99**	N/A
Ann Godbehere [C]	**178**	97	**–**	–	**178**	97
Euleen Goh	**201**	220	**–**	–	**201**	220
Charles O. Holliday [D]	**850**	850	**71**	75	**921**	925
Catherine J. Hughes	**200**	199	**–**	7	**200**	206
Gerard Kleisterlee	**242**	216	**–**	7	**242**	223
Roberto Setubal	**190**	190	**2**	–	**192**	190
Sir Nigel Sheinwald	**187**	180	**–**	6	**187**	186
Linda G. Stuntz	**189**	197	**8**	13	**197**	210
Gerrit Zalm	**177**	177	**–**	–	**177**	177

[A] UK regulations require the inclusion of benefits where these would be taxable in the UK, on the assumption that Directors are tax residents in the UK. On this premise, the taxable benefits include the cost of Non-executive Director's occasional business-required partner travel. Shell also pays for travel between home and the head office in The Hague, where Board and committee meetings are typically held, as well as related hotel and subsistence costs. For consistency, these business expenses are not reported as taxable benefits as for most Non-executive Directors this is international travel and hence would not be taxable in the UK.
[B] Appointed as a Director with effect from June 1, 2019.
[C] Appointed as Director with effect from May 23, 2018
[D] Including the use of a Shell provided apartment whilst in the Hague (2019: €70,624; 2018: €70,015)

Single total figure of remuneration for Executive Directors (audited)

€ thousand

	Ben van Beurden		Jessica Uhl	
	2019	2018	**2019**	2018
Salaries [A]	**1,557**	1,527	**1,015**	995
Taxable benefits [B]	**20**	32	**51**	49
Total fixed remuneration	**1,577**	1,559	**1,066**	1,044
Annual bonus [C]	**800**	3,000	**500**	1,550
LTIP [D]	**7,191**	15,209	**3,903**	1,783
Total variable remuneration	**7,991**	18,209	**4,403**	3,333
Total direct remuneration	**9,568**	19,768	**5,469**	4,376
Pension [E]	**395**	369	**261**	196
Tax equalisation [F]		–	**275**	289
Total remuneration including pension and tax equalisation	**9,963**	20,138	**6,005**	4,862
in dollars	**11,155**	23,790	**6,724**	5,744
in sterling	**8,746**	17,817	**5,271**	4,302

[A] As disclosed in the 2018 Directors' Remuneration Report, the REMCO set Ben van Beurden's base salary for 2019 at €1,557,000 (+2.0% compared with 2018) effective from January 1, 2019, and Jessica Uhl's base salary at €1,015,000 (+2.0% compared with 2018) effective from January 1, 2019.
[B] Executive Directors received car allowances, transport between home and office, occasional business-required partner travel, as well as employer contributions to life and medical insurance plans.
[C] The full value of the bonus, comprising both the 50% delivered in cash and 50% bonus delivered in shares. For 2019, the market price of A shares on February 21, 2020 (€22.735), was used to determine the number of shares delivered, resulting in 9,521 A shares for Ben van Beurden and 5,951 A shares for Jessica Uhl. For 2018, 50% of the bonus was delivered in shares and the market price of A shares on February 21, 2019 (€27.745), was used to determine the number of shares delivered, resulting in 28,045 A shares for Ben van Beurden and 14,490 A shares for Jessica Uhl.
[D] Remuneration for performance periods of more than one year, comprising the value of released LTIP awards. The amounts reported for 2019 relate to the 2017 LTIP award, which vested on March 4, 2020, at the market price of €19.986 and $45.21 for A shares and A ADSs respectively. The value in respect of the LTIP is calculated as the product of: the number of shares of the original award multiplied by the vesting percentage; plus accrued dividend shares; and the market price of A shares or A ADSs at the vesting date. The market price of A ADSs is converted into euros using the exchange rate on the respective date. Ben van Beurden also received a release of 57,980 RDS A shares under the 2017 Deferred Bonus Plan (DBP) on March 4, 2020. The original deferred bonus share awards, which are those represented by the deferred bonus and dividend shares accrued on these shares are not considered as long-term remuneration as they relate to the 2016 short-term annual bonus value. Share price appreciation accounted for -€1,603,428 on the LTIP and -€317,962 on the DBP for Ben van Beurden and -$521,010 on the LTIP for Jessica Uhl.
[E] For Ben van Beurden, the amount reported for pension consists of a net pay defined contribution amount of €395,060. The amount to be reported for his defined benefit pension accrual is 0 calculated in accordance with UK reporting requirements. For Jessica Uhl, the amount reported for pension consists of a defined contribution amount of €102,709 and a defined benefit pension accrual €158,012.
[F] Includes tax equalisation of pension contributions to foreign pension plan(s), when they are taxable above a certain pensionable salary threshold or once a double tax treaty exemption ceases, under Dutch law. Tax equalisation is applied for the loss of pension relief for members of a foreign pension plan(s) in their host country.

ANNUAL REPORT ON REMUNERATION continued

Notes to the single total figure of remuneration for executive directors table (audited)

Annual bonus

The Annual bonus operated in line with the policy as disclosed on page 156.

Determination of the 2019 annual bonus

The table below summarises the 2019 annual bonus scorecard measures including their weightings, targets and outcomes. The mathematical scorecard outcome for 2019 was 0.48. Please refer to pages 135-136 for a commentary on the scorecard outcome.

After reviewing the mathematical scorecard outcome, and considering the context of wider company performance for the year, the REMCO exercised discretion to adjust the scorecard result downwards to 0.43. This downwards adjustment was to reflect the seven fatalities under Shell operational control during the year.

Accordingly, the REMCO determined a final bonus outcome of €800,000 for the CEO which is 41% of target and 21% of maximum. This is a 73% reduction from 2018. The REMCO determined a final bonus outcome of €500,000 for the CFO which is 41% of target and 21% of maximum. This is a 68% reduction from 2018.

2019 annual bonus outcome (audited) [A][B]

Measures	Weight (% of scorecard)	Threshold	Target set	Outstanding	Result achieved	Score (0-2)
Cash flow from operating activities ($ billion)	**30%**	44	50	56	42	**0**
Operational excellence	**50%**					**0.72**
Production (kboe/d)	12.5%	3,647	3,760	3,873	3,665	0.16
LNG liquefaction volumes (mtpa)	12.5%	35.3	36.4	37.4	35.6	0.23
Refinery and chemical plant availability (%)	12.5%	88.4	90.4	92.4	90.8	1.20
Project delivery on schedule (%)	6.25%	60	80	100	90	1.50
Project delivery on budget (%)	6.25%	105	100	95	99	1.10
Sustainable development	**20%**					**0.59**
Total recordable case frequency (injuries/million hours)	5%	0.9	0.7	0.5	0.9	–
Operational Tier 1 and 2 process safety events (number)	5%	145	115	85	130	0.50
Upstream and Integrated Gas GHG intensity (tonnes of CO_2 equivalent/tonne of hydrocarbon production available for sale)	4%	0.176	0.168	0.160	0.168	1.00
Refining GHG intensity (tonnes CO_2 equivalent per Solomon's Utilized Equivalent Distillation Capacity (UEDC™))	4%	1.11	1.06	1.01	1.06	1.00
Chemicals GHG intensity (tonnes CO_2 equivalent/tonne of petrochemicals production)	2%	1.10	1.00	0.90	1.04	0.60
	100%					
Mathematical scorecard outcome						**0.48**
Adjusted scorecard outcome						**0.43**

[A] These metrics measure the effectiveness with which we operate our assets and portfolio base, assessed against our operational business plan. Shell's longer-term strategic ambitions are measured in the LTIP metrics.
[B] Scorecard targets are based on Shell's annual operating plan and increase or decrease year-on-year. In 2019, target refinery and chemical plant availability was lower and target GHG emission intensities higher than 2018, due to planned business activities, reflecting scheduled maintenance and expected market conditions, and portfolio developments.
[C] In external disclosure, we may use an alternative performance measure, i.e. CFFO excluding Working Capital, to describe the cash flow generation from our operations without the effect of working capital changes.

2019 bonus outcome calculation

Ben van Beurden

Target bonus:
€1,557,000 (base salary)
x 125% = **€1,946,250**

× 2019 scorecard result 0.43

= **€800,000** [A]
(51% of base salary)
↓ 73% reduction from 2018

Jessica Uhl

Target bonus:
€1,015,000 (base salary)
x 120% = **€1,218,000**

× 2019 scorecard result 0.43

= **€500,000** [A]
(49% of base salary)
↓ 68% reduction from 2018

[A] Rounded downwards to the nearest €50,000, and half was delivered in shares subject to a three-year holding period which extends beyond the Executive Director's tenure.

LTIP Vesting

In 2017, Ben van Beurden was granted a conditional LTIP award of 340% (max 680%) of base salary and Jessica Uhl an award of 270% (max 540%) excluding share price movement and dividends.

In making the vesting decision, the REMCO considered Shell's performance over the three-year vesting period. The REMCO noted the strong performance of Shell relative to both the other oil majors and the wider oil and gas sector in generating shareholder returns, in particular the $61 billion distributed to shareholders in the form of dividends and share buybacks. This strong relative performance led to a very close TSR outcome, with Shell ranking second by a difference of less than 0.4%. Cash performance was also strong with CFFO leading the comparator group on absolute CFFO generated, and FCF was well above the cumulative target set for the three-year performance cycle. ROACE has also improved, reflecting the focus on capital discipline. The REMCO also took account of the fact that Shell's competitors are some of the strongest companies in the industry and achieving relative outperformance is challenging.

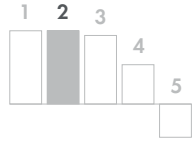
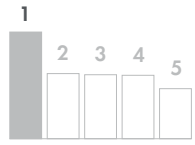
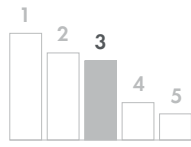
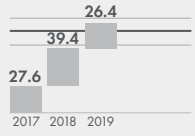
The REMCO also took account of share price at grant (€25.47 for the CEO and $51.74 for the CFO) and at vest when making the vesting decision. As the share price at grant was only 2% higher from the three-month average share price leading up to grant, the REMCO was comfortable that there were no notable windfall gains arising from the LTIP vesting.

Accordingly, the REMCO determined that the LTIP should vest without discretionary adjustment at 147%. This is illustrated opposite.

The CEO's and CFO's vested awards are subject to a further three-year holding period which extends beyond executive director tenure.

2017 LTIP vesting outcome – performance metrics

Shell Comparator oil majors

Measures	Target	Outcome	Vesting
Relative TSR	25%		38%
Relative ROACE growth	25%		50%
Relative cash flow from operating activities growth	25%		20%
Absolute FCF ▪ Maximum $100bn ▪ **Target $85bn** ▪ Threshold $76bn	25%		39%
Total	100%		147% (out of a 200% maximum)

2017 LTIP vesting outcome

Ben van Beurden

Vesting outcome: [A]
198,900 x 147% =
292,383 RDS A Shares
(€7,446,995)

+

Change in share price: [B]
292,383 x -€5.484
(-€1,603,428)

+

Accrued dividends: [C]
67,430 RDS A Shares
(€1,347,656)

=

Total LTIP Vesting: [C][D]
359,813 RDS A Shares
(€7,191,223)
↓ 53% reduction from 2018

Jessica Uhl

Vesting outcome: [A]
54,277 x 147% =
79,787 RDS.A Shares
($4,128,189)

+

Change in share price: [B]
79,787 x -$6.53
(-$521,010)

+

Accrued dividends: [C]
16,595 RDS.A ADS
($750,251)

=

Total LTIP Vesting: [C][D]
96,382 RDS.A ADS
($4,357,430)
↑ 115% increase from 2018 [E]

[A] Based on the share price at grant of €25.47 for Ben van Beurden and $51.74 for Jessica Uhl.
[B] Calculated as the share price at vesting date minus the share price at the date of grant for Ben van Beurden €19.986 – €25.47 = -€5.484 and for Jessica Uhl: $45.21 – $51.74 = -$6.53
[C] Based on the share price at vesting date of €19.986 for Ben van Beurden and $45.21 for Jessica Uhl.
[D] Vested shares are subject to a two year holding period.
[E] Jessica Uhl's LTIP awards which vested in 2018 was made prior to appointment as CFO and were lower in accordance with our principle of internally proportionate pay that increases with seniority. The awards which vested in respect of 2019 were the first granted following promotion to CFO.

Overall pay outcome

In determining the final pay outcomes, the REMCO also considered the personal performance of the Executive Directors.

Personal performance 2017 – 2019

Key Goals	Ben van Beurden	Jessica Uhl
Deliver a world-class investment case	Under the CEO's leadership, Shell continues to transform, with a clear purpose and well-defined strategic intents that balance societal progress with performance, to deliver higher returns. Over the 2017 – 2019 performance period, financial performance was strong: CFFO was $131 billion, FCF was $93 billion, an all-cash dividend was paid, and the share buyback programme was started ($14.75 billion completed as at January 22, 2020). The $30 billion divestment programme was also completed (in 2018) and investments have been made in a disciplined manner. In terms of broader company performance, the REMCO recognised the strategic clarity the CEO has provided around the purpose and direction of Shell. Shell has delivered on its commitments to shareholders to date and remains committed to its intent to achieve 2020 targets. Albeit this timeframe is less certain given prevailing weak macroeconomic conditions and challenging outlook.	The CFO demonstrated strong cost and capital discipline leadership. This was enabled by a consistent focus on the strategic management of Shell's Financial Framework, which has been a key contribution to the health and success of Shell in the period under review. Key milestones included: the cancellation of the scrip dividend and start of the share buyback programme, sustained investment discipline, reduced costs and a strengthened balance sheet with AA equivalent credit metrics. The introduction of publication of a quarterly update enhances disclosures and increases transparency. In terms of broader company performance, the REMCO recognised the strategic insight the CFO has provided in terms of effective capital allocation, portfolio and investment decisions that further Shell's world-class investment case.
Thrive in the energy transition	The CEO continued to lead Shell's NCF ambition through driving internal plans and targets, integrating business and world-class investment decisions with thriving in the energy transition, and by preparing the organisation for changing investor and customer preferences as the transition unfolds. The CEO continues to lead the way in the energy transition debate externally, for example, through the first joint statement with institutional shareholders, encouraging other companies to adopt the NCF methodology, and shaping the debate on energy transition. He has been instrumental in galvanising coalitions to start action on sectoral decarbonisation. His personal role, for example in the Aviation Clean Skies Initiative, is recognised by both customers and external stakeholders. His interventions have helped in shifting the climate agenda towards the practical measures that will be needed for creating sustained demand for lower carbon products. Shell set and disclosed NCF reduction targets. The CEO extended this measure to the remuneration of 16,500 Shell employees through the Performance Share Plan (PSP).	The CFO further matured the internal management systems relating to carbon dioxide (CO_2) in portfolio, planning and resource allocation decisions. The CFO led the publication of the Shell Energy Transition Report, which is aligned with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations and sets out how Shell plans to be resilient to expected changes in the energy system and how its strategy helps it to thrive as the world transitions to lower-carbon energy.
Strengthen licence to operate	In terms of HSSE leadership, performance was mixed, which shows further improvement is required. The 2019 personal injury rate was flat to 2018, following the lowest ever injury rate on record in 2017. The fatalities in Shell-operated ventures in 2019 are unacceptable and provide a stark reminder of the need for an ongoing focus on safety. In 2018, there was a notable improvement in operational process safety, with a reduction in the number of both Tier 1 and Tier 2 events. This, however, deteriorated in 2019. In 2019, Shell published the Industry Associations Climate Review, which assesses alignment with 19 industry associations on climate-related policy and decided not to renew Shell's membership of one association as a result.	The CFO maintained a strong financial disclosure, reporting and control framework. The CFO played a key role in Shell's endorsement of the responsible tax principles set out by the non-profit organisation, The B Team. In 2019, Shell published its inaugural Tax Contribution Report marking an important step towards greater transparency around Shell's approach to paying taxes to governments.

The REMCO considered the quantum of the Single Figure outcomes, and, noting that the CEO's overall remuneration was 51% lower than in 2018, was satisfied that they represent a fair level of remuneration, taking into account the strong competitive performance from 2017 to 2019 and the significant bonus reduction in 2019 reflecting the number of fatalities and safety challenges as well as the lower cash flow and operational challenges.

In finalising its remuneration decisions for 2019, the REMCO considered a range of factors, including:

- Shell's performance in 2019 and over the LTIP performance period 2017-2019;
- potential risk adjustment considerations, including safety, ethics and compliance and feedback from the Audit and Safety, Environment and Sustainability Committees;
- the final scorecard outcome including the downwards discretion applied to the final vesting outcome;
- the final LTIP vesting outcome;
- the internal relativity of remuneration compared to the variable pay outcomes for the general workforce based on the group scorecard and Performance Share Plan; and
- the personal performance of the executive directors.

After reflecting on the above factors, the REMCO was satisfied that the remuneration policies had operated as intended.

Pension

Ben van Beurden's pension arrangements comprise a defined benefit plan with a maximum pensionable salary of €96,729; and a net pay defined contribution pension plan with a 2019 employer contribution of 27% of salary in excess of €96,729. He has the option to take cash as an alternative to pension contributions (in either case subject to income tax) and elected to take his benefit in the form of contributions throughout 2019.

The employer contribution levels are in line with those applicable to other Netherlands-based employees. Under the Dutch pension regulations applicable to the pension arrangement in which he participates, the contribution rate increases with age and is shown below.

At December 31, 2019 the average contribution rate for NL employees who participate in the net pay defined contribution pension arrangement on the same terms as Ben van Beurden was 22%. For reference, in the UK, the average employer contribution rate to the Shell UK defined contribution plan is 20%.

Shell Netherlands Pension Stichting Net pay defined contribution ladder

Age	Employer contribution
15 – 19	6.30%
20 – 24	7.54%
25 – 29	8.99%
30 – 34	10.44%
35 – 39	12.31%
40 – 44	14.38%
45 – 49	17.07%
50 – 54	19.77%
55 – 59	23.29%
60 – 64	(2019 rate for Mr van Beurden) 27.02%
65 – 67	30.13%

Jessica Uhl is a member of the Shell US retirement benefit arrangements, which include the Shell Pension Plan (a defined benefit plan), and a defined contribution plan where she receives an employer contribution of 10% of salary. This is the same as the average employer contribution rate for US employees at December 31, 2019, which was also 10%. As for all other pre-2013 members of the Shell Pension Plan, she has an annual choice of two accrual formulas with different forms of benefits, one in the form of a lifetime annuity and the other allowing for a lump-sum payment. She elected to accrue benefits for 2019 under the former. Approximately 10,000 out of 17,000 Shell US employees have the option of choosing between the two formulas. These arrangements are the same for all employees who joined Shell US at the same time as Jessica Uhl. The difference in pension provision for Jessica Uhl, compared to employees who joined pre-2013, is that her bonus is not pensionable as an Executive Director while for other relevant US employees the bonus is pensionable. She also has a deferred Dutch defined benefit pension plan, as a result of a prior Shell assignment on local Dutch terms and conditions.

The REMCO believe these arrangements are aligned with the recent corporate governance developments in the UK which emphasise Executive Directors' pension arrangements being the same for the general employee population.

Scheme interests awarded in 2019

Scheme interests awarded to Executive Directors in 2019 (audited)

Scheme interest type	Type of interest awarded	End of performance period	Target award [A]	Potential amount vesting: Minimum performance (% of shares awarded) [B]	Potential amount vesting: Maximum performance (% of shares of the target award) [A]
LTIP	Performance shares	December 31, 2021	Ben van Beurden: 194,625 A shares, equivalent to 3.4 x base salary or €5,293,800. Jessica Uhl: 49,927 A ADS shares, equivalent to 2.7 x base salary or €2,740,500.	0%	Maximum number of shares vesting is 200% of the shares awarded, before dividends.

[A] The award for Ben van Beurden was based on the closing market price on February 1, 2019, for A shares of €27.20. The award for Jessica Uhl was based on the closing market price on February 1, 2019, for A ADSs of $62.84.
[B] Minimum performance relates to the lowest level of achievement, for which no reward is given.

The measures and weightings applying to LTIP awards made in 2019 were: energy transition (10%), FCF (22.5%), TSR (22.5%), ROACE growth (22.5%) and cashflow from operating activities growth (22.5%).

Absolute measures

Energy Transition

The energy transition condition is focused on Shell's strategic ambition to thrive in the energy transition and supports delivery of Shell's Net Carbon Footprint (NCF) ambition.

This measure was introduced to the LTIP in 2019 under the existing remuneration policy, in advance of the 2020 policy vote. The condition consists of a mix of leading and lagging measures that set the foundations to contribute to Shell's strategic ambitions in the longer term. These will comprise:

Lagging measure – a measure of our progress in meeting our ambition

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

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

- The growth of our power business: growth in the use of electricity and continuing decarbonisation of electricity by shifting to renewables and gas-fired power generation is recognised as a key lever in all decarbonisation scenarios. Our ambition to grow the power business is based on selective investments in generation, and in business models based on reselling power generated by others;
- Advanced biofuels technology: biofuels are expected to play a valuable role in the changing energy mix and are likely to be the key decarbonisation levers for sectors that need to continue to use liquid fuels in the foreseeable future, such as some segments of transport and industry. For society and for Shell, commercialisation of advanced biofuel technology is one of the most important steps in energy transition; and
- the development of systems to capture and absorb carbon: carbon capture and storage (CCS) and carbon sinks, such as nature-based solutions are required as part of the global response to climate change.

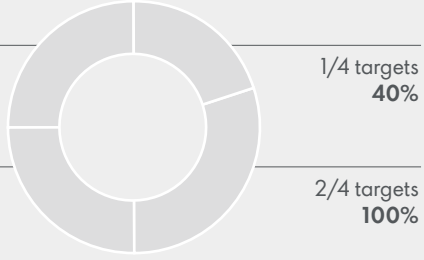
Targets have been set for each element. Progress in the energy transition is not expected to be linear as it will reflect the pace of change of society as a whole and the speed at which Shell progresses its strategic business objectives. Therefore, most of the targets have been set as ranges. Energy transition targets, with the exception of the NCF target, are considered to be commercially sensitive and will therefore be disclosed retrospectively. Annual updates on our progress in relation to the measures will be provided. The first update on progress is provided at page 147.

The vesting outcome for the part of the award weighted to the energy transition condition ranges from 0% to 200% of grant. The REMCO, at its sole discretion, will determine vesting outcomes after taking into account achievement against the target ranges and feedback from the Safety, Environment and Sustainability Committee (SESCo). In doing so, the REMCO will take into account, in relation to each element, progress over the performance period relative to nearer-term aims in pursuit of the long-term ambition announced by Shell to reduce the NCF of energy products sold by around half by 2050, and by around 20% by 2035, in step with society's drive to meet the goals of the Paris Agreement. The starting point for determining the vesting outcome will be scoring how many of the targets have been met for each of the four areas. One out of four will equal 40%, two will equal 100%, three will equal 150% and 200% will be achieved for scoring four out of four. However, it is important to note that performance against these elements will serve simply as a starting point for the REMCO, which will also take into account any other considerations it deems appropriate, including (without limitation) the relative importance of these elements in meeting the long-term ambition announced by Shell. For example, the REMCO may decide to allocate a greater emphasis to overall performance in relation to the NCF than the other three elements. The REMCO believes this approach is

Operation of energy transition measures in the 2019 LTIP

Lagging – NCF reduction target ▪ Measured against 2016 base year	**2019 – 2021 performance period** ▪ Target range 2-3% reduction	**Thrive in the energy transition**
Leading - Drive future NCF reduction ▪ Growing our power business ▪ Advanced biofuels technology ▪ Systems to capture and absorb carbon	▪ Target ranges ▪ Commercially sensitive ▪ Disclosed retrospectively	

Energy transition vesting (basis for the Remuneration Committee's decision) [A]



- 10% weighting in 2019: expect to increase over time
- Combination of leading and lagging measures
- Targets set as ranges
- Commercially sensitive targets so will be disclosed retrospectively. Annual updates on progress relating to the measures will be provided

[A] The vesting schedule for the energy transition metric will be based on how many of the four targets are met. 1/4 will equal 40% vesting, 2/4 100%, 3/4 150%, 4/4 200%. The Remuneration Committee may take into account other appropriate considerations, after taking advice from the Safety, Environment and Sustainability Committee. For example, increasing the weighting of NCF relative to the other performance conditions in making its vesting discretion. Any use of discretion will be disclosed and explained.

appropriate to reflect the uncertainties around the speed and direction of progress in the energy transition. The application of any discretion will be fully disclosed and explained by the REMCO.

FCF

The FCF performance condition supports our strategic ambition of being a world-class investment case, and the delivery of our cash flow priorities, namely: to service and reduce debt, pay dividends, buy back shares and make future capital investments.

The target for FCF, along with the ranges for threshold and outstanding performance, will be set by reference to Shell's annual operating plans, being the aggregate of our plan FCF targets over the three-year performance period. Given FCF is heavily influenced by the volatility of oil and gas prices, the annual operating plans are updated each year to set an annual target to reflect a changing oil price premise. As a result, FCF targets are set annually for each annual operating plan and will only be disclosed in aggregate retrospectively after the three-year period. While consideration has been given to setting a three-year target at the outset, the REMCO has determined that such an approach would require adjustments for oil and gas price premise and other matters at the end of the period, given the unpredictability and volatility in oil and gas prices. The REMCO has a long-standing 'no adjustments' policy and therefore believes a more appropriate target-setting approach is to set the target based on the aggregation of the annual operating plans.

The amounts payable under this measure will range from 20% of the available maximum, for threshold performance, to full vesting for outstanding performance. A straight-line vesting schedule will apply for performance between threshold and outstanding.

Relative measures

The relative measures support our strategic ambition of being a world-class investment by measuring our performance on a number of key financial metrics against the other oil majors.

For relative measures, we measure and rank growth based on the data points at the end of the performance period compared with those at the beginning of the period, using publicly reported data.

- TSR, calculated in dollars using a 90-day averaging period around the start and end of the performance period;
- ROACE growth. For this purpose, in order to facilitate the comparison, the calculation of ROACE differs from that described in "Performance indicators" on page 42 as there is no adjustment for after-tax interest expense; and
- cash flow from operating activities growth.

Each relative measure can vest independently with the amounts payable ranging from 0% to 200%, in accordance with the following vesting schedule:

- Ranking first equals 200% vesting for the element of the LTIP weighted to that metric;
- Ranking second equals 150% vesting for the element of the LTIP weighted to that metric;
- Ranking third equals 80% vesting for the element of the LTIP weighted to that metric; and
- 0% vesting for the element weighted to that metric for ranking fourth or fifth.

If the TSR ranking is fourth or fifth, the level of the award that can vest on the basis of the other measures will be capped at 50% of the maximum.

Performance update on absolute measures

FCF progress to date on outstanding 2018 LTIP award

At December 31, 2019, FCF performance is above target, with an above-target outcome for 2018 of $39 billion (target $29 billion) and below target for 2019 of $26.4 billion (target $35 billion). As one year of FCF performance remains, and 75% of the award is subject to relative performance conditions, this does not reflect the potential vesting of the award.

FCF progress to date on outstanding 2019 LTIP award

At December 31, 2019, FCF performance, $26.4 billion for 2019, is below target ($35 billion). As two years of FCF performance remain, and 77.5% of the award is subject to relative and the energy transition performance conditions, this does not reflect the potential vesting of the award.

Energy Transition progress to date on outstanding 2019 LTIP award

The target for the 2019 LTIP grant was a 2-3% reduction from 2016 NCF (79 grams of CO_2 equivalent per megajoule). We have received third-party limited assurance on our Net Carbon Footprint for the years 2016 to 2019. For 2019, our Net Carbon Footprint was 78 grams of CO_2 equivalent per megajoule.

The targets for the other energy transition metrics are considered commercially sensitive and will not be disclosed until the end of the performance period. Examples of initiatives to progress our ambitions in the energy transition which the REMCO will take into account in determining the vesting outcome of the 2019 LTIP award, include: the acquisition of ERM Power Ltd (a large Australian business utility), and the WeForest and Forestry and Land Scotland NBS projects.

Statement of Directors' shareholding and share interests (audited)

Shareholding guidelines

The REMCO believes that Executive Directors should align their interests with those of shareholders by holding shares in Royal Dutch Shell plc (the Company). The CEO is expected to build a shareholding with a value of 700% of base salary, and the CFO 400% of base salary (increased to 500% from 2020).

Only unfettered shares count. Unvested shares held under the DBP and any shares delivered but subject to holding requirements, also count towards the guidelines. As at March 5, 2020, Ben van Beurden held shares worth 1,090% of his base salary. At March 5, 2020, Jessica Uhl held 467% of her base salary and has until March 2022 to meet her current shareholding target and January 2024 to meet her revised shareholding target. Non-executive Directors are encouraged to hold shares with a value equivalent to 100% of their fixed annual fee and maintain that holding during their tenure.

For 2020 the shareholding requirement will be extended to apply post-employment such that the Executive Director will be required to maintain their shareholding requirement, or the number of shares actually held if this is less than the shareholding requirement, for a period of two years post-employment.

Executive Directors' shareholding (audited)

	Shareholding guideline (% of base salary)	Value of shares counting towards guideline (% of base salary at December 31, 2019)[A]
Ben van Beurden	700%	1,136%
Jessica Uhl	400%	265%

[A] Representing the value of share interests and the estimated after-tax value of DBP shares (not subject to performance conditions).

Directors' share interests

The interests (in shares of the Company or calculated equivalents) of the Directors in office during 2019, including any interests of their connected persons, are set out in the table below.

Directors' share interests (audited)

	January 1, 2019		December 31, 2019	
	A shares	B shares	A shares	B shares
Executive directors [A]				
Ben van Beurden	281,524	–	647,426	–
Jessica Uhl	61,097 [B]	–	116,168 [C]	–
Non-executive directors				
Neil Carson	–	–	16,000	–
Ann Godbehere	–	4,700 [D]	–	4,700 [D]
Euleen Goh	–	12,895	–	12,895
Charles O. Holliday	–	50,000 [E]	–	50,000 [E]
Catherine J. Hughes	4,080	46,904	4,080	51,904 [F]
Gerard Kleisterlee	5,254	–	5,254	
Roberto Setubal	15,400 [G]	–	15,400 [G]	
Sir Nigel Sheinwald	–	1,124	–	1,124
Linda G. Stuntz	–	12,400 [H]	–	12,400 [H]
Gerrit Zalm	2,026	–	2,026	–

[A] Includes vested LTIP awards subject to holding conditions. Excludes unvested interests in shares awarded under the LTIP and DBP.
[B] Held as 10,941 RDS A shares and 25,078 ADS (RDS.A ADS). Each RDS.A represents two A shares.
[C] Held as 26,590 RDS A shares and 44,789 ADS (RDS.A ADS). Each RDS.A represents two A shares.
[D] Held as 2,350 ADSs (RDS.B ADS). Each RDS.B represents two B shares.
[E] Held as 25,000 ADSs (RDS.B ADS). Each RDS.B represents two B shares.
[F] Held as 46,904 RDS B shares and 2,500 ADS (RDS.B. ADS). Each RDS.B represents two B shares.
[G] Held as 7,700 ADSs (RDS.A ADS). Each RDS.A represents two A shares.
[H] Held as 6,200 ADSs (RDS.B ADS). Each RDS.B represents two B shares.

Following the vesting of the 2017 LTIP and DBP awards, and delivery of the 2019 bonus in shares, Ben van Beurden's share interests increased by 233,519 RDS A shares, and Jessica Uhl's by 5,951 RDS A shares and 58,456 RDS.A ADS.

In addition, Ben van Beurden sold 14,510 RDS A shares on January 31, 2020. He also pledged 105,000 RDSA shares as collateral against a mortgage provided by Van Lanschot N.V. who adjusted their risk premium associated with the mortgage.

The value of shares counting towards the shareholding guideline (as a percentage of base salary) for the CEO and CFO, were 1,090% and 467%, respectively, at March 5, 2020.

At March 5, 2020, the Directors and Senior Management (pages 104-112) of the Company beneficially owned, individually and in aggregate (including shares under option), less than 1% of the total shares of each class of the Company shares. These shareholdings are not considered sufficient to affect the independence of the Directors.

Directors' scheme interests

The table below shows the aggregate position for Directors' interests under share schemes at December 31. These are A shares for Ben van Beurden and A ADSs for Jessica Uhl. During the period from December 31, 2019, to March 5, 2020, scheme interests have changed as a result of the vesting of the 2017 LTIP and DBP awards on March 4, 2020, and the 2020 LTIP awards made on January 31, 2020, as described on pages 143 and 145-147 respectively.

Directors' scheme interests (audited)

	Share plan interests [A]					
	LTIP/PSP subject to performance conditions [B]		DBP not subject to performance conditions [C]		Total	
	2019	2018	**2019**	2018	**2019**	2018
Ben van Beurden	**660,814**	715,591	**56,783**	159,617	**717,597**	875,208
Jessica Uhl	**173,509**	130,180	**–**	–	**173,509**	130,180

[A] Includes unvested long-term incentive awards and notional dividend shares accrued at December 31. Interests are shown on the basis of the original awards. The shares subject to performance conditions can vest at between 0% and 200%. Dividend shares accumulate each year on an assumed notional LTIP/DBP award. Such dividend shares are disclosed and recorded on the basis of the number of shares conditionally awarded but, when an award vests, dividend shares will be awarded only in relation to vested shares as if the vested shares were held from the award date. Shares released during the year are included in the "Directors' share interests" table.
[B] Total number of unvested LTIP shares at December 31, including dividend shares accrued on the original LTIP award.
[C] The number of shares deferred from the bonus (original DBP award) and the dividend shares accrued on these at December 31. Delivery of the original DBP award and the related accrued dividend shares is not subject to performance conditions.

Dilution

In any 10-year period, no more than 5% of the issued ordinary share capital of the Company may be issued or issuable under executive (discretionary) share plans adopted by the Company, or 10% when aggregated with awards under any other employee share plan operated by the Company. To date, no shareholder dilution has resulted from these plans, although it is permitted under the rules of the plans subject to these limits.

Payments to past Directors (audited)

Simon Henry left the Company on June 30, 2017. On March 4, 2020, Simon Henry's 2017 DBP award vested and he received a total of 31,140 RDS B shares, with a value at vesting of £539,158. While the original award of 25,339 RDS B shares was reported in the 2017 Directors' Remuneration Report, it is included again here in the interest of transparency. The remaining 5,801 RDS B shares represent accrued dividends paid in accordance with the plan and the value of these at vesting was £100,439.

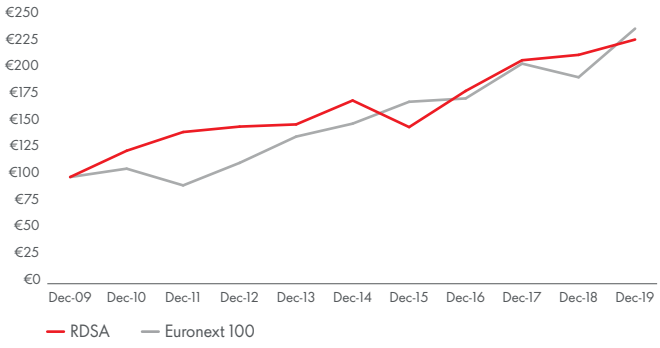
Payments below €5,000 are not reported as they are considered de minimis.

TSR performance and CEO pay

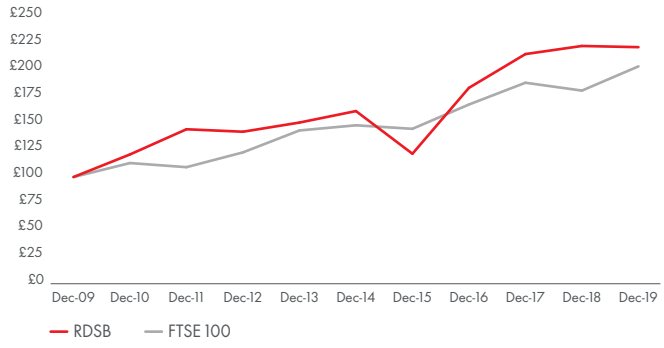
Performance graphs

The graphs compare the TSR performance of Royal Dutch Shell plc over the past ten financial years with that of the companies comprising the Euronext 100 and the FTSE 100 share indices. The Board regards these indices as appropriate broad market equity indices for comparison, as they are the leading market indices in Royal Dutch Shell plc's home markets.

Historical TSR performance (RDSA)
Value of Hypothetical €100 Holding



Historical TSR performance (RDSB)
Value of Hypothetical £100 Holding



CEO pay outcomes

The following table sets out the single total figure of remuneration, and the annual bonus payout and long-term incentive (LTI) vesting rates compared with the respective maximum opportunity, for the CEO for the last ten years.

CEO pay outcomes

Year	CEO	Single total figure of remuneration (€000)	Annual bonus payout against maximum opportunity	LTI vesting rates against maximum opportunity
2019	Ben van Beurden	9,963	21%	74%
2018	Ben van Beurden	20,138	79%	95%
2017	Ben van Beurden	8,909	81%	35%
2016	Ben van Beurden	8,593	66%	42%
2015	Ben van Beurden	5,576	98%	8%
2014	Ben van Beurden [A]	24,198	94%	49%
2013	Peter Voser	8,456	44%	30%
2012	Peter Voser	18,246	83%	88%
2011	Peter Voser	9,941	90%	30%
2010	Peter Voser	10,611	100%	75%

[A] Ben van Beurden's single figure for 2014 was impacted by the increase in pension accrual (€10.695 million) calculated under the UK reporting regulations and tax equalisation (€7.905 million) as a result of his promotion and prior assignment to the UK.

Change in remuneration of Directors and employees from 2018 to 2019

As Royal Dutch Shell plc does not have any direct employees, the table below compares the remuneration of the Directors of Royal Dutch Shell plc with an employee comparator group consisting of local employees in the Netherlands, the UK and the USA. The local employee population of these countries is considered to be a suitable employee comparator group because: these are countries with a significant Shell employee base; a large proportion of senior managers come from these countries; and the REMCO considers remuneration levels in these countries when setting base salaries for Executive Directors. For the purposes of comparison, the change in employee remuneration is calculated by reference to the change in salary scale, benefits and annual bonus for a notional employee in each of the base countries not by reference to the actual change in pay for a group of employees.

Taxable benefits are those that align with the definition of taxable benefits applying in the respective country. In line with the "Single total figure of remuneration for Executive Directors" table, the annual bonus is included in the year in which it was earned.

Change in remuneration of directors and employees

	RDS employees	UK, US & NL employees	Executive Directors		Non-executive directors								
			CEO	CFO	NS	AG	CH	GK	LS	CJH	RS	GZ	NC
Salaries	N/A	3.3%	2.0%	2.0%	3.9%	82.6%	0.0%	12.2%	-4.1%	0.0%	0.0%	0.0%	–
Taxable benefits[A]	N/A	-8.0%	-36.4%	4.9%	-94.7%	0.0%	-6.3%	-100.0%	-39.0%	-100.0%	100.0%	0.0%	–
Annual bonus	N/A	-62.2%	-73.3%	-67.7%	–	–	–	–	–	–	–	–	–

[A] The reduction in taxable benefits for employees is principally due to the buyout of a medical insurance allowance paid to Netherlands employees who received a one-off payment of €4,935 in 2018, which was not received in 2019. For the CEO, benefits are lower in 2019 due to the medical allowance, which he also received, and lower commuting and business required partner travel costs.

ANNUAL REPORT ON REMUNERATION continued

Relative importance of spend on pay

Distributions to shareholders by way of dividends and share buybacks and remuneration paid to or receivable by employees for the last five years are set out below, together with annual percentage changes.

Relative importance of spend on pay

	Dividends and share buybacks [A]		Spend on pay (all employees) [B]	
Year	$ billion	Annual change	$ billion	Annual change
2019	25.4	26%	13.2	-1.3%
2018	20.2	29%	13.4	-6%
2017	15.6	4%	14.3	-9%
2016	15.0	25%	15.7	-8%
2015	12.0	-18%	17.1	5%

[A] Dividends paid, which includes the dividends settled in shares via our Scrip Dividend Programme, and repurchases of shares as reported in the "Consolidated Statement of Changes in Equity".
[B] Employee costs, excluding redundancy costs, as reported in Note 26 to the "Consolidated Financial Statements".

Spend on pay can be compared with the major costs associated with generating income by referring to the "Consolidated Statement of Income". Over the last five years, the average spend on pay was 5% of the major costs of generating income. These costs are considered to be the sum of: purchases; production and manufacturing expenses; selling, distribution and administrative expenses; research and development; exploration; and depreciation, depletion and amortisation.

Total pension entitlements (audited)

During 2019, Ben van Beurden and Jessica Uhl accrued retirement benefits under defined benefit plans. The pension accrued under these plans at December 31, 2019, is set out below. The exchange rates used for conversion into euros and dollars are at December 31, 2019.

Accrued pension (audited)

Thousand	Local	€	$
Ben van Beurden [A]	€ 1,285	€ 1,285	$1,441
Jessica Uhl [B]	$1,247	€ 1,112	$1,247

[A] The accrued benefits are disclosed on a per annum basis.
[B] Jessica Uhl has an annual choice of two accrual formulas with different forms of benefits, one in the form of a lifetime annuity and the other allows for a lump-sum payment. She elected to accrue benefits up to 2018 under the former and the eventual lump sum benefit is shown. In 2019, she elected to accrue benefits as a lifetime annuity, the value of this accrued benefit at December 31, 2019 was $3,932 per annum plus a lump sum of $98,281. She also has a deferred Dutch defined benefit pension plan, as a result of a prior Shell assignment on local Dutch terms and conditions. The age at which Jessica Uhl can receive any pension benefit without an actuarial reduction under this plan is 60. The value of the deferred pension benefit is €3,369 per annum.

The age at which Ben van Beurden can receive any pension benefit without actuarial reduction is 68 and for Jessica Uhl this is age 65. Any pension benefits on early retirement are reduced using actuarial factors to reflect early payment. No payments were made in 2019 regarding early retirement or in lieu of retirement benefits.

Please refer to page 145 for further details. (Pension)

External appointments

The Executive Directors held no external appointments in 2019.

Statement of voting at 2019 AGM

Shell's 2019 AGM was held on May 21, 2019, in the Netherlands. The result of the poll in respect of Directors' remuneration was as follows:

Approval of Directors' Remuneration Report

Votes	Number	Percentage
For	4,357,260,297	89.93%
Against	488,139,305	10.07%
Total cast	4,845,399,602 [A]	100.00%
Withheld [B]	130,596,261	

[A] Representing 59.71% of issued share capital.
[B] A vote "withheld" is not a vote under English law and is not counted in the calculation of the proportion of the votes "for" and "against" a resolution.

The result of the poll in respect of the Directors' Remuneration Policy approved at the 2017 AGM was as follows:

Approval of Directors' Remuneration Policy

Votes	Number	Percentage
For	4,064,279,529	92.34%
Against	337,361,835	7.66%
Total cast	4,401,641,364 [A]	100.00%
Withheld [B]	37,303,341	

[A] Representing 53.53% of issued share capital.
[B] A vote "withheld" is not a vote under English law and is not counted in the calculation of the proportion of the votes "for" and "against" a resolution.

Directors' employment arrangements and letters of appointment

Executive Directors are employed for an indefinite period. Non-executive Directors, including the Chair, have letters of appointment. Details of Executive Directors' employment arrangements can be found in the Directors' Remuneration Policy on page 161.

Further details of Non-executive Directors' terms of appointment can be found in the"Other regulatory and statutory information" on page 170 and the "Governance Framework" report on page 118.

Compensation of directors and senior management

During the year ended December 31, 2019, Shell paid and/or accrued compensation totalling $38 million (2018: $43 million) to Directors and Senior Management for services in all capacities while serving as a Director or member of Senior Management, including $3 million (2018: $3 million) accrued to provide pension, retirement and similar benefits. The amounts stated are those recognised in Shell's income on an IFRS basis. See Note 27 to the "Consolidated Financial Statements". Personal loans or guarantees were not provided to Directors or Senior Management.

CEO pay ratio

Shell has chosen to use option A to calculate the CEO pay ratio in accordance with guidance from the UK government that this is the preferred approach and provides the statistically most accurate method for identifying the ratios. Under option A, a comparable single figure for all UK employees has been calculated in order to identify the employee whose pay and benefits are at the 25th, 50th and 75th percentiles for comparison with the CEO. Employee pay has been calculated based on the total pay and benefits paid in respect of 2019 for all employees who were employed on 31 December 2019. For part-time workers and joiners in the year, pay and benefits have been annualised based on the proportion of their working time in the UK during the year. This is calculated with an approach consistent with the methodology for determining those employees' 2019 annual bonuses. The REMCO believes that this provides a fair and reasonable calculation of the pay ratios for Shell employees in the UK.

	Option	25th Percentile pay ratio	Median pay ratio	75th pay ratio
2019	A	147:1	87:1	54:1
Total pay and benefits:		£59,419	£100,755	£161,717
Salary:		£40,417	£56,721	£79,991
2018	A	202:1	143:1	92:1

The ratio has changed for 2019 compared to 2018 principally due to the decrease in the Single Figure of remuneration for the CEO. This decrease is due to the lower bonus and LTIP vesting outcomes for 2019 compared to the outcomes in 2018. The pay and benefits for the 25th, 50th and 75th percentile employees have also reduced in relation to 2018. Please refer to page 137 for a discussion of the reasons behind the changes in employee pay and benefits. The REMCO believes these changes are consistent with the Group's approach to managing pay as well as strategic developments in Shell's business portfolio.

Workforce engagement

The REMCO took a wide perspective in making the remuneration decisions for 2019 and determining the 2020 policy. As examples, in 2019 the REMCO noted:

- the alignment between Shell's culture and workforce policies, and incentives and rewards as part of the 2020 remuneration policy review;
- the planned general employee salary increases in the UK, US and NL when determining 2020 base salaries;
- the scorecard and Performance Share Plan (PSP) outcomes for employees in determining the 2019 variable pay outcomes for Executive Directors; and
- the CEO pay ratio, which Shell has been voluntarily disclosing in advance of the regulatory requirement to do so, and gender pay gap reporting.

Executive remuneration structures in Shell are strongly aligned to the broader Shell pay policy:

- in recent years the Group Scorecard architecture has been identical to the Executive Committee and Senior Executive Scorecard in terms of measures, weightings and targets;
- Executive Directors and Executive Committee members participate in the Long-Term Incentive Plan. Around 150 Senior Executives participate in the same plan. The measures and metrics for that plan also apply to 50% of the PSP awarded to around 16,500 employees; and
- all employees in the Group participate in the relevant pension plan for their country based on their date of joining. Shell does not operate separate executive pension arrangements.

This consistency means that less explanation of executive remuneration structures is required than in companies where alignment is not the default.

ANNUAL REPORT ON REMUNERATION continued

STATEMENT OF 2020 PLANNED IMPLEMENTATION OF POLICY

The proposed Directors' Remuneration Policy as outlined on pages 155-163 will, subject to shareholder approval, take effect from May 19, 2020 and will be effective until the 2023 AGM, unless a further policy is proposed by Shell and approved by shareholders in the meantime. This section describes elements that apply for 2020, within the boundaries of the policy.

Executive Directors

Salaries

Effective from January 1, 2020, the base salaries were set at €1,588,000 (+2.0%) for Ben van Beurden and at €1,035,000 (+2.0%) for Jessica Uhl, in accordance with the proposed 2020 remuneration policy as set out on page 156. These increases are consistent with planned salary increases in the US, UK and NL for the general employee population which range from 1.7% – 3.4%.

Annual bonus

There are no changes to the scorecard measures and weightings for 2020. Performance measures are comprised of cash flow from operating activities, operational excellence and sustainable development measures. These measures and weightings were reviewed by the REMCO as part of the 2020 policy review, with the REMCO determining that these remain well-aligned with our strategic and operational priorities and consistent with the performance indicators set out on pages 42-44.

The performance measures, weightings and link to strategy for the 2020 performance year are set out below:

2020 annual bonus scorecard measures and weightings

Performance measure	Weighting
Financial	30%
Operational excellence	50%
Sustainable development	20%
	Link to strategy
Financial ▪ Cashflow from operating activities	Aligned with our financial priorities, reflecting our ability to generate cash to service and reduce debt, pay the dividend and fund capital investment.
Operational excellence ▪ Production ▪ LNG liquefaction volumes ▪ Refinery and chemical plant availability ▪ Project delivery	Representative performance metrics from our main business lines to drive focus on the operational delivery critical to our success and inspire a shared culture and alignment with our purpose, strategy and values. These metrics measure the effectiveness with which we operate our assets and portfolio base. This operational performance underpins the successful delivery of our financial framework and ambitions to progress in the energy transition. Shell's longer-term strategic ambitions are measured in the LTIP metrics.
Sustainable development ▪ Safety ▪ Environmental performance	We must maintain focus on safety and environmental performance, as this provides assurance to shareholders, employees and society of our commitment to safety and progress in the energy transition.

Annual bonus scorecard targets are not disclosed prospectively because to do so in a meaningful manner would require the disclosure of commercially sensitive information. As in previous years, scorecard targets will be disclosed in the subsequent Directors' Remuneration Report when they are no longer deemed to be commercially sensitive.

Long-term Incentive Plan

On January 31, 2020, a conditional award of performance shares under the LTIP was made to the Executive Directors resulting in 200,589 Royal Dutch Shell plc A shares (A shares) being conditionally awarded to Ben van Beurden and 59,062 Royal Dutch Shell plc A American Depositary Shares (A ADSs) to Jessica Uhl. The award had a face value of 300% (maximum performance outcome 600%) of the base salary for the CEO and 270% (maximum performance outcome 540%) of the base salary for the CFO, excluding potential share price appreciation and dividends. In making these awards, the REMCO considered the Company's share price and determined that there was no significant share price volatility that would require an adjustment to the size of the awards.

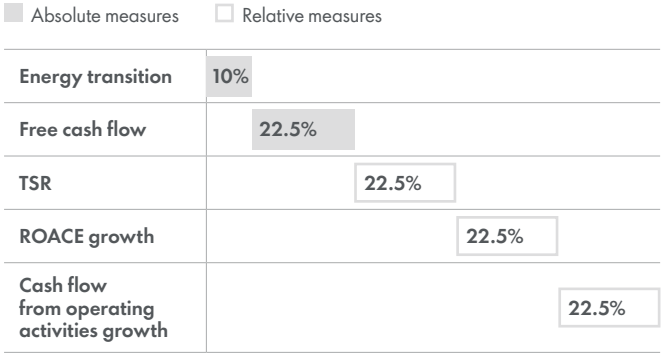
The award for the CEO has been reduced from a face value award of 340% (maximum vesting outcome 680%) in prior years. This reduction is part of the REMCOs response to addressing quantum and further details are provided on pages 137-138.

For LTIP awards made in 2020, performance will be assessed over a three-year period based on four financial measures and an energy transition condition.

The target for the FCF metric is the aggregate of our annual operational business plan FCF targets over the three-year performance period. These are considered to be commercially sensitive and will be disclosed retrospectively, with annual updates on progress provided.

The NCF target range for the 2020 – 2022 LTIP grant is set as a 3-4% reduction from the 2016 NCF of 79g CO_2e/MJ. This target is aligned with the trajectory of our NCF ambition set out in November 2017. There is no change to the other energy transition measures other than the advanced biofuel technology measure is extended to include a measure of alternative fuel development. The targets for the other leading energy transition measures are commercially sensitive, and will be disclosed retrospectively.

2020 LTIP measure and vesting schedule



Link to strategy	Vesting schedule (% of initial LTIP award)
Energy transition Focused on Shell's strategy to thrive in the energy transition and support delivery of our NCF ambition.	Vesting based on how many targets are achieved: 1/4 = 40% 2/4 = 100% 3/4 = 150% 4/4 = 200% REMCO may take into account other appropriate considerations
Free cash flow Recognition of the importance of generating cash after net capital expenditure to service and reduce debt, pay dividends, buy back shares and make future capital investments.	Maximum – 200% Target – 100% Threshold – 40% Below threshold – 0%
TSR Assessment of actual wealth created for shareholders.	1st – 200% 2nd – 150% 3rd – 80% 4th or 5th – nil
ROACE growth Indicator of capital discipline.	
Cash flow from operating activities growth Source of capital expenditure commitments which support sustainable growth based on portfolio and cost management.	
TSR underpin If TSR is in fourth or fifth, vesting on the other measures is capped at 50% of maximum.	
Holding period 3-years post-vesting which remains in force post-tenure.	

Discretion, adjustment (malus) and recovery (clawback)

Variable pay elements are subject to adjustment (malus) and recovery (clawback) provisions, which may apply in case of direct responsibility or supervisory accountability. The REMCO may adjust an award, for example by lapsing part or all of it, reducing the number of shares which would otherwise vest, by imposing additional conditions on it, or imposing a new holding period or applying clawback.

Please refer to the policy section on pages 157 and 159 for a full description of the circumstances under which discretion, malus and clawback might be applied to a variable pay award.

Pension

Ben van Beurden's pension arrangements comprise a defined benefit plan for which the maximum pensionable salary has increased to €98,993 for 2020 and a net pay defined contribution pension plan with an employer contribution of 27% of salary in excess of this amount.

Jessica Uhl's US retirement benefit arrangements include the Shell Pension Plan, a defined benefit plan, and a defined contribution plan with an employer contribution of 10% of salary. She also has a deferred Dutch defined benefit pension plan, as a result of a prior Shell assignment on local Dutch terms and conditions.

Further details of Executive Director pension arrangements can be found on page 145.

ANNUAL REPORT ON REMUNERATION continued

Non-executive Directors' fees

Non-executive Directors' fees 2020

	€	Other fees
Chair of the Board	850,000	Non-executive Directors receive an additional fee of €5,000 for any Board meeting involving intercontinental travel – except for one meeting a year held in a location other than The Hague.
Non-executive Director	135,000	
Senior Independent Director	55,000	
Audit Committee		
Chair [A]	60,000	
Member	25,000	
Safety, Environment and Sustainability Committee [B]		
Chair [A]	35,000	
Member	17,250	
Nomination and Succession Committee		
Chair [A]	25,000	
Member	12,000	
Remuneration Committee		
Chair [A]	40,000	
Member	17,250	

[A] The chair of a committee does not receive an additional fee for membership of that committee.
[B] Formerly the Corporate and Social Responsibility Committee.

The Chair's fee is determined by the REMCO and the annual fee for Charles O. Holliday was set at €850,000 upon appointment in 2015 and will remain unchanged for 2020. The Chair of the Board does not receive any additional fee for chairing the Nomination and Succession Committee or attending any other Board committee meeting.

The Non-executive Directors receive a basic fee. There are additional fees for the Senior Independent Director, a Board committee chair or a Board committee member for each committee. Non-executive Directors receive an additional fee of €5,000 for any Board meeting involving intercontinental travel, except for one meeting a year held in a location other than The Hague. Business expenses (including transport between home and office and occasional business-required spouse travel) and associated tax are paid or reimbursed by Shell. The Chair has use of a Shell-provided apartment while in The Hague.

The Board reviews Non-executive Directors' fees periodically to ensure that they are aligned with those of other major listed companies using the FTSE 30 and the Europe Comparator group as the primary points of reference. The last general review was carried out in 2018 with a review of the Nomination and Succession Committee fees in 2019 and fees will remain unchanged for 2020.

DIRECTORS' REMUNERATION POLICY

The Directors' Remuneration Policy sets out

- Summary of proposed changes to the Directors' Remuneration Policy, **page 155**;
- Executive Directors' Remuneration Policy, **page 156**; and
- Non-executive Directors' Remuneration Policy, **page 162**.

This section describes the Directors' Remuneration Policy (Policy) which, subject to shareholder approval at the 2020 Annual General Meeting (AGM), will come into effect from May 19, 2020, and will be effective until the 2023 AGM, unless a further policy is proposed by Royal Dutch Shell plc (the Company) and approved by shareholders in the meantime.

The principles underpinning the REMCO's approach to executive remuneration are the foundation for everything we do, and are:

- Alignment with Shell's strategy: the Executive Directors' compensation package should be strongly linked to the achievement of stretching targets that are seen as indicators of the execution of Shell's strategy;
- Pay for performance: the majority of the Executive Directors' compensation (excluding benefits and pensions) should be linked directly to Shell's performance through variable pay instruments;
- Competitiveness: remuneration levels should be determined by reference internally against Shell's Senior Management and externally against companies of comparable size, complexity and global scope;
- Long-term creation of shareholder value: Executive Directors should align their interests with those of shareholders by holding shares in Shell;
- Consistency: the remuneration structure for Executive Directors should generally be consistent with the remuneration structure for Shell's senior management. This consistency builds a culture of alignment with Shell's purpose and a common approach to sharing in Shell's success;
- Compliance: decisions should be made in the context of the Shell General Business Principles and Code of Conduct. The REMCO also seeks to ensure compliance with applicable laws and corporate governance requirements when designing and implementing policies and plans; and
- Risk assessment: the remuneration structures and rewards should meet risk-assessment tests to ensure that shareholder's interests are safeguarded and that inappropriate actions are avoided.

The Executive Directors' remuneration structure is made up of a fixed element of basic pay and two variable elements: the annual bonus (50% delivered in shares) and the Long-term Incentive Plan (LTIP). Variable pay outcomes are conditional on the successful execution of the operating plan in the short term and the delivery of strategic goals and financial outperformance over the longer term. The award of shares under the bonus and LTIP, along with significant shareholding requirements, is intended to ensure executives have a sizeable shareholding in Royal Dutch Shell plc (the Company) and experience the same outcomes as shareholders.

During 2018 and 2019, the REMCO reviewed the Remuneration Policy to ensure that the Policy continues to be aligned with Shell's strategy, including delivery of shareholder returns. REMCO determined that while the current policy remains appropriate in many respects, certain changes will support the REMCO to simplify remuneration structures and address the management of quantum. For each area of the policy, the REMCO has considered market practice, the corporate governance environment and feedback from shareholders. The Safety, Environment and Sustainability Committee (SESCo) has provided input to the development of the sustainable development and energy transition metrics. Any potential conflict of interest is mitigated by the independence of the REMCO members and the REMCO Terms of Reference.

A summary of the main proposed changes to the Policy for the Executive Directors is outlined below. No significant changes are proposed to the Policy for Non-executive Directors.

Remuneration element	Proposed Changes to Policy	Rationale for the change
Annual Bonus	▪ Reduction of the CEO's target bonus from 150% to 125%; and ▪ Removal of the individual performance factor for Executive Directors.	▪ **Simplification:** The asymmetry in the CEO's bonus structure and the inclusion of individual performance factors was creating undue complexity; and ▪ **Transparency:** The annual bonus is now solely linked to the performance of Shell to support clarity and transparency of outcomes.
Long-Term Incentive Plan	▪ Reduction of the target LTIP grant from 400% to 300% of base salary; and ▪ Inclusion of an energy transition metric.	▪ **Management of Quantum:** To moderate the quantum of pay and assist the REMCO in managing the range of outcomes; and ▪ **Alignment to Strategy:** Inclusion of the energy transition metric strengthens the LTIP's alignment to the strategy and purpose.
Discretion, Malus & Clawback	▪ After reviewing the single figure outcomes for the year, the REMCO will consider an adjustment for the purposes of managing remuneration quantum, taking into account performance, the operation of the remuneration structures and any other relevant considerations. An explanation of any discretionary adjustment would be set out in the relevant Director's Remuneration Report; ▪ Alignment of malus and clawback provisions so that these are the same. Inclusion of corporate failure as an adjustment event; and ▪ Amendment of provisions in the share plan such that for future grants, awards may be adjusted for any reason.	▪ **Corporate Governance:** Assist the REMCO in managing the risks from behavioural-based incentive schemes; and ▪ **Management of Quantum:** To assist the REMCO in managing the range of outcomes.
Pension	▪ New Executive Directors who are members of a defined benefit pension arrangement will have their pensionable salary capped at the salary applicable immediately prior to appointment, with the exception of existing US base country participants who will have the bonus removed from the definition of pensionable base salary instead. The Executive Director will join a defined contribution scheme in their base country for contributions made in respect of salary above the defined benefit pensionable salary, or in exceptional circumstances, receive a cash allowance equivalent to the contribution above the cap; and ▪ For recruitment: Explicit confirmation that new appointees, whether internally promoted or newly hired, will be provided with a pension in line with the wider workforce in their base country.	▪ **Management of Quantum:** To moderate the quantum of pay and assist the REMCO in managing the range of outcomes; and ▪ **Corporate Governance:** To adopt best practice in line with external guidelines.
Shareholding Requirement	▪ CFO requirement increased to 500% of base salary; and ▪ Extended to apply for a period of two years post-employment (at the lower of the shareholding requirement or the number of shares held at departure).	▪ **Alignment with Shareholders:** Further aligns executives with the long-term interests of shareholders.

DIRECTORS' REMUNERATION POLICY continued

EXECUTIVE DIRECTORS

Executive Directors' remuneration policy table

Purpose and link to strategy	Maximum opportunity	Operation and performance management
Salary and pensionable base salary		
Provides a fixed level of earnings to attract and retain Executive Directors.	€2,000,000	Reviewed annually with adjustments effective from January 1. In making salary determinations, the REMCO will consider: ▪ the market positioning of the compensation packages; ▪ comparison with Senior Management salaries; ▪ the employee context, and planned average salary increase for other employees across the Netherlands, the UK and the USA; ▪ the experience, skills and performance of the Executive Director, or any change in the scope and responsibility of their role; ▪ general economic conditions, Shell's financial performance, and governance trends; and ▪ the impact of salary increases on pension benefits and other elements of the package. For Executive Directors employed outside their base country, euro base salaries are translated into their home currency for pension purposes. Pensionable base salaries are maintained in line with euro base salaries taking into account exchange rate fluctuations and other factors as determined by the REMCO.
Benefits		
Provides benefits, in line with those applicable to the wider workforce, in order to attract and retain Executive Directors.	The maximum opportunity is the cost of providing the benefit under Shell's standard policy. These costs can vary. For certain benefits, for example, relocation and tax equalisation, the maximum opportunity will be the grossed-up cost of meeting the specific Executive Director's costs.	Typical benefits include car allowances and home-to-office transport, risk benefits (for example ill-health, disability or death-in-service), security provision, and employer contributions to insurance plans (such as medical). Precise benefits will depend on the Executive Director's specific circumstances. Post-retirement benefits such as healthcare and ongoing security provision may be applicable. Shell's mobility policies may apply, such as for relocation and tax return preparation support, as may tax equalisation related to expatriate employment prior to Board appointment, or in other limited circumstances to offset double taxation. The REMCO may adjust the range and scope of the benefits offered in the context of developments for other employees in relevant countries. Personal loans or guarantees are not provided to Executive Directors.
Annual bonus		
Rewards the delivery of short-term operational targets as derived from Shell's operating plan. To reinforce alignment with shareholder interests, 50% is delivered in cash and 50% is delivered in shares. The shares are subject to a three-year holding period, which applies beyond an Executive Director's tenure.	Maximum bonus (as a percentage of base salary): ▪ Chief Executive Officer (CEO): 250% ▪ Chief Financial Officer (CFO): 240% Target levels (as a percentage of base salary): ▪ CEO: 125% ▪ CFO: 120%	▪ The bonus is determined by reference to performance from January 1 to December 31 each year; ▪ Annual bonus = base salary x target bonus % x scorecard result (0–2); ▪ Taking the Shell operating plan into consideration, REMCO sets stretching scorecard targets and weightings which support the delivery of the strategy. Measures are related to financial performance, operational excellence and sustainable development. Indicative weightings are 30%, 50% and 20% respectively. This balance ensures that the achievement of short-term financial performance does not undermine future shareholder value creation; ▪ Scorecard targets will be disclosed in a subsequent Directors' Remuneration Report when they are no longer deemed to be commercially sensitive; ▪ There are no prescribed thresholds or minimum levels of performance that equate to a prescribed payment under the Policy and this structure can result in no bonus being awarded; ▪ The annual bonus is subject to malus provisions before it is delivered and to clawback provisions thereafter; ▪ The REMCO retains the ability to adjust performance measure targets and weightings year-by-year within the overall target and maximum payouts approved in the Policy; and ▪ In the event that another Executive Director joins the Board, the REMCO will determine their target and maximum bonus, which will not exceed the target and maximum for the CEO.

Executive Directors' remuneration policy table continued

Purpose and link to strategy	Maximum opportunity	Operation and performance management
Long-Term Incentive Plan (LTIP)		
Rewards longer-term value creation linked to Shell's strategy. The measures predominantly focus on financial growth and increases in value compared with the other oil majors, supported by measures focused on the achievement of Shell's ambitions in the energy transition. To reinforce alignment with shareholder interests, shares delivered from vested LTIP awards are subject to a three-year holding period, which applies beyond an Executive Director's tenure.	Target award of 300% base salary. Awards may vest at up to 200% of the shares originally awarded, plus dividends.	▪ Award levels are determined annually by the REMCO within the approved policy maximum; ▪ Awards may vest between 0% and 200% of the initial award depending on Shell's performance assessed on either an absolute basis against strategic targets, or on a relative basis against the other oil majors; ▪ Performance metrics and targets are set by the REMCO at the beginning of the relevant performance period. When setting performance targets, the REMCO allocates weightings to each metric as it considers appropriate taking into account strategic priorities; ▪ For 2020, performance is assessed over three years based 90% on financial metrics (TSR, ROACE, FCF and CFFO) which support our strategic ambition to be a world-class investment case and 10% on a measure focused on thriving in the energy transition; ▪ Additional shares are released representing the value of dividends payable on the vested shares, as if these had been owned from the award date; ▪ LTIP awards (net of tax) must be held for a further three years to align with Shell's longer-term time horizon and strategy; ▪ The LTIP award is subject to malus provisions before it is delivered and to clawback provisions thereafter; ▪ The REMCO may adjust or change the LTIP measures, targets and weightings to ensure continued alignment with Shell's strategy; and ▪ In the event that another Executive Director joins the Board the REMCO will determine their award level.
Discretion, Malus and Clawback		
Enables the management of risks from behavioural-based incentive schemes and the REMCO to manage the range of pay outcomes.	Adjustment events exist for the purposes of applying malus and clawback. The REMCO retains discretion to adjust pay outcomes.	The REMCO retains the discretion to adjust mathematical outcomes of the annual bonus scorecard and / or LTIP vesting for any Executive Director if and to the extent that it considers this appropriate at their sole discretion. The use of any discretion will be disclosed and explained. The REMCO may adjust pay outcomes for the purposes of managing quantum. This would be done at the REMCO's discretion after considering single figure outcome for the year, taking into account Shell's performance, the operation of the remuneration structures and any other relevant considerations. Please refer to page 159 for a summary of the defined adjustment events.
Pension		
Provides a competitive retirement provision under the individual's base country benefits policy, to attract and retain Executive Directors.	Determined by the rules of the base country pension plan of which the Executive Director is a member.	Executive Directors' retirement benefits are maintained in line with those of the wider workforce in their base country. Only base salary is pensionable, unless country plan regulations specify otherwise and cannot legally be disapplied. The rules of the relevant plans detail the pension benefits which members can receive. The REMCO retains the right to amend the form of any Executive Director's pension arrangements where appropriate, for example in response to changes in legislation to ensure the original objective of this element of remuneration is preserved. New Executive Directors, whether internal appointees or external hires, will be provided with a retirement benefit in line with the wider workforce in their base country. For individuals who are members of a defined benefit pension arrangement: ▪ The pensionable salary will be capped at the salary applicable immediately prior to appointment, with the exception of existing US base country participants who will have the bonus removed from the definition of pensionable base salary instead; and ▪ The Executive Director will join a defined contribution scheme in their base country for contributions made in respect of salary above the defined benefit pensionable salary, or in exceptional circumstances, receive a cash allowance equivalent to the contribution above the cap.
Shareholding requirement		
Aligns interests of Executive Directors with those of shareholders by creating a connection between individual wealth and Shell's long-term performance.	Shareholding (% of base salary): ▪ CEO: 700% ▪ CFO: 500%	Executive Directors are expected to build up their shareholding to the required level over a period of five years from appointment and, once reached, to maintain this level for the full period of their appointment. The intention is for the shareholding guideline to be reached through retention of vested shares from share plans. The REMCO will monitor individual progress and retains the ability to adjust the guideline in special circumstances on an individual basis. The Executive Director will be required to maintain their shareholding requirement (or existing shareholding if lower) for a period of two years from the date they cease to be an employee. In the event that another Executive Director joins the Board the REMCO will determine their Shareholding requirement level, which will not be less than 200% in line with corporate governance best practice.

DIRECTORS' REMUNERATION POLICY continued

Notes to the Executive Directors' remuneration policy table

Comparator group

The benchmarking comparator group consists of the other oil majors (BP, Chevron, ExxonMobil, and Total) and a selection of major Europe-based companies.

The comparator companies are reviewed by the REMCO as part of the Remuneration Policy review every three years. The last review took place in 2019 in preparation for the 2020 Directors' Remuneration Policy vote. No changes to the comparator group are proposed.

The other oil majors are included in the comparator group as these represent our closest direct competitors operating in similar market conditions. The Europe-based companies are selected based on their size, complexity and global reach. The REMCO uses benchmark data from these companies only as a guide to the competitiveness of the remuneration packages. We do not seek to position our remuneration at any defined point against the benchmarked positions.

The REMCO retains the right to alter the comparator group as it sees fit in order to ensure it remains an appropriate and relevant benchmark.

2020 European comparator group

Allianz	Daimler	Rio Tinto
AstraZeneca	Diageo	Roche
BAT	GlaxoSmithKline	Siemens
Bayer	Nestle	Unilever
BHP Billiton	Novartis	Vodafone

Benefits

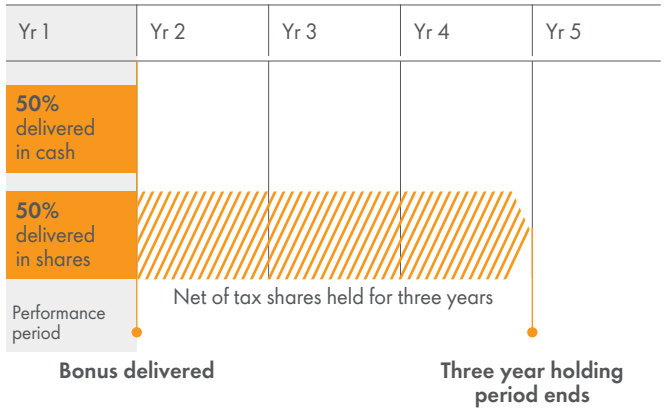
Benefits for Executive Directors deemed taxable in the UK are included as taxable benefits in the single total figure of remuneration table. These elements may include transport to and from home and office, the provision of home security, and occasional business-required partner travel, which are generally considered legitimate business expenses rather than components of remuneration.

Annual bonus

For the 2020 performance year, the scorecard framework will consist of cash flow from operating activities (30% weight), operational excellence (50% weight) and sustainable development (20% weight). Targets are derived from the annual business plan. These measures are designed to drive focus on the financial and operational performance critical to our success as a world-class investment case and to maintain a strong licence to operate, underpinned by our commitment to safety and journey to thrive in the energy transition. The REMCO believes it is important for annual variable pay to remain balanced, with operational and environmental components, complementing the LTIP's focus on longer-term financial and strategic outcomes. The same annual bonus scorecard applies to the majority of group employees, supporting consistency of remuneration and alignment of objective across employees and senior management.

For future years, the specific measures and weightings for the annual bonus scorecard will be reviewed annually by the REMCO and adjusted accordingly to evolve with Shell's strategy and circumstances. The annual review will also consider the scorecard target and outcome history over a decade to ensure that the targets set remain stretching but realistic. The REMCO retains the right to exercise its judgement to adjust the mathematical bonus scorecard outcome to ensure that the bonus scorecard outcome for Executive Directors reflects other aspects of Shell's performance which the REMCO deems appropriate for the reported year.

Annual bonus – time horizon



Long-term Incentive Plan

The LTIP rewards longer-term performance linked to Shell's strategy, which includes cash generation, capital discipline, value created for shareholders as well as progress towards meeting our ambition to thrive in the energy transition.

For 2020, the absolute measures will be FCF and energy transition, and relative growth compared with our peers will be based on: TSR, ROACE and CFFO. The relative measures, which focus on outperforming our closest competitors on key financial metrics, are supported by the absolute FCF metric which provides cash to service and repay debt, make shareholder distributions and fund capital investment. These are aligned with our strategic ambition to be a world-class investment case, and are supported by an energy transition measure focused on thriving in the energy transition and delivering our NCF target.

For the relative measures, 200% vests for first position, 150% for second, 80% for third and 0% for ranking fourth or fifth. The comparator group consists of four of the strongest companies in our industry (BP, Chevron, ExxonMobil and Total). Outperforming Shell's closest competitors on key financial metrics is challenging. A vesting outcome of 80% for median performance (40% of maximum) in a small comparator group is considered appropriate by the REMCO. The REMCO is aware that vesting for median performance is generally set at a limit of 25% of maximum for other UK companies. However, these are typically applied against a larger comparator group.

The REMCO will regularly review the measures, weightings and comparator group, and retains the right to adjust these to ensure that the LTIP continues to serve its intended purpose with a stretching level of challenge. If the REMCO was to propose any material changes to the LTIP performance metrics, it would consult with major shareholders.

TSR underpin

If the TSR ranking is fourth or fifth, the level of the award that can vest on the basis of the other measures will be capped at 50% of the maximum payout for the LTIP.

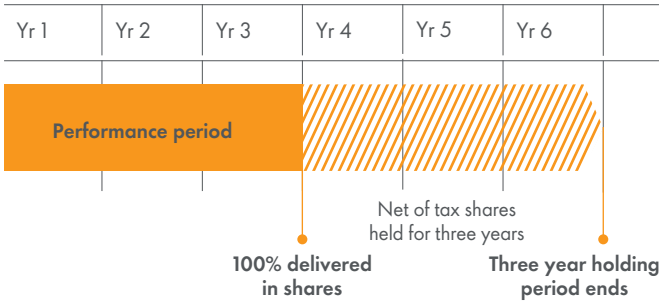
The detailed weightings and metrics applicable to the 2020 bonus scorecard are set out on page 152.

The detailed weightings and metrics applicable to the 2020 grant are set out on page 153.

Performance Period

LTIP performance is assessed over a three-year period. Vested shares from the LTIP are subject to a further three-year holding period post-vesting. This holding period commences on the date of vesting and remains in force beyond an Executive Director's tenure. This time horizon is deemed to be suitable for incentive purposes but is recognised as short relative to some of Shell's operations. However, the REMCO believes that it provides for broad alignment with shareholder interests when coupled with significant shareholding requirements.

LTIP time horizon



Discretion, malus and clawback

Variable pay awards may be made subject to adjustment events. At the discretion of REMCO, such an award may be adjusted before delivery (malus) or reclaimed after delivery (clawback) if an adjustment event occurs.

Adjustment events will be specified in award documentation and it is intended that they will, for example, relate to restatement of financial statements due to material non-compliance with a financial reporting requirement; misconduct by an Executive Director or misconduct through their direction or non-direction; any material breach of health and safety or environment regulations; serious reputational damage to Shell; material failure of risk management; corporate failure; or other exceptional events as determined at the discretion of the REMCO. The REMCO retains the right to alter the list of adjustment events in respect of future awards.

In addition, the REMCO retains the discretion to adjust mathematical outcomes if and to the extent that it considers this appropriate. This power to adjust the outcomes is broad and includes adjusting the outcomes to zero. For example, an adjustment might be made if the REMCO considers:

- The mathematical outcomes do not reflect the wider financial or non-financial performance of RDS or the participant over the performance period;
- The LTIP vesting percentage is not appropriate in the context of circumstances that were unexpected or unforeseen at award; and
- There is any other reason why an adjustment is appropriate.

It is not anticipated that discretion would be used for upwards adjustment. If, in exceptional circumstances, it was considered, this would be done only after consultation with major shareholders.

Performance outcomes and/or share price appreciation make it difficult to predict the final amounts delivered under the LTIP at the time of award. In years where the vesting outcome makes the total remuneration inappropriate for any Executive Director, the REMCO will consider an adjustment to the annual bonus outcome or the LTIP vesting outcome for the purposes of managing remuneration quantum. In making any adjustment to the annual bonus or LTIP vesting outcome for this purpose REMCO will consider the overall level of remuneration for the Executive Director, the operation of the annual bonus, the operation of the LTIP, the wider performance of Shell over the performance periods, as well as the internal context for other employees.

An explanation of any discretionary adjustment would be set out in the relevant Directors' Remuneration Report.

Treatment of outstanding awards

Awards granted prior to the approval and implementation of this Policy and/or prior to an individual becoming an Executive Director will continue to vest and be delivered in accordance with the terms of the original award even if this is not consistent with the terms of this Policy.

As at March 10, 2020, this applies to Executive Directors Ben van Beurden and Jessica Uhl who each have outstanding awards under the LTIP.

Shareholding

The REMCO believes significant shareholding by Executive Directors is an important way of ensuring that shareholders and Executive Directors share the same priorities. Shareholding is one of Shell's core remuneration principles as it creates a balanced connection between individual wealth and Shell's long-term performance. This will support effective governance and an ownership mindset. Significant shareholding requirements reflect the performance timescales of Shell and are aligned with absolute shareholder return.

The CEO is expected to build up a shareholding of seven times their base salary over five years from appointment. The CFO is expected to build up a shareholding of five times their base salary over the same period. In the event of an increase to the guideline multiple of salary, for every additional multiple of salary required, the director will have one extra year to reach the increased guideline, subject to a maximum of five years from the date of the change.

Executive Directors will be required to maintain their shareholding requirement (or their existing shareholding if less than the guideline) for a period of two years post-employment.

The holding periods for LTIP vested shares and shares delivered as part of the annual bonus continue to apply after Executive Directors leave employment.

Differences for Executive Directors from other employees

The remuneration structure and approach to setting remuneration levels is consistent across Shell, with consideration given to location, seniority and responsibilities. However, a higher proportion of total remuneration is tied to variable pay for Executive Directors and members of Senior Management.

The salary for each Executive Director is determined based on the indicators in the "Executive Directors' remuneration policy table", which reflect the international nature of the Executive Directors' labour market. The salary for other employees is normally set on a country basis.

DIRECTORS' REMUNERATION POLICY continued

Executive Directors are eligible to receive the standard benefits and allowances provided to other employees. The provisions which are not generally available for other employees are described in "Benefits".

The methodology used for determining the annual bonus for Executive Directors is broadly consistent with the approach for Shell employees generally. However, bonuses for the majority of Shell employees are determined taking into account individual and business performance, whereas bonuses for Executive Directors are based solely on business performance. Although the makeup and weightings scorecard used for the majority of Shell employees is currently aligned with the scorecard, these scorecards may differ if required to support the achievement of business objectives. All Executive Directors and Executive Committee members receive 50% of their annual bonus in shares, which are subject to a three-year holding period.

Executive Directors are not eligible to receive new awards under employee share plans other than the LTIP, although awards previously granted will continue to vest in accordance with the terms of the original award. Selected employees participate in the Performance Share Plan (PSP). The operation of the PSP is similar to the LTIP, but currently differs, for example, in some performance measures and their relative weightings. As at March 2020, around 51,000 employees participate in one or more of Shell's global share plans and/or incentive plans, further supporting alignment with shareholder interests.

Executive Directors' retirement benefits are maintained in line with those of the wider workforce in their base country.

Illustration of potential remuneration outcomes

The charts on this page represent estimates under four performance scenarios ("Minimum", "On-target", "Maximum" and "Maximum, assuming a 50% share price appreciation between award and vest") of the potential remuneration outcomes for each Executive Director resulting from the application of 2020 base salaries to awards made in accordance with the proposed Policy. The majority of Executive Directors' remuneration is delivered through variable pay elements, which are conditional on the achievement of stretching targets.

The REMCO will review the formulaic Single Figure outcome relative to the quality of performance outcomes and adjust these, taking into account Shell's performance, shareholder experience, the operation of the remuneration structures and any other relevant factors, to ensure that the highest variable pay outcomes are only achieved in years with the highest quality performance.

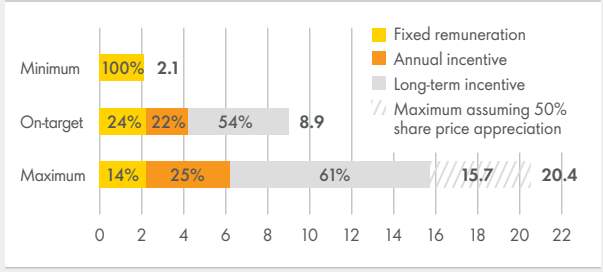
The scenario charts are based on future Policy award levels and are combined with projected single total figures of remuneration. The pay scenarios are forward-looking and only serve to illustrate the future Policy. For simplicity, the minimum, on-target and maximum scenarios assume no share price movement and exclude dividend accrual, for the portion of the bonus paid in shares and the LTIP, although dividend accrual during the performance and holding period applies. The scenarios are based on the current CEO (Ben van Beurden) and CFO (Jessica Uhl) roles.

Performance scenarios

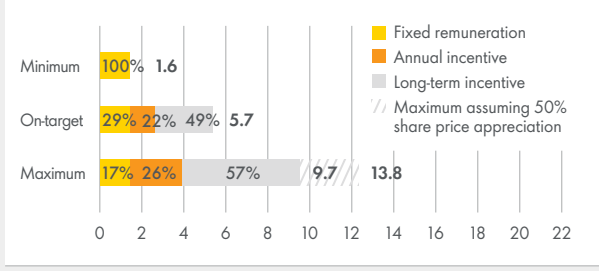
	Minimum	Target	Maximum[A]
Base salary (2020)	✓	✓	✓
Benefits (2019 actual)	✓	✓	✓
Pension (2020 estimate)	✓	✓	✓
Bonus	NIL	125% CEO	250% CEO
		120% CFO	240% CFO
LTIP	NIL	300% CEO	600% CEO
		270% CFO	540% CFO

[A] Maximum assuming 50% share price appreciation.

CEO pay scenarios (€m)



CFO pay scenarios (€m)



Recruitment

The REMCO determines the remuneration package for new Executive Director appointments. These appointments may involve external or internal recruitment or reflect a change in role of a current Executive Director.

When determining remuneration packages for new Executive Directors, the REMCO will seek a balanced outcome which allows Shell to:

- attract and motivate candidates of the right quality;
- take into account the individual's current remuneration package and other contractual entitlements;
- seek a competitive pay position relative to our comparator group, without overpaying;
- encourage relocation if required; and
- honour entitlements (for example, variable remuneration) of internal candidates before their promotion to the Board. The REMCO will follow the approach set out in the table below when determining the remuneration package for a new Executive Director.

Recruitment – Remuneration package

Component	Approach	Maximum
Ongoing remuneration	The salary, benefits, annual bonus, long-term incentives and pension benefits will be positioned and delivered within the framework of the Executive Directors' remuneration policy.	As stated in the "Executive Directors' remuneration policy table".
Compensation for the forfeiture of any awards under variable remuneration arrangements	To facilitate external recruitment, one-off compensation in consideration for forfeited awards under variable remuneration arrangements entered into with a previous employer may be required. The REMCO will use its judgement to determine the appropriate level of compensation by matching the value of any lost awards under variable remuneration arrangements with the candidate's previous employer. This compensation may take the form of a one-off cash payment or an additional award under the LTIP. The compensation can alternatively be based on a newly created long-term incentive plan arrangement where the only participant is the new director. The intention is that any such compensation would, as far as possible, align to the duration and structure of the award being forfeited.	An amount equal to the value of the forfeited variable remuneration awards, as assessed by the REMCO. Consideration will be given to appropriate performance conditions, performance periods and clawback arrangements.
Replacement of forfeited entitlements other than any awards under variable remuneration arrangements	There may also be a need to compensate a new Executive Director in respect of forfeited entitlements other than any awards under variable remuneration arrangements. This could include, for example, pension or contractual entitlements, or other benefits. On recruitment, these entitlements may be replicated within the Executive Directors' remuneration policy or valued by the REMCO and compensated in cash. In cases of internal promotion to the Board, any commitments made which cannot be effectively replaced within the Executive Directors' remuneration policy may, at the REMCO's discretion, continue to be honoured.	An amount equal to the value of the forfeited entitlements, as assessed by the REMCO.
Exceptional recruitment incentive	Apart from the ongoing annual remuneration package and any compensation in respect of the replacement of forfeited entitlements, there may be circumstances in which the REMCO needs to offer a one-off recruitment incentive in the form of cash or shares to ensure the right external candidate is attracted (e.g. to the industry). The REMCO recognises the importance of internal succession planning but it must also have the ability to compete for talent with other global companies. The necessity and level of this incentive will depend on the individual's circumstances. The intention will be that this is only used in genuinely exceptional circumstances.	Subject to the limits set out in the "Executive Directors' remuneration policy table".
Pension	New appointees will be provided with a pension in line with the wider workforce in their base country. For defined benefit members: ▪ The pensionable salary is capped at executive committee level pay for defined benefit purposes (with the exception of participants in the US plan where the bonus is removed from the definition of pensionable pay; and ▪ The member joins an appropriate base country defined contribution mechanism in excess of the cap, or exceptionally a pension cash allowance equivalent to the defined contribution level is payable in excess of the cap.	In accordance with the pension provision applicable to the wider workforce in the base country.

Executive Directors' employment arrangements and letters of appointment

The Dutch Executive Directors are employed for an indefinite period. Executive Directors with the Netherlands as their base country will be employed on the basis of a contract of employment governed by Dutch employment law. For Executive Directors with a base country other than the Netherlands, REMCO will determine their employment arrangements based on a number of considerations, including Dutch immigration requirements and base country retirement benefits. Executive Directors' employment arrangements are available for inspection at the AGM or on request. For further details on appointment and re-appointment of Directors, see the "Governance Framework" on page 118 and "Other Regulatory and Statutory Information" on page 170.

End of employment

Notice period

Employment arrangements of Executive Directors can generally end by either the employee or the employer providing one month's notice, or the applicable statutory notice period. For example, under Dutch law, the statutory notice period for the employer will vary in line with the length of service, with the maximum being four months' notice. Under Dutch law, termination payments are not linked to the contract's notice period.

The Netherlands statutory end-of-employment compensation

With effect from July 1, 2015, employment legislation in the Netherlands introduced statutory end-of-employment compensation. Under this legislation, every termination (other than following retirement or for cause) of a Dutch employment contract that has continued for a minimum of two years will give rise to an obligation to pay the departing employee transition compensation ("transitievergoeding"). The statutory compensation is capped at one times the annual salary, which is deemed to include variable pay such as the annual bonus. Executive Directors are expected not to claim transition compensation or any other applicable statutory compensation over and above the agreed compensation for loss of office as set out in the "End of employment" table on page 162.

Outstanding entitlements

In cases of resignation or dismissal for cause, fixed remuneration (base salary, benefits, and employer pension contributions) will cease on the last day of employment, variable remuneration elements will generally lapse and the Executive Director is not eligible for compensation for loss of office.

The information, on page 162, generally applies to termination of employment by Shell giving notice, by mutual agreement, or in situations where the employment terminates because of retirement with Shell consent at a date other than the normal retirement date, redundancy or in other similar circumstances at the REMCO's discretion.

DIRECTORS' REMUNERATION POLICY continued

End of employment

Provision	Policy
Compensation for loss of office	For Executive Directors appointed between January 1, 2011 and December 31, 2016, employment contracts include a cap on termination payments of one times annual pay (base salary plus target bonus). Delivery of compensation is mitigated by a contractual obligation for the Executive Director to seek alternative employment and Shell's ability to implement phased payment terms. For Executive Directors appointed on or after January 1, 2017, the REMCO may offer a termination payment of up to one times base salary (target bonus will not be included). However, REMCO may be obligated to pay statutory compensation over and above the compensation for loss of office to a departing Executive Director who asserts a statutory claim thereto. Delivery of compensation is mitigated by a contractual obligation for the Executive Director to seek alternative employment and Shell's ability to implement phased payment terms. The provision of standard end-of-employment benefits such as repatriation costs, security provision and outplacement support may also be included, as deemed reasonable by the REMCO. The REMCO may adjust the termination payment for any situation where a full payment is inappropriate, taking into consideration applicable law, corporate governance provisions, the applicability of any statutory compensation and the best interests of Shell and shareholders as a whole.
Annual bonus	Any annual bonus in the year of departure is prorated based on service. Depending on the timing of the departure, the REMCO may consider the latest scorecard position or defer payment until the full-year scorecard result is known. Bonuses delivered in shares represent the bonus which a participant has already earned and carry no further performance conditions; therefore, these shares will be unrestricted at the conclusion of the normal deferral or holding period respectively and no proration will apply.
LTIP	Outstanding awards are prorated on a monthly basis, by reference to the Executive Director's service within the performance period. They will generally survive the end of employment and will remain subject to the same vesting performance conditions, and malus and clawback provisions, as if the Executive Director had remained in employment. The three-year holding period will also remain in force for any awards made on or after January 1, 2017. If the participant dies before the end of the performance period, the award will vest at the target level on the date of death. In case of death after the end of the performance period, the award will vest as described in this Policy.

NON-EXECUTIVE DIRECTORS

Non-executive Directors' remuneration policy table

Fee structure	Approach to setting fees	Other remuneration
Non-executive Directors (NEDs) receive a fixed annual fee for their directorship. The size of the fee will differ based on the position on the Board: Chair of the Board fee or standard Non-executive Director fee. Additional annual fee(s) are payable to any Director who serves as Senior Independent Director, a Board committee chair, or a Board committee member. A NED receives either a chair or member fee for each committee. This means that a chair of a committee does not receive both fees. NEDs receive an additional fee for any Board meeting involving intercontinental travel – except for one meeting a year held in a location other than The Hague.	The Chair's fee is determined by the REMCO. The Board determines the fees payable to NEDs. The maximum aggregate annual fees will be within the limit specified by the Articles of Association and in accordance with the NEDs' responsibilities and time commitments. The Board reviews NED fees periodically to ensure that they are aligned with those of other major listed companies.	Business expenses incurred in respect of the performance of their duties as a NED will be paid or reimbursed by Shell. Such expenses could include transport between home and office and occasional business-required partner travel. NEDs may receive a token of recognition on retirement from the board. The maximum value for this is €300. Where required, the Chair is offered Shell-provided accommodation in The Hague. The REMCO has the discretion to offer other benefits to the Chair as appropriate to their circumstances. Where business expenses or benefits create a personal tax liability to the Director, Shell may cover the associated tax. The Chair and the other NEDs cannot receive awards under any incentive or performance-based remuneration plans, and personal loans or guarantees are not granted to them. NEDs do not accrue any retirement benefits as a result of their non-executive directorships with Shell. NEDs are encouraged to hold shares with a value equivalent to 100% of their fixed annual fee and maintain that holding during their tenure.

Non-executive Directors' letters of appointment

NEDs, including the Chair, have letters of appointment. NEDs' letters of appointment are available for inspection at the AGM or on request. For further details on appointment and re-appointment of Directors, see the "Governance Framework" on page 118 and "Other Regulatory and Statutory Information" on page 170.

Non-executive Director recruitment

The REMCO's approach to setting the remuneration package for NEDs is to offer fee levels and specific benefits (where appropriate) in line with the "Non-executive Directors' remuneration policy table" and subject to the Articles of Association. NEDs are not offered variable remuneration or retention awards.

When determining the benefits for a new Chair, the individual circumstances of the future Chair will be taken into account.

Non-executive Director termination of office

No payments for loss of office will be made to NEDs.

Consideration of overall pay and employment conditions

When setting the Policy, no specific employee groups were consulted. However, Shell seeks to promote and maintain good relations with employee representative bodies as part of its employee engagement strategy, and consults on matters affecting employees and business performance as required.

When determining Executive Directors' remuneration structure and outcomes, the REMCO reviews a set of information, including relevant reference points and trends, which includes internal data on employee remuneration (for example, employee relations matters in respect of remuneration and average salary increases applying in the Netherlands, UK and the USA). During the Policy review, pay and employment conditions of the wider Shell employee population were taken into account by adhering to the same performance, rewards and benefits philosophy for the Executive Directors, as well as overall benchmarking principles. Furthermore, any potential differences from other employees (see "Differences for Executive Directors from other employees") were taken into account when providing the REMCO with advice in the formation of this Policy.

Dialogue between management and employees is important, with the annual Shell People Survey being one of the principal means of gathering employee views on a range of matters. The Shell People Survey includes questions inviting employees' views on their pay and benefit arrangements. Shell also encourages share ownership among employees, and many are shareholders who are able to participate in the vote on the Policy at the AGM.

The REMCO is kept informed by the CEO, the Chief Human Resources & Corporate Officer and the Executive Vice President Remuneration and HR Operations on the bonus scorecard and any relevant remuneration matters affecting other senior executives, extending to multiple levels below the Board and Executive Committee.

Consideration of shareholder views

The REMCO engages with major shareholders on a regular basis throughout the year and this allows it to hear views on Shell's remuneration approach and test proposals when developing or evolving the Policy. Recent examples of the REMCO responding to shareholder views include: considering the quantum of executive pay and the use of alternative reward structures; introducing the Energy Transition metric to the LTIP in line with our strategic ambitions; removing the individual performance modifier from the calculation of annual bonus outcomes to make remuneration structures simpler and more transparent to shareholders; reducing the CEO's target bonus from 150% to 125%; reducing the CEO's LTIP grant; and enabling the broader use of discretion to manage remuneration outcomes.

The REMCO will review the Policy regularly to ensure it continues to reinforce Shell's long-term strategy and remains closely aligned with shareholders' interests.

Additional policy statement

The REMCO reserves the right to make payments outside the Policy in limited exceptional circumstances, such as for regulatory, tax or administrative purposes or to take account of a change in legislation or exchange controls, and only where the REMCO considers such payments are necessary to give effect to the intent of the Policy.

Signed on behalf of the Board

/s/ Linda M. Coulter

LINDA M. COULTER
Company Secretary
March 11, 2020

OTHER REGULATORY AND STATUTORY INFORMATION

This section of the Annual Report contains the remaining information which the Directors are required to report on each year and for the year ended December 31, 2019. There are other matters that are required to be reported on and that have been disclosed in other sections of the Annual Report, as summarised below:

Management Report	This Directors' Report, together with the Strategic Report, serves as the Management Report for the purpose of Disclosure Guidance and Transparency Rule 4.1.8R. Both the Directors' Report and Strategic Report have been presented in accordance with and reliance on English law, and the liabilities of the Directors in connection with those reports shall be subject to the limitations and restrictions provided by such law.	Directors' Report: pages 113-163 Strategic Report: pages 6-101
Corporate governance	The Company's statement on corporate governance, as required by DTR7.2.3R, is incorporated in this Directors' Report by way of reference.	Directors' Report: pages 104-171
Business relationships [A]	A statement, summarising the Directors' business relationships with suppliers, customers and others.	Strategic Report: pages 6-101
Employee engagement	Information on how the Directors have engaged with employees.	
Directors' interests [B]	The interests (in shares of the Company or calculated equivalents) of the Directors in office at the end of the year, including any interests of a "connected person". Changes in Directors' share interests during the period from December 31, 2019, to March 11, 2020.	Annual Report on Remuneration: pages 148
Likely future developments	Information relating to likely future developments.	Provided throughout the Strategic Report: pages 6-101
Research and development	Information relating to Shell's research and development, including expenditure.	Shell Story: pages 12-18
Diversity and inclusion	Information concerning diversity and inclusion. This includes information on the equal opportunities in recruitment, career development, promotion, training and rewards for all our people, including those with disabilities.	Our people: pages 99-101
Employee communication and involvement	Information concerning employee communication and involvement.	Our people: pages 99-101
Corporate social responsibility	A summary of Shell's approach to corporate social responsibility. Further details will be available in the Shell Sustainability Report 2019.	Environment and society: pages 84-90 Our people: pages 99-101
Branches	A list of our subsidiaries, joint ventures and associates. Our activities and interests are operated through subsidiaries, branches of subsidiaries, joint ventures and associates which are subject to the laws and regulations of many different jurisdictions.	Additional Information, Appendix 1: pages 282-306
Greenhouse gas emissions	Information relating to greenhouse gas emissions.	Climate change and energy transition: pages 84-98
Risk management	Detail on risk factors Information on emerging risks	pages 27-36 of the Strategic Report Other regulatory and statutory information: pages 164-171
Financial risk management, objectives and policies	Descriptions of the use of financial instruments and Shell's financial risk management objectives and policies, and exposure to market risk (including price risk), credit risk and liquidity risk.	Consolidated Financial Statements: Note 19, pages 227-231
Listing rule information [C]	Information concerning the amount of interest capitalised by Shell.	Consolidated Financial Statements: Note 6, page 209
Listing rule information [C]	The Remuneration Committee Report	Directors' Remuneration Report: pages 135-163
Listing rule information [C]	Details of the Company's long-term incentive schemes as required by LR 9.4.3R	Directors' Remuneration Report: pages 135-163
Significant shareholdings	Information concerning significant shareholdings.	Additional information: page 274-275

[A] This meets the purposes of Schedule 7 to The Companies (Miscellaneous Reporting) Regulations 2018.
[B] "Connected person" has the meaning given to "person closely associated" within the Market Abuse Regulation.
[C] This information is given in accordance with Listing Rule 9.8.4R. Further information in connection with Listing Rule 9.8.4R is contained in the remainder of "Other Statutory Information" which follows on pages 165-171.

DISCLOSURE OF INFORMATION TO AUDITORS

In accordance with section 418 of the Act, each of the persons who is a Director at the date of approval of this Report confirms that, so far as the Director is aware, there is no relevant audit information of which the Company's auditor is unaware. The Director has taken all steps that he or she ought to have taken as a Director in order to make himself or herself aware of any relevant audit information and to establish that the Company's auditor is aware of that information.

FINANCIAL STATEMENTS, DIVIDENDS AND DIVIDEND POLICY

The "Consolidated Statement of Income" and "Consolidated Balance Sheet" can be found on pages 191 and 192 respectively.

The Board aims to grow the dividend per share through time in line with its view of the underlying business earnings and cash flow of the Shell group. When setting dividends, the Board looks at a range of factors, including the macro-environment and the Company's current balance sheet, future investment plans and existing commitments. In addition, the Board could choose to return cash through share buybacks, subject to the capital requirements of the Shell group.

The Board is aware of a consultation undertaken in 2019 by the Investment Association on behalf of BEIS to review the practice of shareholder distributions being made that have not been voted on by shareholders. The Board will consider the outcome of this review once it is published.

Interim dividends are currently declared by the Board and paid on a quarterly basis. Shell does not currently pay a "final" dividend, which would need to be voted on by shareholders, requiring the introduction of a resolution at the AGM. This would delay the payment of the fourth quarter dividend (currently paid in late March) until after the AGM, which is towards the end of May, a delay of around seven weeks. Our approach to dividend payments is not uncommon for companies distributing returns to shareholders on a quarterly basis.

On December 18, 2019, Shell announced the introduction of US dollar as additional currency election for the payment of dividends, alongside euro and sterling, and highlighted that its dividend will be settled with its shareholders fully electronically either in CREST or via interbank transfers.

The Directors have announced a fourth-quarter interim dividend as set out in the table below, payable on March 23, 2020, to shareholders on the Register of Members at close of business on February 14, 2020. The closing date for dividend currency elections was February 28, 2020 [A] and the euro and sterling equivalents announcement date was March 9, 2020.

[A] A different dividend currency election date may apply to shareholders holding shares in a securities account with a bank or financial institution ultimately through Euroclear Nederland. This may also apply to other shareholders who do not hold their shares either directly on the Register of Members or in the corporate sponsored nominee arrangement. Such shareholders can contact their broker, financial intermediary, bank or financial institution for the election deadline that applies.

VIABILITY STATEMENT

The "Strategic Report" includes information about Shell's strategy, financial condition, cash flows and liquidity, as well as the factors, including the principal risks, likely to affect Shell's future development. "Shell story" describes Shell's business model, including competitive advantages and key strengths. The Directors assess Shell's prospects at both an operating and strategic level, each involving different time horizons. To this end, the Directors assess Shell's portfolio and strategy against a wide range of outlooks, including assessing the potential impacts of various possible energy transition pathways and scenarios for changes in societal expectations in relation to climate change. Shell recognises in its strategy that the world is transitioning to a lower-carbon energy system (see "Climate change and energy transition"). The Risk Factors section provides an overview of the principal risks Shell is exposed to in its operations.

On an annual basis, the Directors approve a detailed three-year operating plan, which forecasts Shell's cash flows and ability to service financing requirements, pay dividends and fund investing activities during the period. Shell's three-year operating plan includes assumptions in relation to internal and external parameters. Some of the key assumptions include the impact of commodity prices, exchange rates, future carbon costs, agreements like LNG contract renewals, and schedules of growth programmes. Considering the degree of change possible in these parameters, Shell has deemed a three-year period of assessment appropriate for the longer-term viability statement.

Dividends

2019

	A shares			B shares [A]			A ADSs	B ADSs
	$	€	pence	$	pence	€	$	$
Q1	0.47	0.42	36.97	0.47	36.97	0.42	0.94	0.94
Q2	0.47	0.43	38.01	0.47	38.01	0.43	0.94	0.94
Q3	0.47	0.42	35.73	0.47	35.73	0.42	0.94	0.94
Q4 [A]	0.47	0.42	36.40	0.47	36.40	0.42	0.94	0.94
Total announced in respect of the year [A]	1.88	1.68	147.11	1.88	147.11	1.68	3.76	3.76
Amount paid during the year [A]	1.88	1.68	146.65	1.88	146.65	1.68	3.76	3.76

[A] It is expected that holders of B shares will receive dividends through the dividend access mechanism applicable to such shares. The dividend access mechanism is described more fully on page 268.

OTHER REGULATORY AND STATUTORY INFORMATION continued

In making the viability assessment, the Directors have also considered the financial impact of each of the following severe but possible scenarios that could threaten Shell's viability. In reviewing these stress tests, the Directors have considered possible mitigation steps and have made certain assumptions regarding the availability of future funding options, including credit lines and debt facilities, possible assets disposals, and the ability to flex the levels of shareholder returns and to raise future financing in line with the operating plan window.

Scenario	Link to principal risks
A significant HSSE event	[A]
A low oil and gas price environment with $40/bbl Brent (nominal prices) over the three year planning period	[B]
A significant HSSE event in a low oil and gas price environment	[A] and [B]
Sustained impact from politically adverse developments, lower growth in developing countries, as well as lower growth in Europe	[B] and [C]
Unplanned shut down of a major cash generating asset for a year	[A]

[A] The nature of our operations exposes us, and the communities in which we work, to a wide range of health, safety, (cyber) security and environment risks.
[B] We are exposed to macro-economic risks including fluctuating prices of crude oil, natural gas, oil products and chemicals.
[C] We are exposed to treasury and trading risks, including liquidity risk, interest rate risk, foreign exchange risk and credit risk. We are affected by the global macroeconomic environment as well as financial and commodity market conditions.

Taking account of Shell's position and principal risks at December 31, 2019, the Directors have a reasonable expectation that Shell will be able to continue in operation and meet its liabilities as they fall due over its three-year operating plan period.

NON-FINANCIAL INFORMATION STATEMENT

The Non-Financial Information Statement below forms part of the Strategic Report on pages 6-101.

Non-Financial Information Statement

Reporting requirement	Where to read more in this report	Page
Business model	The Shell Story	16
Non-financial KPIs	Performance indicators	42
Environmental matters	Environment and society, Climate change and energy transition	84-98
Employees	Our people and Directors Report	99-101
Social matters	Environment and society	84-90
Respect for human rights	Environment and society	90
Anti-corruption and anti-bribery matters	Our people	99-101

REPURCHASES OF SHARES

The Group announced, on July 26, 2018, the start of a share buyback programme of at least $25 billion by the end of 2020 subject to further progress with debt reduction and oil price conditions. At the 2019 AGM, shareholders granted an authority for the Company to repurchase up to a maximum of 815 million of its shares (excluding purchases for employee share plans). This authority expires on the earlier of the close of business on August 21, 2020, or the end of the 2020 AGM.

During 2019, 320.1 million A shares, and 16.1 million B shares, with nominal values of €23.6 million ($28.4 million) respectively (4.27% of the Company's total issued share capital at December 31, 2019) were purchased and cancelled for a total cost of $10.2 billion including expenses, at an average price of $30.25 per share. The purpose of the shares repurchased in 2019 under the share buyback programme is to reduce the issued share capital of the Company. This is to offset the number of shares issued under the Scrip Dividend Programme and to significantly reduce the equity issued in connection with the Company's combination with BG Group. The Scrip Dividend Programme was cancelled with effect from the fourth quarter 2017 interim dividend. More information can be found at www.shell.com/scrip. From January 1, 2020, to January 24, 2020, the end of the sixth tranche of the share buyback programme, a further 23.2 million A shares (0.29% of the Company's total issued share capital at December 31, 2019) were purchased for cancellation for a total cost of $0.7 billion including expenses, at an average price of $29.63 per share. This means that 624 million shares could still be repurchased under the current AGM authority.

The Board continues to regard the ability to repurchase issued shares in suitable circumstances as an important part of Shell's financial management. A resolution will be proposed at the 2020 AGM to renew the authority for the Company to purchase its own share capital, up to specified limits, for a further year. This proposal will be described in more detail in the Notice of Annual General Meeting.

BOARD OF DIRECTORS

The names of the Directors that held office during the year can be found on pages 104-112. Information on the Directors who are seeking appointment or reappointment is included in the Notice of Annual General Meeting.

QUALIFYING THIRD-PARTY INDEMNITIES

The Company has entered into a Deed of Indemnity (Deed) with each Director of the Company who served during the year. The terms of each of these Deeds are identical and they reflect the statutory provisions on indemnities contained in the Companies Act 2006 (CA 2006). Under the terms of each Deed, the Company has agreed to indemnify the Director, to the widest extent permitted by the CA 2006, against any loss, liability or damage, howsoever caused (including in respect of a Director's own negligence), suffered or incurred by a Director in respect of their acts or omissions while or in the course of acting as a Director or employee of the Company, any associated company or affiliate (within the meaning of the CA 2006). In addition, the Company shall lend funds to Directors as required to meet reasonable costs and expenses incurred or to be incurred by them in defending any criminal or civil proceedings brought against them in their capacity as a Director or employee of the Company, associated company or affiliate, or, in connection with certain applications brought under the CA 2006. The provisions in the Company's Articles relating to arbitration and exclusive jurisdiction are incorporated, mutatis mutandis, into the Deeds entered into by each Director and the Company.

RELATED PARTY TRANSACTIONS

Other than disclosures given in Notes 9, 27 and 29 to the "Consolidated Financial Statements" on pages 213, 237, and 238, there were no transactions or proposed transactions that were material to either the Company or any related party. Nor were there any transactions with any related party that were unusual in their nature or conditions.

POLITICAL CONTRIBUTIONS

No donations were made by the Company or any of its subsidiaries to political parties or organisations during the year. 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.

RECENT DEVELOPMENTS AND POST-BALANCE SHEET EVENTS

See Note 29 to the "Consolidated Financial Statements" on page 238.

SHARE CAPITAL

The Company's issued share capital at December 31, 2019, is set out in Note 20 to the "Parent Company Financial Statements" on pages 257-265. The percentage of the total issued share capital represented by each class of share is given below.

Share capital percentage

Share class	%
A	52.68
B	47.32
Sterling deferred	de minimis

TRANSFER OF SECURITIES

There are no restrictions on transfer or limitations on the holding of the ordinary shares other than under the Articles, under restrictions imposed by law or regulation (for example, insider trading laws) or pursuant to the Company's Share Dealing Code.

SHARE OWNERSHIP TRUSTS AND TRUST-LIKE ENTITIES

Shell has three primary employee share ownership trusts and trust-like entities: a Dutch foundation (stichting) and two US Rabbi Trusts. The shares held by the Dutch foundation are voted by its Board and the shares in the US Rabbi Trusts are voted by the Voting Trustee, Newport Trust Company. Both the Board of the Dutch foundation and the Voting Trustee are independent of Shell.

The UK Shell All Employee Share Ownership Plan has a separate related share ownership trust. Shares held by the trust are voted by its trustee, Computershare Trustees Limited, as directed by the participants.

AUDITOR

A resolution relating to the appointment of Ernst & Young LLP as auditor for the financial year 2020 will be proposed at the 2020 AGM.

ANNUAL GENERAL MEETING

The AGM will be held on May 19, 2020, at the Circustheater, Circusstraat 4, 2586 CW, The Hague, the Netherlands. The Notice of Annual General Meeting will include details of the business to be put to shareholders at the AGM.

CONFLICTS OF INTEREST

In accordance with the Act and the Articles, the Board may authorise any matter that otherwise may involve any of the Directors breaching their duty to avoid conflicts of interest. The Board has adopted a procedure to address these requirements. Detailed conflict of interest questionnaires are reviewed by the Board and, if considered appropriate, authorised. Conflicts of interest as well as any gifts and hospitality received by and provided by Directors are kept under review by the Board. Further information relating to conflicts of interest can be found in the Articles, available on the website.

SIGNIFICANT COMMITMENTS OF THE CHAIR

The Chair's other significant commitments are given in his biography on page 104.

SHELL GENERAL BUSINESS PRINCIPLES

The Shell General Business Principles define how Shell subsidiaries are expected to conduct their affairs and are underpinned by the Shell core values of honesty, integrity and respect for people. These principles include, among other things, Shell's commitment to support fundamental human rights in line with the legitimate role of business and to contribute to sustainable development. They are designed to mitigate the risk of damage to our business reputation and to prevent violations of local and international legislation. They can be found at www.shell.com/sgbp. See "Risk factors" on page 27-36.

SHELL CODE OF CONDUCT

Directors, officers, employees and contract staff are required to comply with the Shell Code of Conduct, which instructs them on how to behave in line with the Shell General Business Principles. This Code clarifies the basic rules and standards they are expected to follow and the behaviour expected of them. These individuals must also complete mandatory Code of Conduct training.

Designated individuals are required to complete additional mandatory training on antitrust and competition laws, anti-bribery, anti-corruption and anti-money laundering laws, financial crime, data protection laws and trade compliance requirements (see "Risk factors" on page 35). The Shell Code of Conduct can be found at www.shell.com/codeofconduct.

CODE OF ETHICS

Executive Directors and Senior Financial Officers of Shell must also comply with the Code of Ethics. This Code is specifically intended to meet the requirements of Section 406 of the Sarbanes-Oxley Act. It can be found at www.shell.com/codeofethics.

OTHER REGULATORY AND STATUTORY INFORMATION continued

INDEPENDENT PROFESSIONAL ADVICE

All Directors may seek independent professional advice in connection with their role as a Director. All Directors have access to the advice and services of the Company Secretary. The Company has provided both indemnities and directors' and officers' insurance to the Directors in connection with the performance of their responsibilities. Copies of these indemnities and the directors' and officers' insurance policies are open to inspection. A copy of the form of these indemnities has been previously filed with the Securities and Exchange Commission.

RESULTS PRESENTATIONS AND ANALYSTS' MEETINGS

The planned dates of the quarterly, half-yearly and annual results presentations, as well as all major analysts' meetings, are announced in advance on the Shell website and through a regulatory release. Generally, presentations are broadcast live via webcast and teleconference. Other meetings with analysts or investors are not normally announced in advance, nor can they be followed remotely by webcast or any other means. Procedures are in place to ensure that discussions in such meetings are always limited to non-material information or information already in the public domain.

Results and meeting presentations can be found at www.shell.com/investor. This is in line with the requirement to ensure that all shareholders and other parties in the financial market have equal and simultaneous access to information that may influence the price of the Company's securities.

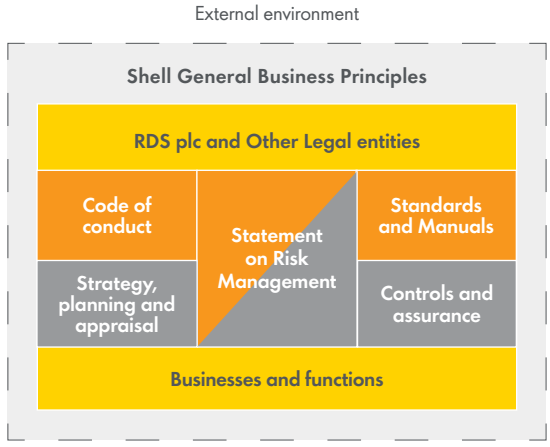
CONTROLS AND PROCEDURES

The Board is responsible for maintaining a sound system of risk management and internal control, and for regularly reviewing its effectiveness. It has delegated authority to the Audit Committee to assist it in fulfilling its responsibilities in relation to internal control and financial reporting (see "Audit Committee Report" on pages 129-134).

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

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

CONTROL FRAMEWORK



- The **Foundation** elements of the Shell Control Framework define the principles that underpin the Shell Group's activities.
- The **Management processes** defines activities critical to an effective control framework.
- The **Structural** component defines how Businesses and Functions facilitate achievement of the Shell group's overall business objectives, while respecting the separate legal identity of the Individual Shell companies that implement them.

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

During and after such reports, the Board has an opportunity to request further information and/or ask clarifying questions, which it does to varying degrees depending on the issue. Similarly, the Chairs of the Safety, Environment and Sustainability Committee (SESCo) and the Nigeria Special Litigation Committee, an ad hoc Board Committee, also provide regular updates after each of their respective meetings covering, among other matters, the respective aspects of controls that they monitor pursuant to their Terms of Reference. The Audit Committee and SESCo minutes, once approved, are further provided to the Board and incorporated into Board minutes to ensure full access to and review by

all Directors. These aspects, together with the 2019 Reports respectively submitted to the Board by the Chief Internal Auditor, the External Auditors, the Disclosure Committee Chairman and the Chief Ethics & Compliance Officer, as well as summaries of the Annual Proved Reserves Disclosure and the Full Year HSSE & Social Performance Assurance Report, enable the Board's ongoing monitoring and annual review of material controls.

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

The system of risk management and internal control over financial reporting is an integral part of the Control Framework. Regular reviews are performed to identify the significant risks to financial reporting and the key controls designed to address them. These controls are documented, responsibility is assigned, and they are monitored for design and operating effectiveness. Controls found to be ineffective are remediated. The principal risks faced by Shell are set out in "Risk factors" on pages 27-36.

Shell has a variety of processes for obtaining assurance on the adequacy of risk management and internal control. Emerging risks are identified through (among others) the monitoring of external developments, risk indicators, learnings from incidents and assurance findings, and through the appraisal of Shell's forward-looking plans. A broad array of measures are used to manage Shell's various risks which are set out in the relevant sections of this Report. There are also risks that Shell accepts or does not seek to fully mitigate. The Executive Committee and the Board regularly consider group-level risks and associated control mechanisms.

Shell has developed a risk appetite framework that considers three distinct factors: Strategic Risk Appetite, Operational Risk Appetite and Conduct Risk Appetite. These three factors aim to capture the range and variety of risks affecting Shell, with specific risk appetite parameters identified and monitored for each one.

Strategic Risk Appetite is about current and future portfolio considerations, examining parameters such as country concentration or exposure to higher-risk countries. It also considers "long-range" developments in order to test key assumptions or beliefs in relation to energy markets.

Operational Risk Appetite is about material operational exposures, and promotes a more granular assessment of key risks facing the organisation. Conduct Risk Appetite brings together leading and lagging risk indicators to provide an overall view of the culture of the organisation.

The Financial Framework sets certain boundary conditions in the consideration of risk appetite, as the financial resilience of Shell should logically inform the aggregate level of risk appetite that could be sustained.

Shell has a climate change risk management structure which is supported by standards, policies and controls (see "Risk factors" on page 34 and "Climate change and energy transition" on pages 91-98). Climate change and risks resulting from greenhouse gas emissions have been identified as significant risk factors for Shell and are managed in accordance with other significant risks through the Board and Executive Committee.

Many of our major projects and operations are conducted in joint arrangements or associates, which may reduce the degree of control and ability to identify and manage risks (see "Risk factors" on page 27-36). In each case, Shell appoints a representative to manage its interests who seeks to ensure that such projects operate under equivalent standards to Shell.

We operate in more than 70 countries that have differing degrees of political, legal and fiscal stability. This exposes us to a wide range of political developments that could result in changes to contractual terms, laws and regulations. In addition, we and our joint arrangements and associates face the risk of litigation and disputes worldwide (see "Risk factors" on page 27-36). We continuously monitor geopolitical developments and societal issues relevant to our interests. Employees who engage with government officials are subject to specific training programmes, procedures and regular communications, in addition to Shell General Business Principles and Shell Code of Conduct compliance. We are prepared to exit a country if we believe we can no longer operate in that country in accordance with our standards and applicable law, and we have done so in the past.

The Board confirms that there is a robust process for identifying, evaluating and managing the principal risks. Further, the Board confirms it carries out a robust assessment of Shell's emerging risks, the procedures in place to identify the emerging risks, and how the risks are being managed or mitigated to the achievement of Shell's objectives. This has been in place throughout 2019 and up to the date of this Report and is regularly reviewed by the Board and accords with the FRC Guidance on Risk Management, Internal Control and Related Financial and Business Reporting.

The Board has conducted its annual review of the effectiveness of Shell's system of risk management and internal control in respect of 2019, such review covering all material controls, including financial, operational and compliance controls.

MANAGEMENT'S EVALUATION OF DISCLOSURE CONTROLS AND PROCEDURES OF SHELL

Shell's CEO and CFO have evaluated the effectiveness of Shell's disclosure controls and procedures at December 31, 2019. Based on that evaluation, they concluded that Shell's disclosure controls and procedures are effective.

OTHER REGULATORY AND STATUTORY INFORMATION continued

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING OF SHELL

Management, including the CEO and CFO, is responsible for establishing and maintaining adequate internal control over Shell's financial reporting and the preparation of the "Consolidated Financial Statements". It conducted an evaluation of the effectiveness of Shell's internal control over financial reporting and the preparation of the "Consolidated Financial Statements" based on the Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). On the basis of this evaluation, management concluded that, at December 31, 2019, the Company's internal control over financial reporting and the preparation of the "Consolidated Financial Statements" was effective.

THE TRUSTEE'S AND MANAGEMENT'S EVALUATION OF DISCLOSURE CONTROLS AND PROCEDURES FOR THE ROYAL DUTCH SHELL DIVIDEND ACCESS TRUST

The Trustee of the Royal Dutch Shell Dividend Access Trust (the Trustee) and Shell's CEO and CFO have evaluated the effectiveness of the disclosure controls and procedures in respect of the Dividend Access Trust (the Trust) at December 31, 2019. On the basis of this evaluation, these officers have concluded that the disclosure controls and procedures of the Trust are effective.

THE TRUSTEE'S AND MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING OF THE ROYAL DUTCH SHELL DIVIDEND ACCESS TRUST

The Trustee and the Company's management are responsible for establishing and maintaining adequate internal control over the Trust's financial reporting. The Trustee and the Company's management conducted an evaluation of the effectiveness of internal control over financial reporting based on the Internal Control – Integrated Framework (2013) issued by COSO. On the basis of this evaluation, the Trustee and management concluded that, at December 31, 2019, the Trust's internal control over financial reporting was effective.

CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING

There has not been any change in the internal control over financial reporting of Shell or the Trust that occurred during the period covered by this Report that has materially affected, or is reasonably likely to materially affect, the internal control over financial reporting of Shell or the Trust. Material financial information of the Trust is included in the "Consolidated Financial Statements" and is therefore subject to the same disclosure controls and procedures as Shell. See the "Royal Dutch Shell Dividend Access Trust Financial Statements" on pages 268 for additional information.

ARTICLES OF ASSOCIATION

The Company's Articles of Association (Articles) were adopted at the 2019 AGM. The Articles may only be amended by a special resolution of the shareholders in a general meeting. A full version of the Company's Articles can be found at www.shell.com/investors.

MANAGEMENT AND DIRECTORS

The Company has a single-tier Board of Directors headed by a Chair, with management led by a CEO. See "Governance Framework" on pages 117-118.

DIRECTORS' SHAREHOLDING QUALIFICATION

The Directors are not required to hold any shares in the Company. While the Articles do not require Directors to hold shares in the Company, the Remuneration Committee believes that Executive Directors should align their interests with those of shareholders by holding shares in the Company. The CEO is expected to build up a shareholding of seven times his base salary over five years from appointment and from 2020, the CFO is expected to build up a shareholding of five times their base salary over the same period. In the event that another Executive Director joins the Board, the Remuneration Committee will determine their shareholding requirement, which will not be less than 200% of their base salary. Executive Directors will be required to maintain their requirement (or existing shareholding if less than the guideline) for a period of two years post-employment. Non-executive Directors are encouraged to hold shares with a value equivalent to 100% of their fixed annual fee and maintain that holding during their tenure. All Directors hold shares and such interests can be found in the "Directors' Remuneration Report" on pages 135-138.

APPOINTMENT AND RETIREMENT OF DIRECTORS

The Company's Articles, the Corporate Governance Code and the Companies Act 2006 govern the appointment and retirement of Directors. Board membership and biographical details of the Directors are provided on pages 104-109. However, Directors follow the direction laid out in the Code and stand for re-election annually.

During the year, Neil Carson was appointed to the Board on June 1, 2019.

RIGHTS ATTACHING TO SHARES

The full rights attaching to shares are set out in the Company's Articles of Association. The Company can issue shares with any rights or restrictions attached to them as long as this is not restricted by any rights attached to existing shares. These rights or restrictions can be decided either by an ordinary resolution passed by the shareholders or by the Board as long as there is no conflict with any resolution passed by the shareholders.

VOTING

Currently, only the A and B shares have voting rights. The voting rights of each A share and each B share are equal and carry one vote at a general meeting of the Company.

The sterling deferred shares are not ordinary shares and therefore have different rights and restrictions attached to them.

CHANGE OF CONTROL

There are no provisions in the Articles that would delay, defer or prevent a change of control.

DIRECTORS' RESPONSIBILITIES IN RESPECT OF THE PREPARATION OF THE ANNUAL REPORT AND ACCOUNTS

The Directors are responsible for preparing the Annual Report, including the financial statements, in accordance with applicable laws and regulations. These require the Directors to prepare financial statements for each financial year. As such, the Directors have prepared the Consolidated and Parent Company Financial Statements in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union (EU). In preparing these financial statements, the Directors have also elected to comply with IFRS as issued by the International Accounting Standards Board (IASB). The Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of Shell and the Company and of the profit or loss of Shell and the Company for that period. In preparing these financial statements, the Directors are required to:

- adopt the going concern basis unless it is inappropriate to do so;
- select suitable accounting policies and then apply them consistently;
- make judgements and accounting estimates that are reasonable and prudent; and
- state whether IFRS as adopted by the EU and IFRS as issued by the IASB have been followed.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the transactions of Shell and the Company and disclose with reasonable accuracy, at any time, the financial position of Shell and the Company and to enable them to ensure that the financial statements comply with the Companies Act 2006 (the Act) and, as regards the Consolidated Financial Statements, with Article 4 of the IAS Regulation and therefore are in accordance with IFRS as adopted by the EU. The Directors are also responsible for safeguarding the assets of Shell and the Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Each of the Directors, whose names and functions can be found on pages 111-112, confirms that, to the best of their knowledge:

- the financial statements, which have been prepared in accordance with IFRS as adopted by the EU and with IFRS as issued by the IASB give a true and fair view of the assets, liabilities, financial position and profit of Shell and the Company; and
- the Management Report includes a fair review of the development and performance of the business and the position of Shell, together with a description of the principal risks and uncertainties that it faces.

Furthermore, so far as each of the Directors is aware, there is no relevant audit information of which the auditors are unaware, and each of the Directors has taken all the steps that ought to have been taken in order to become aware of any relevant audit information and to establish that the auditors are aware of that information.

The Directors consider that the Annual Report, including the financial statements, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess Shell's position and performance, business model and strategy.

The Directors consider it appropriate to continue to adopt the going concern basis of accounting in preparing the financial statements.

The Directors are responsible for the maintenance and integrity of the Shell website (www.shell.com). Legislation in the UK governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Signed on behalf of the Board

/s/ Linda M. Coulter

LINDA M. COULTER
Company Secretary
March 11, 2020

FINANCIAL STATEMENTS AND SUPPLEMENTS

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INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF ROYAL DUTCH SHELL PLC

1. OUR OPINIONS AND CONCLUSIONS ARISING FROM OUR AUDIT

1.1 Our unmodified opinion on the financial statements

In our opinion, the financial statements of Royal Dutch Shell plc (the Parent Company) and its subsidiaries (collectively, Shell):

- give a true and fair view of the state of Shell's and of the Parent Company's affairs as at December 31, 2019, and of Shell's and the Parent Company's income for the year then ended;
- have been properly prepared both in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union (EU) and IFRS as issued by the International Accounting Standards Board (IASB); and
- have been prepared in accordance with the requirements of the Companies Act 2006, and, as regards Shell's financial statements, Article 4 of the IAS Regulation.

1.2 What we have audited

We have audited Royal Dutch Shell plc's financial statements for the year ended December 31, 2019, which are included in the Annual Report and comprise:

Shell	Parent Company
Consolidated Balance Sheet as at December 31, 2019	Balance Sheet as at December 31, 2019
Consolidated Statement of Income for the year then ended	Statement of Income for the year then ended
Consolidated Statement of Comprehensive Income for the year then ended	Statement of Comprehensive Income for the year then ended
Consolidated Statement of Changes in Equity for the year then ended	Statement of Changes in Equity for the year then ended
Consolidated Statement of Cash Flows for the year then ended	Statement of Cash Flows for the year then ended
Related Notes 1 to 29 to the Consolidated Financial Statements, including a summary of significant accounting policies	Related Notes 1 to 14 to the Parent Company Financial Statements

The financial reporting framework that has been applied in the preparation of the financial statements is applicable law and both IFRS as adopted by the EU and IFRS as issued by the IASB.

2. BASIS FOR OUR OPINION

We conducted our audit in accordance with International Standards on Auditing (UK) (ISA (UK)) and applicable law. Our responsibilities under those standards are further described in the 'Our responsibilities for the audit of the financial statements' section of our report below. We are independent of Shell and the Parent Company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the Financial Reporting Council's Ethical Standard as applied to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained during the planning, execution and conclusion of our audit is sufficient and appropriate to provide a suitable basis for our opinion.

3. OVERVIEW OF OUR AUDIT APPROACH

UPDATING OUR UNDERSTANDING OF SHELL'S BUSINESS AND ITS ENVIRONMENT

Our global audit team has deep industry experience through working for many years on the audits of large integrated international oil and gas companies. Our audit planning starts with updating our view on external market factors, for example geopolitical risk, the potential impact of climate change and the energy transition, commodity price risk and major trends in the industry. Building on this knowledge, we updated our understanding of Shell's strategy and business model. This was achieved through the review of external data, enquiry, analytical procedures, observation and visiting several of Shell's operating units.

In planning our 2019 audit, we were mindful of the fact that the outlook for both oil and gas commodity prices continued to narrow. Refining margins remained under pressure due to a number of factors, including the energy transition. The fundamentals of cost control, capital spending, operational excellence, cash flow and capital return continued to be a focus in the industry. Climate change and the energy transition are becoming increasingly important for the sector. As part of our audit, we assessed whether Shell's energy transition assumptions used in setting oil and gas commodity price assumptions and refining margin assumptions were reasonable in the light of the commitments that Shell have made with respect to decarbonisation in accordance with the Paris Agreement. Our updated understanding of Shell's business and the environment in which it operates informed our risk assessment procedures.

IDENTIFYING AND ASSESSING THE RISKS OF MATERIAL MISSTATEMENT

The results of our 2018 audit, together with our risk assessment procedures, provided a renewed basis for the identification and assessment of risks of material misstatement for our 2019 audit. Whilst our assessment of risks requiring special audit attention remained consistent with 2018, the impact of the energy transition has increased the inherent risk in estimating both oil and gas reserves and the recoverable amount of oil and gas properties. The risks we identified were as follows:

- the estimation of oil and gas reserves used in the calculation of the recoverable amount of exploration and production assets, depreciation, depletion and amortisation and the estimation of decommissioning and restoration provisions;
- the risk of unrealised trading gains and losses being recognised as a result of errors, unauthorised trading activity or deliberate misstatement of Shell's trading position; and
- risk of fraud through management override within other significant revenue streams.

Our additional areas of audit focus were:

- the recoverable amount of exploration and production assets, and investments in joint ventures and associates;
- the impact of the energy transition on the estimation of refining margins and their potential impact on the carrying value of Shell's refineries, the expected lives of the refineries, whether there is a need for environmental clean up cost provisions and the valuation of deferred tax assets;
- the estimation of decommissioning and restoration provisions;
- legal proceedings and other contingencies, with specific emphasis on Nigeria;
- uncertain tax positions;
- recognition and measurement of deferred tax assets;
- pension assumptions;
- the adoption of the new accounting standard on leases (IFRS 16); and
- the dividend distribution process, including the determination of realised profits and losses for the purposes of making distributions under the Companies Act 2006 (this area of audit focus relates to the parent company only).

We have expanded further our integration of analytical tools and technology into our audit. Not only do these tools deliver to us more efficient and secure access to Shell's data, but they provide us with an integrated view of risk, thus enabling us to focus our audit effort on operating units with higher risk profiles. They also enable us to perform risk-led analyses of entire populations of data.

ASSESSING MATERIALITY (SECTION 4)

When we established our audit strategy, we determined overall materiality for the financial statements. The key criterion in determining materiality is the auditor's perception of the needs of investors. We considered which earnings, activity or capital-based measure aligned best with the expectations of those charged with governance at Shell and users of Shell's financial statements. In so doing, we applied a 'reasonable investor perspective', which reflected our understanding of the common financial information needs of the members of Shell as a group. We also made judgements about the size of misstatements that would be considered material.

Our assessment of overall materiality was derived from an average of Shell's earnings for the prior two years and the estimated result for the current year on a current cost of supplies basis (CCS earnings), excluding identified items reported by Shell in its quarterly results announcements, and adjusted for an effective tax rate. In our judgement, an averaging approach reflects the nature of Shell, the oil and gas industry and the economic environment in which Shell operates.

This approach – which is unchanged from 2018 – resulted in the following materiality measures for 2019:

- planning materiality: $1,200 million (2018: $1,000 million);
- performance materiality: $900 million (2018: $750 million); and
- reporting differences threshold: $60 million (2018: $50 million).

Our determination of performance materiality was underpinned by our assessment of the strength of Shell's control environment. We confirmed with the Audit Committee that they were satisfied that these levels of materiality were appropriate. We kept our assessment of materiality under review throughout the year.

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF ROYAL DUTCH SHELL PLC continued

3. OVERVIEW OF OUR AUDIT APPROACH continued

DETERMINING THE SCOPE OF OUR AUDIT (SECTION 5)	Our scope is tailored to the circumstances of our audit of Shell and is influenced by our determination of materiality and our assessed risks of material misstatement. We performed audits of the complete financial information of 17 operating units and specific audit procedures on an additional 32 operating units. In selecting the operating units to be brought into audit scope, we assessed the risks of material misstatement of the financial statements based on size, complexity and risk, including the risk of fraud, and designed and implemented appropriate responses to the assessed risks. We performed procedures at a further 133 operating units that were specified by the group audit engagement in response to specific risk factors. In addition, we performed other group audit procedures at the consolidated level – see section 5 below. In order to reflect changes brought about by enhancements to Shell's finance function, changes to accounting standards and to introduce an appropriate level of unpredictability and rotation in our audit, we made the following refinements to our audit scope in 2019 compared to 2018: ▪ in order to recognise the increased amount of audit work that we would be carrying out at Shell's business service centres (BSCs), we transferred audit activity from onshore to our business service centre audit teams. For example, our work related to Germany was carried out mainly in Krakow, other than the physical inventory verification, which continued to be performed by our German team. The same applied to US downstream, where much of the activity was transferred to Manila; ▪ IFRS 16: we revised our audit procedures to reflect the requirements of the new standard. Also, we brought into scope three new entities in order to obtain sufficient audit coverage of the 'right of use assets'; and ▪ we revised our tax audit procedures to test centrally the main consolidated tax regimes (fiscal unities), including the US, UK and Netherlands.
IDENTIFYING KEY AUDIT MATTERS (SECTION 6)	We have identified the following key audit matters that, in our professional judgement, had the greatest effect on our overall audit strategy, the allocation of resources in the audit and in directing the global audit team's efforts: ▪ the estimation of oil and gas reserves, including reserves used in the calculation of depreciation, depletion and amortisation (DD&A), impairment testing to evaluate the recoverable amounts of production assets and the estimation of decommissioning and restoration (D&R) provisions; ▪ the recoverable amounts of exploration and production assets, and investments in joint ventures and associates; ▪ the estimation of future refining margins to evaluate the recoverability of manufacturing, supply and distribution assets; ▪ the recognition and measurement of deferred tax assets; ▪ revenue recognition: the risk of unrealised trading gains and losses being recognised as a result of errors, unauthorised trading activity or deliberate misstatement of Shell's trading position; and ▪ the dividend distribution process, including the determination of realised profits and losses for the purposes of making distributions under the Companies Act 2006 (this key audit matter relates to the Parent Company only). In 2018, our auditor's report included two key audit matters that have not been reported as key audit matters in our 2019 report. These relate to: (1) Enhancements to Shell's system of IT general controls, and (2) The recognition, measurement, presentation and disclosure of leases (IFRS 16). Although IFRS 16 was adopted on January 1, 2019, most of our audit effort was carried out in 2018 in order to audit the impact of the new standard, which was disclosed in the 2018 Annual Report. Consequently, we reported the adoption of IFRS 16 as a key audit matter in our 2018 report, and not in 2019. In the current year, we have added two key audit matters that were not reported as key audit matters in our 2018 report. These relate to: (1) The estimation of future refining margins to evaluate the recoverability of manufacturing, supply and distribution assets, and (2) The dividend distribution process (Parent Company only).

4. OUR APPLICATION OF MATERIALITY

The scope of our work is influenced by our view of materiality and our assessed risks of material misstatement. As we develop our audit strategy, we determine materiality at the overall level and at the individual account level (referred to as our 'performance materiality' (see below)).

Planning Materiality	Performance Materiality	Reporting differences
$1,200m (2018: $1,000m)	**$900m** (2018: $750m)	**$60m** (2018: $50m)

Overall materiality

What we mean

We apply the concept of materiality both in planning and performing our audit, as well as in evaluating the effect of identified misstatements (including omissions) on our audit and in forming our audit opinion. For the purposes of determining whether or not Shell's financial statements are free from material misstatement (whether due to fraud or error), we define materiality as the magnitude of misstatements that, individually or in the aggregate, could reasonably be expected to influence the economic decisions of the users of these financial statements. We are required to establish a materiality level for the financial statements as a whole that is appropriate in the light of Shell's particular circumstances.

Our overall materiality provides a basis for identifying and assessing the risk of material misstatement and determining the nature and extent of our audit procedures. Our evaluation of materiality requires professional judgement and necessarily takes into account qualitative as well as quantitative considerations. It also considers our assessment of the expectations of those charged with governance at Shell and users of Shell's financial statements.

As required by auditing standards, we reassess materiality throughout the duration of the audit.

Level set

Group materiality
We set our preliminary overall materiality for Shell's Consolidated Financial Statements at $1,200 million (2018: $1,000 million). We kept this under review throughout the year and reassessed the appropriateness of our original assessment in the light of Shell's results and external market conditions. Based on these reviews and reassessments, we did not find it necessary to revise our level of overall materiality.

Parent Company materiality
We determined materiality for the Parent Company to be $2.6 billion (2018: $2.6 billion), which is 1% (2018: 1%) of equity. Equity is an appropriate basis to determine materiality for an investment holding company, and 1% is a typical percentage of equity to use to determine materiality. Any balances in the parent company financial statements that were relevant to our audit of the consolidated group were audited using an allocation of group performance materiality.

Our basis for determining materiality

Our assessment of overall materiality was $1,200 million. This was derived from an average of Shell's earnings for 2017 and 2018 and the estimated result for 2019 on a current cost of supplies basis (CCS earnings), excluding identified items reported by Shell in its quarterly results announcements, and adjusted for an effective tax rate.

This approach of averaging over three years is consistent with the approach adopted by many large, international groups and moderates the effect of oil and gas price volatility.

The $1,200 million was determined by applying a percentage to the calculated average CCS earnings. When using an earnings-related measure to determine overall materiality, the norm is to apply a benchmark percentage of 5% of the pre-tax measure. In setting overall materiality, we applied a more prudent rate that was below the 5% benchmark. Our overall materiality is less than 5% of the 2019 income before taxation.

In determining materiality, auditing standards require us to use benchmark measures, such as pre-tax income, gross profit and total revenue. Nevertheless, we have to exercise considerable judgement, including which earnings, activity or capital based measure aligns best with the expectations of users of Shell's financial statements and the Audit Committee. In determining the most appropriate benchmark on which to base our materiality assessment, we have applied a 'reasonable investor perspective'. This reflects our understanding of the common financial information needs of Shell's investors as a group, which we believe is CCS earnings, excluding identified items. Shell's quarterly results announcements feature CCS earnings excluding identified items as the primary measure for earnings.

CCS earnings excluding identified items removes both the effects of changes in oil price on inventory carrying amounts and items disclosed as identified items that can significantly distort Shell's results in any one particular year. In our view, the use of CCS earnings excluding identified items allows investors to understand how management has performed despite the commodity price environment, as opposed to because of it. Furthermore, analyst forecasts predominately feature CCS earnings, excluding identified items, as the basis for earnings. The analyst consensus data supports our judgement that CCS earnings, excluding identified items, is the key indicator of performance from a reasonable investor perspective.

The identified items, reported by Shell in its quarterly results announcements, were: net divestment gains ($2.6 billion), net impairments ($4.2 billion charge), fair value accounting of commodity derivatives and certain gas contracts($0.6 billion gain), redundancy and restructuring ($0.1 billion charge), and the aggregate of other individually small items (net $0.8 billion charge).

The identified items excluded in 2018 were: net divestment gains ($3.3 billion), net impairments ($1.0 billion charge), fair value accounting of commodity derivatives and certain gas contracts ($1.1 billion gain), redundancy and restructuring ($0.2 billion charge), and the aggregate of other individually small items (net $0.1 billion charge).

The identified items excluded in 2017 were: net divestment gains ($1.6 billion), impairments ($3.0 billion charge), fair value accounting of commodity derivatives and certain gas contracts ($0.3 billion loss), redundancy and restructuring ($0.4 billion charge), impact of exchange rate movements on tax balances ($0.6 billion gain), impact arising from the US tax reform legislation ($2.0 billion charge) and the aggregate of other individually small items (net $0.2 billion charge).

On the basis of our analysis of these factors, we concluded that we should focus on Shell's CCS earnings, excluding identified items reported by Shell in its quarterly results announcements, and adjusted for an effective tax rate.

Performance materiality

What we mean

Having established overall materiality, we determined 'performance materiality', which represents our tolerance for misstatement in an individual account. It is calculated as a percentage of overall materiality in order to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds overall materiality of $1,200 million for Shell's financial statements as a whole.

Once we determined our audit scope, we then assigned performance materiality to our various in-scope operating units. Our in-scope operating unit audit teams used this assigned performance materiality in performing their group audit procedures. The performance materiality allocation is dependent on the size of the operating unit, measured by its contribution of earnings to Shell, or other appropriate metric, and the risk associated with the operating unit.

Level set

On the basis of our risk assessment, our judgement was that performance materiality should be 75% (2018: 75%) of our overall materiality, namely $900 million (2018: $750 million). In assessing the appropriate level, we consider the nature, the number and impact of the audit differences identified in 2018 as well as the overall control environment.

In 2019, the range of performance materiality allocated to operating units was $135 million to $450 million (2018: $113 million to $375 million). This is set out in more detail in section 5 below.

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF ROYAL DUTCH SHELL PLC continued

4. OUR APPLICATION OF MATERIALITY continued

Audit difference reporting threshold

What we mean

This is the amount below which identified misstatements are considered to be clearly trivial.

The threshold is the level above which we collate and report audit differences to the Audit Committee.

We also report differences below that threshold that, in our view, warrant reporting on qualitative grounds. We evaluate any uncorrected misstatements against both the quantitative measures of materiality discussed above and in the light of other relevant qualitative considerations in forming our opinion.

Level set

We agreed with the Audit Committee that we would report to the Committee all audit differences more than $60 million (2018: $50 million), as well as differences below that threshold that, in our view, warranted reporting on qualitative grounds.

5. OUR SCOPE OF THE AUDIT OF SHELL'S FINANCIAL STATEMENTS

What we mean

We are required to establish an overall audit strategy that sets the scope, timing and direction of our audit, and that guides the development of our audit plan. Audit scope comprises the physical locations, operating units, activities and processes to be audited that, in aggregate, are expected to provide sufficient coverage of the financial statements for us to express an audit opinion.

Criteria for determining our audit scope

Our assessment of audit risk and our evaluation of materiality determined our audit scope for each operating unit within Shell which, when taken together, enabled us to form an opinion on the financial statements under ISA (UK). Our audit effort was focused towards higher risk areas, such as management judgements, and on operating units that we considered significant based upon size, complexity or risk.

The factors that we considered when assessing the scope of the Shell audit, and the level of work to be performed at the operating units that were in scope for group reporting purposes, included the following:

- the financial significance of an operating unit to Shell's earnings, total assets or total liabilities, including consideration of the financial significance of specific account balances or transactions;
- the significance of specific risks relating to an operating unit, history of unusual or complex transactions, identification of significant audit issues or the potential for, or a history of, material misstatements;
- the effectiveness of the control environment and monitoring activities, including entity-level controls;
- our assessment of locations that carry a higher than normal audit risk in relation to fraud, bribery or corruption; and
- the findings, observations and audit differences that we noted as a result of our 2018 audit.

Selection of in-scope operating units

We reassessed our audit scope for 2019 compared to 2018. In particular, we considered Shell's continued enhancement of their finance function and processes, which included the further standardisation and migration of processes to their BSCs. This enabled us further to centralise our audit procedures and refocus our scope, reducing the audit involvement at a component level and the number of operating units in our audit scope.

We kept our audit scope under review throughout the year to reflect changes in Shell's underlying business and risks; however no significant changes were required.

Full and specific scope

We selected 49 operating units (2018: 52) across 11 countries (2018: 11) based on their size or risk characteristics. We performed full scope audits of the complete financial information of 17 operating units (2018: 19). For 32 operating units (2018: 33) we performed specific scope audit procedures on individual account balances within the operating unit based on their size and risk profiles.

Specified procedures

In addition to the 49 operating units (2018: 52) discussed above, we selected a further 41 operating units (2018: 38) where we performed procedures at the operating unit level that were specified by the group engagement team in response to specific risk factors and in order to ensure that, at the overall group level, we reduced and appropriately covered the residual risk of error.

In addition, specified procedures were performed at the group level on a further 92 (2018: 62) operating units. These procedures included the testing of Shell's centralised activities addressing the implications of significant and complex accounting matters across all operating units, our centralised revenue and accounts receivable analytics program, testing controls for the revenue and purchase to pay processes, including IT general and IT application controls, segment level impairment reviews, procedures over the forecasts as they relate to deferred tax asset recoverability and review of pension scheme assumptions.

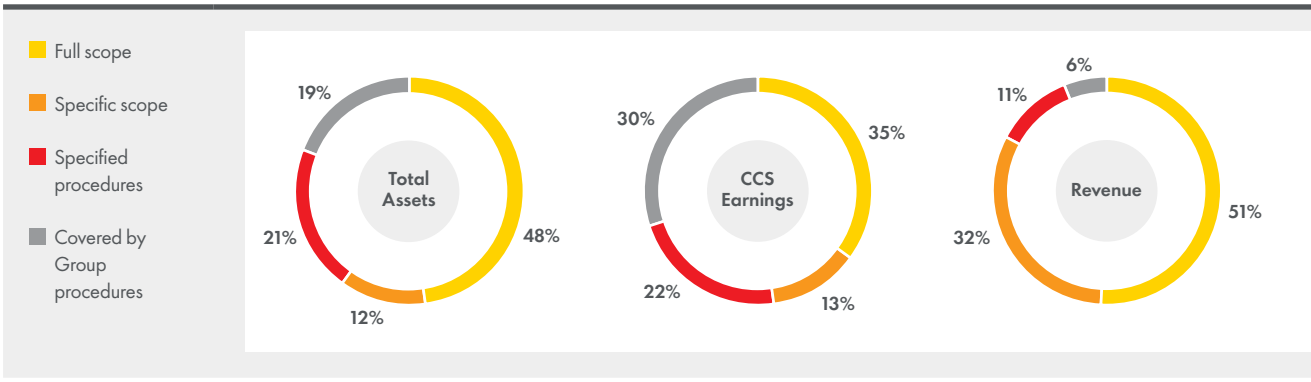
Group procedures

For the remaining 614 operating units (2018: 637), we performed supplementary audit procedures in relation to Shell's centralised group accounting and reporting processes. These included, but were not limited to, Shell's activities addressing the appropriate elimination of intercompany balances and the completeness of provisions for litigation and other claims. We performed testing of both manual and consolidation journal entries through the year, homogenous processes and controls at the BSCs and testing of group wide IT systems. We performed disaggregated analytical reviews on each financial statement line item and also tested Shell's analytical procedures performed at a group, segment and function level.

In addition to this testing, we applied our Risk Scan analytics techniques, which consolidate internal and external data to identify potential risks of material misstatement. This allowed us to risk rate each of the 706 operating units whereby we identified 210 operating units where we believed that it was appropriate to carry out targeted testing. This included the audit of manual journal entries and/or the testing of payments to third party vendors to ensure that these had been approved in line with Shell's policies and had an appropriate business rationale.

Our coverage by full, specific, specified and group procedures is illustrated below. The summary is by Total assets, CCS earnings and Revenue. Overall, our full, specific and specified procedures accounted for 70% of Shell's absolute CCS earnings, excluding identified items reported by Shell in its quarterly results announcements and adjusted for an effective tax rate. The remaining CCS earnings were covered by Group wide procedures.

The Parent Company is located in the United Kingdom and audited directly by the Group engagement team.



Allocation of performance materiality to the in-scope operating units

The level of materiality that we applied in undertaking our audit work at the operating unit level was determined by applying a percentage of our total performance materiality. This percentage is based on the significance of the operating unit relative to Shell as a whole and our assessment of the risk of material misstatement at that operating unit. In 2019 the range of materiality applied at the operating unit level was $135 million to $450 million (2018: $113 million to $375 million). The operating units selected, together with the ranges of materiality applied, were:

Location	Segment / Function	No. of operating units	Range of materiality applied $ million
Full scope operating units:			
Australia, Qatar	Integrated gas	4	180-270
Brazil, Nigeria, USA	Upstream	4	180-270
USA	Downstream	2	180-270
Barbados, Singapore, The Netherlands, UAE, UK, USA	Trading and Supply	7	135-450
Total full scope operating units		17	
Specific scope operating units:			
Malaysia, UK	Upstream	3	180
Singapore, USA	Downstream	6	180
Singapore, The Netherlands, UK, USA	Corporate	12	180
Canada, Singapore, UAE, UK, USA	Trading and Supply	11	135-180
Total specific scope operating units		32	
Total full and specific scope operating units		49	

Integrated group engagement team structure

The group engagement partner and Senior Statutory Auditor, Allister Wilson, has overall responsibility for the direction, supervision and performance of the Shell audit engagement in compliance with professional standards and applicable legal and regulatory requirements. He is supported by 24 segment and function partners and associate partners, who are based in the Netherlands and the UK, and who together with related staff comprise the integrated group engagement team. This group engagement team established the overall group audit strategy, communicated with component auditors, performed work on the consolidation process, and evaluated the conclusions drawn from the audit evidence as the basis for forming Ernst & Young's (EY) opinion on the group financial statements.

For the purpose of the group audit, the group engagement team is responsible for directing, supervising, evaluating and reviewing the work of EY global network firms operating under their instruction (local EY teams) to assess whether:

- the work was performed and documented to a sufficiently high standard;
- the local EY audit team demonstrated that they had challenged management sufficiently and had executed their audit procedures with a sufficient level of scepticism; and
- there is sufficient appropriate audit evidence to support the conclusions reached.

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF ROYAL DUTCH SHELL PLC continued

5. OUR SCOPE OF THE AUDIT OF SHELL'S FINANCIAL STATEMENTS continued

Involvement with local EY teams

Shell has centralised processes and controls over key areas within its BSCs. Members of the group engagement team provide direct oversight, review, and coordination of our BSC audit teams. Our BSC teams performed centralised testing in the BSCs for certain accounts, including revenue, cash and payroll. In establishing our overall approach to the group audit, we determined the type of work that needed to be undertaken at each of the operating units or BSCs by the group engagement team or by auditors from other local EY teams.

The group engagement team performed procedures directly on 92 of the in-scope operating units. For the operating units where the work was performed by local EY auditors, we determined the appropriate level of involvement of the group engagement team to enable us to conclude that sufficient appropriate audit evidence had been obtained.

The group engagement team interacted regularly with the local EY teams during each stage of the audit, were responsible for the scope and direction of the audit process and reviewed key working papers. This, together with the additional procedures performed at the group level, gave us sufficient appropriate audit evidence for our opinion on Shell's Consolidated Financial Statements. We maintained continuous dialogue with our local EY teams in addition to holding formal meetings each quarter to ensure that we were fully aware of their progress and the results of their audit procedures.

During 2019, the Senior Statutory Auditor and other group audit partners, associate partners and directors visited operating units across eight countries as well as each of Shell's four BSCs. These visits included discussing the audit approach with the local EY teams and any issues arising from their work, meetings with Shell local management, attending planning and closing meetings, and reviewing key audit working papers on selected areas of audit risk. The visits also promoted deeper engagement with our local EY audit teams, ensuring that a consistent and cohesive audit approach was adopted so as to drive a high-quality audit. The countries and the BSC locations visited were as follows:

Countries visited	BSCs
Australia	India [A]
Brazil [A]	Malaysia [A]
India [A]	Philippines [A]
Nigeria [A]	Poland [A]
The Netherlands [A]	
Trinidad and Tobago	
UK [A]	
USA [A]	

[A] These locations were visited multiple times.

6. OUR ASSESSMENT OF KEY AUDIT MATTERS

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) that we identified. As Shell's auditors, we are required to determine – from the matters communicated by us to the Audit Committee during the year – those matters that required significant attention from us in performing our audit of Shell's 2019 Consolidated and Parent Company Financial Statements. In making this determination we took the following into account:

- the risks that we believed were significant to our audit and therefore required special audit consideration;
- areas of higher assessed risk of material misstatement that influenced our audit focus;
- significant audit judgements relating to areas in Shell's Consolidated and Parent Company Financial Statements including accounting estimates that we identified as having high estimation uncertainty;
- the effect on our audit of significant events or transactions that occurred during the period; and
- those assessed risks of material misstatement that had the greatest effect on the allocation of resources in the audit and directing the efforts of the audit team.

On this basis, we identified the following key audit matters that, in our professional judgement, were of most significance in our audit of Shell's 2019 Consolidated and Parent Company Financial Statements. These matters included those that had the greatest effect on:

- our overall strategy;
- the allocation of resources in the audit; and
- directing the efforts of our audit team.

The key audit matters have been addressed in the context of the audit of Shell's Consolidated and Parent Company Financial Statements as a whole, and in forming our opinions thereon, and we do not provide a separate opinion on these matters. The table below describes the key audit matters, a summary of our procedures carried out and our key observations that we communicated to the Audit Committee.

In 2018, our auditor's report included two key audit matters that have not been reported as key audit matters in our 2019 report. These relate to: (1) Enhancements to Shell's system of IT general controls, and (2) The recognition, measurement, presentation and disclosure of leases (IFRS 16). In the current year, we have added two key audit matters that were not reported as key audit matters in our 2018 report. These relate to: (1) The estimation of future refining margins to evaluate the recoverability of manufacturing, supply and distribution assets, and (2) The dividend distribution process, including the determination of realised profits and losses for the purposes of making distributions under the Companies Act 2006 (Parent Company only).

THE ESTIMATION OF OIL AND GAS RESERVES, INCLUDING RESERVES USED IN THE CALCULATION OF DEPRECIATION, DEPLETION AND AMORTISATION (DD&A), IMPAIRMENT TESTING TO EVALUATE THE RECOVERABLE AMOUNTS OF PRODUCTION ASSETS AND THE ESTIMATION OF DECOMMISSIONING AND RESTORATION (D&R) PROVISIONS

Description of the key audit matter	Our response to the risk
This is a subjective estimate. Risk is unchanged compared to 2018. **As described in Note 8 to the Consolidated Financial Statements, production assets amounted to $150,366 million, and have an associated DD&A charge of $19,346 million. The accounting for these financial statement amounts relies on management's estimation of proved oil and gas reserves. As described in Note 8, impairment charges of $3,639 million were recorded during the year. As described in Note 18, D&R provisions amounted to $19,019 million.** **At December 31, 2019, Shell reported 11,096 million barrels of oil equivalent of proved developed and undeveloped reserves.** Auditing the estimation of oil and gas reserves is complex as there is significant estimation uncertainty in assessing the quantities of Shell's reserves and resources. The estimates are based on a central group of experts' assessments of petroleum initially in place, production curves and certain inputs, including future capital and operating cost assumptions and future carbon costs. In-year movements are driven by revisions of previous estimates resulting from reclassifications, improved recovery assumptions, extensions and discoveries and purchases and sales of reserves in place. Revisions generally arise from new information, for example additional drilling results, changes in production patterns and changes to development plans. Auditing these financial statement areas is complex because of the use of the work of reservoir engineers and the evaluation of the inputs selected by management described above, which are used by reservoir engineers in estimating proved oil and gas reserves.	Our reserves audit team includes auditors with substantial oil and gas reserves expertise, valuation experience and relevant qualifications in energy economics. The procedures we carried out included the following: ▪ we obtained an understanding of the controls over Shell's oil and gas reserves estimation process. We then evaluated the design of these controls and tested their operating effectiveness. For example, we tested management's controls over completeness and accuracy of the financial data provided to the reservoir engineers for use in estimating proved oil and gas reserves; ▪ we tested that significant additions or reductions in proved reserves had been made in the period in which the new information became available; ▪ we evaluated the professional qualifications and objectivity of Shell's internal reservoir engineers: – who provide the detailed preparation of the reserve estimates; and – those who are primarily responsible for providing independent review and challenge, and ultimately endorsement of, the reserve estimates; ▪ we evaluated the completeness and accuracy of the inputs used by the internal reservoir engineers in estimating the economic limit test for proved oil and gas reserves determination by agreeing the inputs to source documentation. The economic limit of a project is reached when the operating cash flow from a project becomes negative. The economic limit test has a direct impact on DD&A and impairment. Where relevant, we assessed whether the economic limit test incorporated Shell's estimate of future carbon costs to reflect the potential impact of climate change and the energy transition. We also identified and evaluated corroborative and contrary evidence by comparing actual to prior year forecasts; ▪ for proved undeveloped reserves, we evaluated management's development plan for compliance with the SEC rule that undrilled locations must be scheduled to be drilled within five years, unless specific circumstances justify a longer time. This evaluation was made by assessing consistency of the development projections with Shell's drilling, development and capital expenditure plans; ▪ we tested the proved undeveloped reserves recognised. Where volumes recognised remained undeveloped for more than five years from the date they were booked, or where development was not expected for at least five years, we assessed whether or not Shell was still working towards development by comparing to future development plans, including capital expenditure plans. Also, where reserves are recognised beyond current licence terms, we obtained evidence to support the assumption that the licence would be renewed; and ▪ we assessed whether the energy transition assumptions incorporate the commitments that Shell have made with respect to decarbonisation in accordance with the Paris Agreement, specifically considering reserve volumes expected to be lifted beyond 2030. Our procedures were led by the group engagement team, with input from our teams in Australia, Brazil, Canada, Kazakhstan, the Netherlands, Nigeria, Norway, Qatar, Russia and USA.

Key observations communicated to the Shell Audit Committee

In January 2020 we communicated to the Audit Committee that, based on the testing performed, we had not identified any significant errors in the oil and gas reserves estimates and concluded that the inputs and assumptions used to estimate proved reserves were reasonable. We also reported that we saw no evidence that the recognition of the reserve volumes expected to be lifted beyond 2030 results in the overstatement of Shell's balance sheet by overstating the recoverable amounts of Shell's production assets or understatement of D&R liabilities.

Cross-reference: See the Audit Committee Report on page 130 for details on how the Audit Committee reviewed assurances for proved oil and gas reserves. Also, see Notes 2A and 8 to the "Consolidated Financial Statements", and Supplementary information – oil and gas (unaudited) on page 239.

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF ROYAL DUTCH SHELL PLC continued

6. OUR ASSESSMENT OF KEY AUDIT MATTERS continued

THE RECOVERABLE AMOUNTS OF EXPLORATION AND PRODUCTION ASSETS, AND INVESTMENTS IN JOINT VENTURES AND ASSOCIATES

Description of the key audit matter	Our response to the risk
This is a forecast-based valuation. Risk is elevated compared to 2018 due to increased focus on the energy transition. **As described in Note 8 to the Consolidated Financial Statements, at December 31, 2019, Shell recognised $165 billion of exploration and production assets within property, plant and equipment (PP&E). As described in Note 9 Shell also recognised investments in joint ventures and associates of $23 billion.** Assets' operational performance and external factors have a significant impact on the estimate of the recoverable amounts of Shell's Upstream and Integrated Gas assets. Auditing the recoverable amounts of assets and investments is complex and subjective due to the significant amount of judgement involved. As described in Note 2A, the most critical assumptions in forecasting future cash flows are management's view on the long-term oil and gas price outlook, future expected production volumes and the discount rate used. Forming a view on long-term oil and gas prices is inherently difficult, in particular with significant demand uncertainty due to factors such as world trade disputes, political instability, fears over a global recession and the pace of decarbonisation. The audit procedures were performed by our group engagement team as well as our local audit teams in Australia, Brazil, Malaysia, Nigeria, Qatar, the UK and USA, which covered 72% of PP&E and investments in joint ventures and associates in Upstream and Integrated Gas segments. We also performed specified procedures over the recoverability of PP&E balances in Argentina, Bolivia, Brunei, Canada, Egypt, UAE, Iraq, Italy, Malaysia, the Netherlands, Nigeria, Oman, Qatar, Russia, Tunisia, Trinidad and Tobago and USA which covered an additional 16% of PP&E in the Upstream and Integrated Gas segments.	We obtained an understanding of the controls over Shell's asset impairment process. We then evaluated the design of these controls and tested their operating effectiveness. For example, we tested controls over the identification of cash generating units, of indicators of impairment and reversals of impairment and the approval of key inputs to impairment assessments, including oil and gas prices, discount rates and oil and gas reserves. We evaluated Shell's asset impairment methodology for both exploration and production assets within PP&E and investments in joint ventures and associates. Where impairment assessments were carried out, we tested the mathematical accuracy and completeness of the models used. For those assets or investments impaired previously, we evaluated the actual results versus the assumptions made and considered if reversals were required. To test price assumptions, we compared future short and long-term commodity prices to consensus analysts' forecasts and those adopted by other international oil companies; we evaluated whether prices were used consistently across Shell, including pricing differentials, and evaluated whether Shell's long-term price assumptions incorporated the potential impact of climate change and the energy transition by comparing the assumptions to the International Energy Agency price outlook in the Energy Outlook scenarios. To test the discount rate used for impairment testing, we involved our oil and gas valuations specialists to assist in evaluating, amongst other things, the methodology applied and assumptions made. We also tested the underlying data used to support the discount rate calculation. In order to evaluate the cash flow inputs of the impairment models, our procedures included the following: ▪ tested that operating expenditure profiles and capital costs to complete construction agreed to approved operator budgets and management forecasts; ▪ tested that carbon pricing was included in cash flows, where applicable; ▪ reconciled reserves volumes in the impairment models and tested that the life-of-field assumptions were consistent with those applied in the decommissioning and restoration provision models; and ▪ performed sensitivity analyses on key variables in the base case cash flow models to understand the impact of changes in certain assumptions (including oil and gas prices, production and operating expenditure levels). We assessed the basis for adjusting the cash flows to reflect the risks of each individual asset. In so doing, we considered the stage of the life of the asset, country risk and compared the consistency of management assumptions across similar fields. Where impairment tests were undertaken, we performed sensitivity analyses of the models using different price scenarios and discount rates taking into account the nature of the asset, its location, its stage of development and associated risks.

Key observations communicated to the Shell Audit Committee

We reported that our price analysis provided strong independent evidence to support the reasonableness of Shell's commodity price assumptions in relation to comparator benchmarks. Both oil and gas price assumptions have been reduced year on year and we noted that Shell's oil price assumption was conservative versus the sector and analysts; however, we noted that the gas price assumption remained at the top of sector estimates.

We confirmed that we were satisfied that the cash flows used in the impairment tests had been risked appropriately and that the discount rate applied was appropriate.

We concluded that the impairments recorded were appropriately determined. Also, we reported that we were satisfied that there were not material impairment reversals that were required to be recognised. Where impairment tests were undertaken and no impairment was recorded, we performed specific sensitivity analyses on the key assumptions that drive the impairment analysis, and concluded that it was reasonable and supportable not to record an impairment charge.

Since early 2020, the COVID-19 (coronavirus) outbreak across China and elsewhere has caused disruption to business and economic activity and may ultimately impact Shell's future performance and asset values. In addition, an international dispute on or about March 7, 2020 has triggered an oil price war that caused the largest one-day fall in the oil price since 1991. As part of our post balance sheet audit procedures, we have considered whether or not these events provide evidence of conditions that existed at the balance sheet date. On March 10, 2020, we reported to the Audit Committee orally that both events are indicative of conditions that arose after the balance sheet date, and that therefore they are both non-adjusting events that have no impact on our conclusions concerning the recoverable amounts of Shell's assets at the balance sheet date.

Cross-reference: See the Audit Committee Report on page 133 for details on how the Audit Committee considered impairments. Also, see Notes 2A, 8, 9 and 29 to the "Consolidated Financial Statements".

THE ESTIMATION OF FUTURE REFINING MARGINS TO EVALUATE THE RECOVERABILITY OF MANUFACTURING, SUPPLY AND DISTRIBUTION ASSETS

Description of the key audit matter	Our response to the risk
This is a forecast-based assumption. Risk is elevated compared to 2018 due to increased focus on the energy transition. **As described in Note 8 to the Consolidated Financial Statements, manufacturing, supply and distribution assets amounted to $56 billion. As described in Note 2A, forecast refining margins are a key input to:** ▪ **assessing whether or not there are indicators that refining assets might be impaired; and** ▪ **whether there is a need for environmental provisions.** Auditing future refining margins is inherently complex as the margins are influenced by regional factors and there is limited external refining margin forecast data available. Shell's approach to estimating long-term refining margins focuses on the concept of mean reversion of markets, unless a fundamental shift in markets has been identified, over an asset's life, as opposed to attempting to forecast refining cycles. This approach is consistent with prior years, which is based on Shell statistical analysis showing that refinery margins and product cracking spreads have generally reverted either to a constant mean or trending mean, thus supporting the continued application of the mean reversion methodology. Mean reversion methodology assumes that the refining margin will revert to the average over time. In other words, deviations from the average are expected to revert to the average.	We obtained an understanding of the controls over Shell's process for the estimation of refining margins. We then evaluated the design of these controls and tested their operating effectiveness. For example, we tested controls over the approval of refining margins. Our other procedures included the following: ▪ we read Shell's documentation with respect to their methodology for determining refining margins and held discussions with the Shell individuals responsible for the analysis and implementing Shell's established methodology; ▪ we involved our oil and gas valuations specialists to assess the reasonableness of Shell's refining margin estimation methodology, particularly in light of the expected impacts of a lower carbon economy, by performing an independent research exercise based on third party information to identify the long-term outlook for refining margins; ▪ we assessed whether or not mean reversion is a valid methodology for forecasting refining margins by performing several statistical tests over different time spans to examine possible mean-reverting behaviour over the long-term as well as the short-term; ▪ we independently calculated mean refining margins for the regional refining hubs of North West Europe, Singapore-Dubai and United States Gulf Coast incorporating 14 years of data covering the period 2006-2019; ▪ we assessed the extent to which the reversion to mean analysis is compatible with the potential of future energy transition by performing quantitative and qualitative analysis of refining margins, which included developing econometric and machine learning models to project refining margins, which incorporated the findings from the mean reversion trends; ▪ to test the uncertainty related to how oil demand and refining capacity may evolve in the future, we developed different sets of scenarios that are consistent with differing rates of renewable energy adoption, including Shell's "Sky Scenario" and compared to management's refining margin forecast; ▪ we considered the impact of oil demand, refining capacity, business cycles, environmental regulation, upcoming regulations, technology substitution and policy changes in our performance of over 900 statistical tests; ▪ In evaluating the refining margins, we read third party research papers that examine the behaviour of refining margins from a statistical perspective; and ▪ we used external broker reports to support our expectations with respect to future refining margins and assessed whether or not management's projections aligned with our independent analysis. The audit procedures were performed principally by the group engagement team.

Key observations communicated to the Shell Audit Committee

We reported to the Audit Committee in January 2020 that management's approach to estimating refining margins is consistent with industry valuation practice for refining assets. Our own empirical analysis corroborates Shell's view that refining margins exhibit mean reversion in the long-term. It also indicates that, in the long-term, falling refined product demand could create structural change in the refining sector (including the closure of higher-cost refineries), which will result in asset returns that are commensurate with the underlying operating and financial risks.

Cross-reference: See the Audit Committee Report on page 133 for details on how the Audit Committee reviewed refining margins. Also see Notes 2A and 8 to the "Consolidated Financial Statements".

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF ROYAL DUTCH SHELL PLC continued

6. OUR ASSESSMENT OF KEY AUDIT MATTERS continued

RECOGNITION AND MEASUREMENT OF DEFERRED TAX ASSETS

Description of the key audit matter	Our response to the risk
This is an estimation based on uncertain outcomes. The realisation of these assets is largely dependent on generating substantial future profits. Risk is elevated compared to 2018 due to increased focus on the energy transition. **As described in Note 16 of the Consolidated Financial Statements, at December 31, 2019, Shell recognised gross DTAs totalling $28 billion, which are recognised within two balance sheet line items, deferred tax assets and as an offset against deferred tax liabilities, depending on the overall tax position in a particular jurisdiction. A significant proportion of DTA balances is supported by forecast future taxable profits, which are derived from Shell's commodity price assumptions and business plans.** Auditing the recognition and measurement of DTAs is complex because the estimation requires significant judgement, including the timing of reversals of deferred tax liabilities (DTL) and the availability of future profits against which tax deductions represented by the DTA can be offset.	We obtained an understanding of the controls over Shell's process for the estimation of deferred tax assets. We then evaluated the design of these controls and tested their operating effectiveness. For example, we tested controls over projected sources of taxable income and the deferred tax calculations that support the recognition of DTAs. We considered the expected timing of utilisation of the DTA, including the relevant country tax laws that apply to the utilisation of tax losses. This included the ability to carry tax losses forward or back and any restrictions arising from ring fencing tax losses to particular projects. We tested the forecast timing of the unwinding of taxable temporary differences by evaluating the projected sources of taxable income and considering the nature of the temporary differences and the relevant tax law. For DTAs that are supported by forecast taxable profits or tax planning strategies, our procedures included the following: ■ we performed sensitivity analyses over the commodity price and/or other key assumptions that underpin Shell's assessment of forecast probable taxable profits; ■ we evaluated the extent to which sufficient probable taxable profits would arise in the period within which the related losses would be available for utilisation, considering, for example, limits on the length of time that losses can be carried forward, if applicable, or if losses are ring fenced for tax purposes; and ■ we considered whether the tax balances were calculated using substantively enacted tax laws and rates. For the tax planning strategies necessary to justify the recognition of the DTA, we involved our tax professionals to evaluate the application of tax law in the Company's available tax planning strategies, Shell's assessment of its ability to carry forward losses, the scheduling of the reversal of existing temporary taxable differences and carry forward amounts, and the evaluation of the carry forward lives of its deferred tax assets. Our audit procedures over the recognition and valuation of DTAs were performed by our tax specialist teams in Australia, Brazil, Canada, Kazakhstan, Malaysia, The Netherlands, Nigeria, Singapore, Qatar, the UK and USA, which covered 81% of the gross DTA balance. We also performed specified procedures over the recognition and valuation of DTAs in Albania, Austria, China, Egypt, France, Germany, Norway, Oman, Spain, Switzerland, Tanzania, Trinidad & Tobago, Tunisia and Turkey, which covered an additional 22% of the gross DTA balance.

Key observations communicated to the Shell Audit Committee

We reported to the January 2020 meeting of the Audit Committee that we had challenged the robustness of the key management judgements and confirmed that we were satisfied that where DTAs recognised are based on income forecast to arise beyond Shell's planning horizon, we consider that there was sufficient future taxable profit that is probable to support the DTAs; however, we noted that a greater degree of judgement is required in recognising DTAs beyond Shell's planning horizon.

We also reported to the Audit Committee that the DTAs were appropriately recognised and valued at the year end.

Cross-reference: See the Audit Committee Report on page 133 for details on how the Audit Committee reviewed certain tax matters, in particular the recoverability of deferred tax assets. Also see Notes 2A and 16 to the "Consolidated Financial Statements".

REVENUE RECOGNITION: THE RISK OF UNREALISED TRADING GAINS AND LOSSES BEING RECOGNISED AS A RESULT OF ERRORS, UNAUTHORISED TRADING ACTIVITY OR DELIBERATE MISSTATEMENT OF SHELL'S TRADING POSITION

Description of the key audit matter	Our response to the risk
This is a risk of error in revenue due to the complexity of Shell's trading and supply function. Risk is unchanged compared to 2018. **As described in Note 4 to the Consolidated Financial Statements, at December 31, 2019, Shell recognised $345 billion of revenue. As described in Note 19, Shell recognised derivative financial instrument assets of $8 billion and $7 billion of derivative financial instrument liabilities.** The recognition of unrealised trading gains and losses is a complex audit area. There is an inherently higher risk of error, of unauthorised trading activity or of deliberate misstatement of the group's overall trading position. Shell's trading and supply function is integrated within the Downstream, Integrated Gas and Upstream segments and is spread across multiple regions. The trading and supply function is inherently complex due to, amongst other things, the fact that trading is not always carried out in active markets where prices are readily available. This exposes Shell to risks that are not normally associated with core oil and gas activities. Auditing unrealised trading gains and losses is complex because of the significant judgement used in determining the key assumptions used in valuing the trades, the risk of error, of unauthorised trading activity or of deliberate misstatement of Shell's trading positions. The deliberate misstatement of Shell's trading positions or mismarking of positions could result in understated trading losses, overstated trading profits and/or individual bonuses being manipulated through inappropriate inter-period profit/loss allocations.	We obtained an understanding of the controls over Shell's process for the recognition of revenue relating to unrealised trading gains and losses. We then evaluated the design of these controls and tested their operating effectiveness. For example, we tested controls within the front-to-end deal lifecycle across the trading and supply function around the review of valuation models. Our trading audit professionals comprise of individuals who have significant experience of auditing both large commodity trading organisations and financial institutions. The other procedures we performed included the following: ■ we enquired whether or not there were any breakdowns of trading controls or instances of rogue trading reported or known or suspected frauds; ■ we obtained external confirmation of a sample of open trading positions with brokers and counterparties; ■ where external confirmations were not received, we tested the existence of the deal by agreement to signed contracts; ■ we compared the price curves used by Shell to value the trading positions to external data; ■ we performed independent testing of valuation models, evaluating contract terms and key assumptions to independent market quotes; and ■ we tested the completeness of the amounts recorded in the financial statements through procedures to search for unrecorded liabilities by comparing sales and trade receivables and purchases and trade payables that occurred near the end of the financial year to evaluate whether or not transactions were recorded in the correct period. The audit procedures were performed principally by the group engagement team and the UK and US component teams.

Key observations communicated to the Shell Audit Committee

In March 2020, we reported to the Audit Committee that:
- the valuation of derivative contracts as at December 31, 2019 was appropriate;
- our testing – through a combination of controls testing and substantive audit procedures – satisfied us that the models used to value contracts were appropriate for the purposes of the valuations included in Shell's Consolidated Financial Statements;
- the unrealised gains and losses had been recorded appropriately; and
- our completeness testing did not identify any unrecorded liabilities or significant cut-off issues.

Cross-reference: See the Audit Committee Report on page 130 on how the Audit Committee reviewed Trading and Supply's control framework. Also see Note 19 to the "Consolidated Financial Statements".

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF ROYAL DUTCH SHELL PLC continued

6. OUR ASSESSMENT OF KEY AUDIT MATTERS continued

THE DIVIDEND DISTRIBUTION PROCESS, INCLUDING THE DETERMINATION OF REALISED PROFITS AND LOSSES FOR THE PURPOSES OF MAKING DISTRIBUTIONS UNDER THE COMPANIES ACT 2006

Description of the key audit matter	Our response to the risk
This is a risk of non-compliance with laws and regulations. This key audit matter relates to the Parent Company only. **RDS plc has $19 billion of distributable profits. At December 31, 2019, Shell distributed $15 billion of dividends and repurchased $10 billion of shares.** There is considerable public interest in ensuring that companies pay dividends and buy back shares out of profits available for distribution. Shell is both one of the world's highest dividend-paying companies and has a significant share buyback programme. The legal framework applicable to UK companies for determining profits available for distribution is contained in both the Companies Act 2006 and complementary technical guidance. Under this framework, distributions are made by individual companies and not by groups. The Shell Consolidated Financial Statements are therefore not relevant for the purpose of determining Shell's profits available for distribution. Whether or not a distribution may be made by Shell is determined by reference to Shell's 'relevant accounts', which are the Parent Company financial statements.	The procedures we performed included the following: ■ We obtained an understanding of the procedures performed by management to monitor the profits available for distribution of the Parent Company. This included understanding the processes to monitor profits available for distribution of the subsidiary entities paying significant dividends to the Parent Company; ■ We tested management's distributable reserve controls at both the Parent Company and subsidiary entities that pay significant dividends, which are designed to ensure that there are sufficient profits available for distribution prior to a dividend being proposed and approved. Our testing included a review of management's analysis of non-distributable profits or losses. We also assessed the completeness of the non-distributable profits or losses identified; ■ We analysed transactions that impacted significantly the retained earnings of the Parent Company and subsidiary entities paying significant dividends and considered whether any of these transactions do not meet the criteria of distributable profits or losses. We considered whether operating and financial circumstances existed that could result in a dividend block within the group structure; ■ We reviewed management's analysis of profits available for distribution in the Parent Company and compared this to the expected future dividends and share buy-back commitments. We also reperformed the calculation of distributable profits available for distribution of the Parent Company by reference to the relevant accounts; ■ We compared the market capitalisation of Shell with the carrying amount of the investment held by the Parent Company that directly and indirectly holds the investments of Shell to assess whether there was any indication that the asset may be impaired. We compared the carrying value of the investment to its recoverable amount in order to identify any impairment that could have a direct impact on profits available for distribution; and ■ We satisfied ourselves that dividends paid and shares repurchased in 2019 were allowable, by reference to the most recent relevant accounts, for the purposes of making distributions under the Companies Act 2006. The audit procedures were performed principally by the group engagement team and the UK component team.

Key observations communicated to the Shell Audit Committee

In January 2020, we reported to the Audit Committee that:

- the procedures performed by management to monitor the profits available for distribution of the Parent Company and subsidiary entities paying significant dividends to the Parent Company were appropriate;
- the analysis performed by management to identify non-distributable profits or losses and expected future commitments or operating and financial circumstances that could result in a dividend block is appropriate; and
- through a combination of controls testing and substantive audit procedures, we are satisfied that the profits available for distribution, by reference to the relevant accounts, were sufficient to support the dividends paid and declared and share buy-backs made by the Parent Company.

Cross-reference: See Note 23 to the "Consolidated Financial Statements" and Note 8 to the "Parent Company Financial Statements".

7. OTHER INFORMATION AND MATTERS ON WHICH WE ARE REQUIRED TO REPORT BY EXCEPTION

The other information comprises the information included in the Annual Report set out on pages 1 to 171 and 239 to 256 including the Strategic Report, Governance and Additional Information sections, other than the financial statements and our auditor's report thereon. The Directors are responsible for the other information.

Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in this report, we do not express any form of assurance conclusion thereon. In the table below, we have outlined our responsibility for the other information in the Annual Report and the matters we would like to draw to your attention.

STRATEGIC REPORT AND THE DIRECTORS' REPORT

Our responsibility

We are required to report whether, based on the work undertaken in the course of the audit:

- the information given in the strategic report and the directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the strategic report and the directors' report have been prepared in accordance with applicable legal requirements.

We are required to report by exception whether, in the light of the knowledge and understanding of the group and the parent company and its environment obtained in the course of the audit, we have identified material misstatements in the strategic report or the directors' report.

Our reporting

In our opinion, based on the work undertaken in the course of the audit, the information given in the strategic report and the directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements and they have been prepared in accordance with applicable legal requirements.

Our reporting

We have nothing to report by exception.

PRINCIPAL RISKS, GOING CONCERN AND VIABILITY STATEMENT

Our responsibility

ISA(UK) requires us to report to you whether we have anything material to add or draw attention to:

- the disclosures in the Annual Report set out on pages 27 to 36 that describe the principal risks and cross refer to where there are explanations of how the risks are being managed or mitigated;
- the Directors' confirmation set out on page 169 in the Annual Report that they have carried out a robust assessment of the principal risks facing the entity, including those that would threaten its business model, future performance, solvency or liquidity;
- the Directors' statement set out on page 171 in the financial statements about whether they considered it appropriate to adopt the going concern basis of accounting in preparing them, and their identification of any material uncertainties to the entity's ability to continue to do so over a period of at least twelve months from the date of approval of the financial statements;
- whether the Directors' statement in relation to going concern required under the Listing Rules in accordance with Listing Rule 9.8.6R(3) is materially inconsistent with our knowledge obtained in the audit; or
- the Directors' explanation set out on pages 165 to 166 in the Annual Report as to how they have assessed the prospects of the entity, over what period they have done so and why they consider that period to be appropriate, and their statement as to whether they have a reasonable expectation that the entity will be able to continue in operation and meet its liabilities as they fall due over the period of their assessment, including any related disclosures drawing attention to any necessary qualifications or assumptions.

Our reporting

We have nothing material to add or draw attention to with regard to any of these matters.

FAIR, BALANCED AND UNDERSTANDABLE SET OUT ON PAGE 171

Our responsibility

We are required to consider whether the statement given by the Directors that they consider the Annual Report and financial statements taken as a whole is fair, balanced and understandable and provides the information necessary for shareholders to assess Shell's performance, business model and strategy, is materially inconsistent with our knowledge obtained in the audit.

Our reporting

In the context of our responsibilities on other information, we have nothing to report.

OTHER INFORMATION

Our responsibility

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact.

Our reporting

We have nothing to report in this regard.

DIRECTORS' REMUNERATION REPORT

Our responsibility

We are required to report whether the part of the Directors' Remuneration Report to be audited has been properly prepared in accordance with the Companies Act 2006.

We are also required to report by exception whether certain disclosures of directors' remuneration specified by law are not made.

Our reporting

In our opinion, the part of the Directors' Remuneration Report to be audited has been properly prepared in accordance with the Companies Act 2006.

Our reporting

We have nothing to report by exception.

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF ROYAL DUTCH SHELL PLC continued

7. OTHER INFORMATION AND MATTERS ON WHICH WE ARE REQUIRED TO REPORT BY EXCEPTION continued

DIRECTORS' STATEMENT OF COMPLIANCE WITH THE UK CORPORATE GOVERNANCE CODE SET OUT ON PAGES 115 to 116

Our responsibility
We are required to consider whether the parts of the Directors' statement required under the Listing Rules relating to Shell's compliance with the UK Corporate Governance Code containing provisions specified for review by the auditor in accordance with Listing Rule 9.8.10R(2) do properly disclose a departure from a relevant provision of the UK Corporate Governance Code.

Our reporting
In the context of our responsibilities on other information, we have nothing to report.

AUDIT COMMITTEE REPORTING SET OUT ON PAGES 139 TO 134

Our responsibility
We are required to consider whether the section describing the work of the Audit Committee does not appropriately address matters communicated by us to the Audit Committee.

Our reporting
We have nothing to report by exception.

OTHER REPORTING

Our responsibility
Under the Companies Act 2006, we are required to report to you by exception if, in our opinion:
- adequate accounting records have not been kept by the Parent Company, or returns adequate for our audit have not been received from branches not visited by us; or
- the Parent Company financial statements and the part of the Directors' Remuneration Report to be audited are not in agreement with the accounting records and returns; or
- we have not received all the information and explanations we require for our audit.

Our reporting
We have nothing to report by exception.

8. RESPONSIBILTIES OF THE DIRECTORS

As explained more fully in the statement of Directors' responsibilities set out on page 171, the Directors are responsible for the preparation of the Consolidated Financial Statements and for being satisfied that they give a true and fair view, and for such internal control as the Directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Directors are responsible for assessing Shell and the Parent Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate Shell or the Parent Company or to cease operations, or have no realistic alternative but to do so.

9. OUR RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISA (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

10. EXPLANATION AS TO WHAT EXTENT THE AUDIT WAS CONSIDERED CAPABLE OF DETECTING IRREGULARITIES, INCLUDING FRAUD

The objectives of our audit, in respect to fraud, are: to identify and assess the risks of material misstatement of the financial statements due to fraud; to obtain sufficient appropriate audit evidence regarding the assessed risks of material misstatement due to fraud, through designing and implementing appropriate responses; and to respond appropriately to fraud or suspected fraud identified during the audit. However, the primary responsibility for the prevention and detection of fraud rests with both those charged with governance of the entity and management.

Our approach was as follows:
- We obtained an understanding of the legal and regulatory frameworks that are applicable to Shell and determined that the most significant are those that relate to the reporting framework (IFRS, Companies Act 2006, the UK Corporate Governance Code, the US Securities Exchange Act of 1934 and the Listing Rules of the UK Listing Authority) and the relevant tax compliance regulations in the jurisdictions in which Shell operates. In addition, we concluded that there are certain significant laws and regulations that may have an effect on the determination of the amounts and disclosures in the financial statements and those laws and regulations relating to health and safety, employee matters, environmental, and bribery and corruption practices;
- We understood how Shell is complying with those frameworks by making enquiries of management, internal audit, those responsible for legal and compliance procedures and the Company Secretary. We corroborated our enquiries through our review of Board minutes, papers provided to the Audit Committee and correspondence received from regulatory bodies and noted that there was no contradictory evidence;

- We assessed the susceptibility of Shell's Consolidated Financial Statements to material misstatement, including how fraud might occur, by embedding forensic specialists into our group engagement team. Our forensic specialists worked with the group engagement team to identify the fraud risks across various parts of the business. In addition, we utilised internal and external information to perform a fraud risk assessment for each of the countries of operation. We considered the risk of fraud through management override and, in response, we incorporated data analytics across manual journal entries into our audit approach. We also considered the possibility of fraudulent or corrupt payments made through third parties and conducted detailed analytical testing on third party vendors in high risk jurisdictions. Where instances of risk behaviour patterns were identified through our data analytics, we performed additional audit procedures to address each identified risk. These procedures included testing of transactions back to source information and were designed to provide reasonable assurance that the financial statements were free from fraud or error. We also conducted specific audit procedures in relation to the risk of bribery and corruption across various countries of operation determined by a risk-based process;
- Based on the results of our risk assessment we designed our audit procedures to identify non-compliance with such laws and regulations identified above. Our procedures involved journal entry testing, with a focus on journals meeting our defined risk criteria based on our understanding of the business; enquiries of legal counsel, group management, internal audit and all full and specific scope management; review of the volume and nature of complaints received by the whistleblowing hotline during the year; and
- If any instances of non-compliance with laws and regulations were identified, these were communicated to the relevant local EY teams who performed sufficient and appropriate audit procedures, supplemented by audit procedures performed at the group level. Where appropriate we consulted our forensic specialists.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at https://www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

11. OTHER MATTERS WE ARE REQUIRED TO ADDRESS

Following the recommendation of the Audit Committee we were re-appointed by Royal Dutch Shell plc's Annual General Meeting (AGM) on May 21, 2019, as auditors of Royal Dutch Shell to hold office until the conclusion of the next AGM of the Company, and signed an engagement letter on May 22, 2019. Our total uninterrupted period of engagement is four years covering periods from our appointment through to the period ending December 31, 2019.

The non-audit services prohibited by the FRC's Ethical Standard were not provided to Shell or the Parent Company and we remain independent of Shell and the Parent Company in conducting the audit.

Our audit opinion is consistent with our additional report to the Audit Committee explaining the results of our audit.

12. USE OF OUR REPORT

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

/s/ Allister Wilson (Senior Statutory Auditor)
for and on behalf of Ernst & Young LLP

ALLISTER WILSON
Senior Statutory Auditor
for and on behalf of Ernst & Young LLP
London
March 11, 2020

[A] The maintenance and integrity of the Shell website are the responsibility of the Directors; the work carried out by the auditors does not involve consideration of these matters and, accordingly, the auditors accept no responsibility for any changes that may have occurred to the financial statements since they were initially presented on the website.
[B] Legislation in the UK governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

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CONSOLIDATED STATEMENT OF INCOME

$ million

	Notes	2019	2018	2017
Revenue	4	344,877	388,379	305,179
Share of profit of joint ventures and associates	9	3,604	4,106	4,225
Interest and other income	5	3,625	4,071	2,466
Total revenue and other income		**352,106**	**396,556**	**311,870**
Purchases		252,983	294,399	223,447
Production and manufacturing expenses	4	26,438	26,970	26,652
Selling, distribution and administrative expenses	4	10,493	11,360	10,509
Research and development	4	962	986	922
Exploration	4	2,354	1,340	1,945
Depreciation, depletion and amortisation	4	28,701	22,135	26,223
Interest expense	6	4,690	3,745	4,042
Total expenditure		**326,621**	**360,935**	**293,740**
Income before taxation		**25,485**	**35,621**	**18,130**
Taxation charge	16	9,053	11,715	4,695
Income for the period	4	**16,432**	**23,906**	**13,435**
Income attributable to non-controlling interest		590	554	458
Income attributable to Royal Dutch Shell plc shareholders		**15,842**	**23,352**	**12,977**
Basic earnings per share ($)	24	1.97	2.82	1.58
Diluted earnings per share ($)	24	1.95	2.80	1.56

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

$ million

	Notes	2019	2018	2017
Income for the period	4	16,432	23,906	13,435
Other comprehensive income, net of tax				
Items that may be reclassified to income in later periods:				
Currency translation differences	22	344	(3,172)	5,156
Unrealised gains on securities [A]				593
Debt instruments remeasurements [A]	22	29	(15)	
Cash flow and net investment hedging (losses)/gains	22	(267)	730	(552)
Deferred cost of hedging [A]	22	66	(209)	
Share of other comprehensive (loss)/income of joint ventures and associates	9	(76)	(10)	170
Total		**96**	**(2,676)**	**5,367**
Items that are not reclassified to income in later periods:				
Retirement benefits remeasurements	22	(2,102)	3,588	604
Equity instruments remeasurements [A]	22	(30)	(153)	
Share of other comprehensive income of joint ventures and associates [A]	9	2	193	
Total		**(2,130)**	**3,628**	**604**
Other comprehensive (loss)/income for the period	22	(2,034)	952	5,971
Comprehensive income for the period		**14,398**	**24,858**	**19,406**
Comprehensive income attributable to non-controlling interest		625	383	578
Comprehensive income attributable to Royal Dutch Shell plc shareholders		**13,773**	**24,475**	**18,828**

[A] Changes in line items from 2018 onwards compared with 2017 are the result of the implementation of IFRS 9 *Financial Instruments*, effective from January 1, 2018.

CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED BALANCE SHEET

$ million

	Notes	Dec 31, 2019	Dec 31, 2018
Assets			
Non-current assets			
Intangible assets	7	23,486	23,586
Property, plant and equipment	8	238,349	223,175
Joint ventures and associates	9	22,808	25,329
Investments in securities	10	2,989	3,074
Deferred tax	16	10,524	12,097
Retirement benefits	17	4,717	6,051
Trade and other receivables	11	8,085	7,826
Derivative financial instruments	19	689	574
		311,647	**301,712**
Current assets			
Inventories	12	24,071	21,117
Trade and other receivables	11	43,414	42,431
Derivative financial instruments	19	7,149	7,193
Cash and cash equivalents	13	18,055	26,741
		92,689	**97,482**
Total assets		**404,336**	**399,194**
Liabilities			
Non-current liabilities			
Debt	14	81,360	66,690
Trade and other payables	15	2,342	2,735
Derivative financial instruments	19	1,209	1,399
Deferred tax	16	14,522	14,837
Retirement benefits	17	13,017	11,653
Decommissioning and other provisions	18	21,799	21,533
		134,249	**118,847**
Current liabilities			
Debt	14	15,064	10,134
Trade and other payables	15	49,208	48,888
Derivative financial instruments	19	5,429	7,184
Taxes payable	16	6,693	7,497
Retirement benefits	17	419	451
Decommissioning and other provisions	18	2,811	3,659
		79,624	**77,813**
Total liabilities		**213,873**	**196,660**
Equity			
Share capital	20	657	685
Shares held in trust		(1,063)	(1,260)
Other reserves	22	14,451	16,615
Retained earnings		172,431	182,606
Equity attributable to Royal Dutch Shell plc shareholders		**186,476**	**198,646**
Non-controlling interest		3,987	3,888
Total equity		**190,463**	**202,534**
Total liabilities and equity		**404,336**	**399,194**

Signed on behalf of the Board

/s/ Jessica Uhl

JESSICA UHL
Chief Financial Officer
March 11, 2020

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

$ million

	Equity attributable to Royal Dutch Shell plc shareholders						
	Share capital (see Note 20)	Shares held in trust	Other reserves (see Note 22)	Retained earnings	Total	Non-controlling interest	Total equity
At January 1, 2019 (as previously published)	**685**	**(1,260)**	**16,615**	**182,606**	**198,646**	**3,888**	**202,534**
Impact of IFRS 16 [A]	–	–	–	4	4	–	4
At January 1, 2019 (as revised)	**685**	**(1,260)**	**16,615**	**182,610**	**198,650**	**3,888**	**202,538**
Comprehensive income/(loss) for the period	–	–	(2,069)	15,842	13,773	625	14,398
Transfer from other comprehensive income	–	–	(74)	74	–	–	–
Dividends (see Note 23)	–	–	–	(15,198)	(15,198)	(537)	(15,735)
Repurchases of shares [B]	(28)	–	28	(10,286)	(10,286)	–	(10,286)
Share-based compensation	–	197	(49)	(613)	(465)	–	(465)
Other changes in non-controlling interest	–	–	–	2	2	11	13
At December 31, 2019	**657**	**(1,063)**	**14,451**	**172,431**	**186,476**	**3,987**	**190,463**
At January 1, 2018 (as previously published)	**696**	**(917)**	**16,932**	**177,645**	**194,356**	**3,456**	**197,812**
Impact of IFRS 9	–	–	(138)	88	(50)	–	(50)
At January 1, 2018 (as revised)	**696**	**(917)**	**16,794**	**177,733**	**194,306**	**3,456**	**197,762**
Comprehensive income for the period	–	–	1,123	23,352	24,475	383	24,858
Transfer from other comprehensive income	–	–	(971)	971	–	–	–
Dividends (see Note 23)	–	–	–	(15,675)	(15,675)	(586)	(16,261)
Repurchases of shares [B]	(11)	–	11	(4,519)	(4,519)	–	(4,519)
Share-based compensation [C]	–	(343)	(342)	693	8	–	8
Other changes in non-controlling interest	–	–	–	51	51	635	686
At December 31, 2018	**685**	**(1,260)**	**16,615**	**182,606**	**198,646**	**3,888**	**202,534**
At January 1, 2017	**683**	**(901)**	**11,298**	**175,566**	**186,646**	**1,865**	**188,511**
Comprehensive income for the period	–	–	5,851	12,977	18,828	578	19,406
Dividends (see Note 23)	–	–	–	(15,628)	(15,628)	(406)	(16,034)
Scrip dividends	13	–	(13)	4,751	4,751	–	4,751
Share-based compensation	–	(16)	(204)	(74)	(294)	–	(294)
Other changes in non-controlling interest	–	–	–	53	53	1,419	1,472
At December 31, 2017	**696**	**(917)**	**16,932**	**177,645**	**194,356**	**3,456**	**197,812**

[A] See Note 3.
[B] The repurchase of shares recognised through retained earnings includes the aggregate maximum consideration to which Shell is contractually bound under the current tranche of the buyback programme, plus associated stamp duty (see Note 20).
[C] The amendments to IFRS 2 *Share-based payment* became effective January 1, 2018. Following adoption of the amendments, components of share-based payments (related to tax) that were previously classified as cash-settled are classified as equity-settled from 2018 onwards.

CONSOLIDATED FINANCIAL STATEMENTS continued

CONSOLIDATED STATEMENT OF CASH FLOWS

$ million

	Notes	2019	2018	2017
Income before taxation for the period [A]	4	25,485	35,621	18,130
Adjustment for:				
Interest expense (net)		3,705	2,878	3,365
Depreciation, depletion and amortisation	8	28,701	22,135	26,223
Exploration well write-offs	8	1,218	449	897
Net gains on sale and revaluation of non-current assets and businesses		(2,519)	(3,265)	(1,640)
Share of profit of joint ventures and associates		(3,604)	(4,106)	(4,225)
Dividends received from joint ventures and associates		4,139	4,903	4,998
(Increase)/decrease in inventories		(2,635)	2,823	(2,079)
(Increase)/decrease in current receivables		(921)	1,955	(2,577)
(Decrease)/increase in current payables		(1,223)	(1,336)	2,406
Derivative financial instruments		(1,484)	799	(1,039)
Retirement benefits [A]		(365)	390	(654)
Decommissioning and other provisions [A]		(686)	(1,754)	(1,706)
Other [A]		(28)	1,264	(142)
Tax paid		(7,605)	(9,671)	(6,307)
Cash flow from operating activities		**42,178**	**53,085**	**35,650**
Capital expenditure		(22,971)	(23,011)	(20,845)
Investments in joint ventures and associates		(743)	(880)	(595)
Investment in equity securities [A]		(205)	(187)	(93)
Proceeds from sale of property, plant and equipment and businesses		4,803	4,366	8,808
Proceeds from sale of joint ventures and associates		2,599	1,594	2,177
Proceeds from sale of equity securities [A]		469	4,505	2,636
Interest received		911	823	724
Other investing cash inflows [A]		2,921	1,373	2,909
Other investing cash outflows [A]		(3,563)	(2,242)	(3,750)
Cash flow from investing activities		**(15,779)**	**(13,659)**	**(8,029)**
Net decrease in debt with maturity period within three months		(308)	(396)	(869)
Other debt:				
New borrowings		11,185	3,977	760
Repayments		(14,292)	(11,912)	(11,720)
Interest paid		(4,649)	(3,574)	(3,550)
Derivative financial instruments [B]		(48)		
Change in non-controlling interest		–	678	293
Cash dividends paid to:				
Royal Dutch Shell plc shareholders	23	(15,198)	(15,675)	(10,877)
Non-controlling interest		(537)	(584)	(406)
Repurchases of shares		(10,188)	(3,947)	–
Shares held in trust: net purchases and dividends received		(1,174)	(1,115)	(717)
Cash flow from financing activities		**(35,209)**	**(32,548)**	**(27,086)**
Currency translation differences relating to cash and cash equivalents		124	(449)	647
(Decrease)/increase in cash and cash equivalents		(8,686)	6,429	1,182
Cash and cash equivalents at beginning of year		26,741	20,312	19,130
Cash and cash equivalents at end of year	13	**18,055**	**26,741**	**20,312**

[A] With effect from 2019, the starting point for the Consolidated Statement of Cash Flows is 'Income before taxation' (previously 'Income'). Furthermore, to improve transparency, 'Retirement benefits' and 'Decommissioning and other provisions' have been separately disclosed. The 'Other' component of cash flow from investing activities has been expanded to distinguish between cash inflows and outflows. Prior period comparatives for these line items have been revised to conform with current year presentation. Overall, the revisions do not have an impact on cash flow from operating activities, cash flow from investing activities or cash flow from financing activities, as previously published.

[B] As from 2019, a new line item 'Derivative financial instruments' has been introduced for derivatives related to debt.

1 – BASIS OF PREPARATION

The Consolidated Financial Statements of Royal Dutch Shell plc (the "Company") and its subsidiaries (collectively referred to as "Shell") have been prepared in accordance with the provisions of the Companies Act 2006 (the "Act") and Article 4 of the IAS Regulation, and therefore in accordance with International Financial Reporting Standards ("IFRS") as adopted by the European Union. As applied to Shell, there are no material differences from IFRS as issued by the International Accounting Standards Board ("IASB"); therefore, the Consolidated Financial Statements have been prepared in accordance with IFRS as issued by the IASB.

As described in the accounting policies in Note 2A, the Consolidated Financial Statements have been prepared under the historical cost convention except for certain items measured at fair value. Those accounting policies have been applied consistently in all periods, except for those accounting standards that were adopted from January 1, 2019 (see Note 3 below).

The Consolidated Financial Statements were approved and authorised for issue by the Board of Directors on March 11, 2020.

2A – SIGNIFICANT ACCOUNTING POLICIES, JUDGEMENTS AND ESTIMATES

This Note describes Shell's significant accounting policies, which are those relevant to an understanding of the Consolidated Financial Statements. It includes the measurement bases used in preparing the Consolidated Financial Statements. It allows an understanding as to how transactions, other events and conditions are reported. It also describes: (a) judgements, apart from those involving estimations, that management makes in applying the policies that have the most significant effect on the amounts recognised in the Consolidated Financial Statements; and (b) estimations, including assumptions about the future, that management makes in applying the policies. The sources of estimation uncertainty that have a significant risk of a material adjustment to the carrying amounts of assets and liabilities within the next financial year are specifically identified as a significant estimate.

The accounting policies applied are consistent with those of the previous financial years except for the adoption as from January 1, 2019 of IFRS 16 *Leases* ("IFRS 16"), amendments to IAS 19 *Employee Benefits* ("IAS 19") and the Annual Improvement Cycle 2015-2017.

Mandatory

The impact of the transition to the accounting pronouncements as listed below have an immaterial impact other than for IFRS 16.

IFRS 16 *Leases*

Under IFRS 16, all lease contracts, with limited exceptions, are recognised in the financial statements by way of right-of-use assets and corresponding lease liabilities. Shell applied the modified retrospective transition method, and consequently comparative information is not restated. As a practical expedient, no reassessment was performed of contracts that were previously identified as leases and contracts that were not previously identified as containing a lease applying IAS 17 *Leases* ("IAS 17") and IFRIC 4 *Determining whether an Arrangement contains a Lease*. At the adoption date, additional lease liabilities were recognised for leases previously classified as operating leases applying IAS 17 (see Note 3). These lease liabilities were measured at the present value of the remaining lease payments and discounted using entity-specific incremental borrowing rates at January 1, 2019. In general, a corresponding right-of-use asset was recognised for an amount equal to each lease liability, adjusted by the amount of any prepaid or accrued lease payment relating to the specific lease contract, as recognised on the balance sheet at December 31, 2018. Provisions for onerous lease contracts at December 31, 2018 were adjusted to the respective right-of-use assets recognised at January 1, 2019.

The adoption of the new standard had an accumulated impact of $4 million on equity following the recognition of lease liabilities of $16.0 billion and additional right-of-use assets of $15.6 billion and reclassifications mainly related to pre-paid leases and onerous contracts previously recognised (see Note 3).

IAS 19 *Employee Benefits*

IAS 19 specifies how a company accounts for a defined benefit plan. When a plan event (i.e., a plan amendment, curtailment or settlement) occurs, IAS 19 requires a company to update its assumptions and remeasure its net defined benefit liability or asset. The IAS 19 amendments that are adopted clarify that after a plan event, entities would use these updated assumptions to measure current service cost and net interest for the remainder of the reporting period after the plan event. These amendments had no impact on Shell.

Annual Improvement Cycle 2015-2017

The Annual Improvements to IFRS Standards 2015-2017 Cycle includes minor amendments affecting IFRS 3 *Business combinations*, IFRS 11 *Joint arrangements*, IAS 12 *Income taxes*, and IAS 23 *Borrowing costs*. None of the amendments had a material impact on Shell.

IFRIC 23 *Uncertainty over income tax treatments* ("IFRIC 23")

IFRIC 23 clarifies the recognition and measurement for income tax when it is unclear whether a taxation authority will accept the tax treatment claimed. An uncertain tax position arises where there is more than one possible interpretation of how tax regulations apply to a given transaction or event. The interpretation requires the Company to determine whether uncertain tax treatments are assessed separately or as a group. The interpretation also requires an assumption that a taxation authority has full knowledge of all relevant information. Where it is not probable that a taxation authority will accept an uncertain tax treatment, it requires the Company to reflect the effect of the uncertainty in the accounting tax position. Finally, reassessment should be performed on a yearly basis in the event of changes in facts and circumstances.

Based on the assessment performed, this interpretation had no material impact on Shell's uncertain income tax accounting positions recognised.

NATURE OF THE CONSOLIDATED FINANCIAL STATEMENTS

The Consolidated Financial Statements are presented in US dollars (dollars) and comprise the financial statements of the Company and its subsidiaries, being those entities over which the Company has control, either directly or indirectly, through exposure or rights to their variable returns and the ability to affect those returns through its power over the entities. Information about subsidiaries at December 31, 2019, can be found in 'Appendix 1: Significant Subsidiaries and Other Related Undertakings'.

Subsidiaries are consolidated from the date on which control is obtained until the date that such control ceases, using consistent accounting policies. All inter-company balances and transactions, including unrealised profits arising from such transactions, are eliminated. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. Non-controlling interest represents the proportion of income, other comprehensive income and net assets in subsidiaries that is not attributable to the Company's shareholders.

CURRENCY TRANSLATION

Foreign currency transactions are translated using the exchange rate at the dates of the transactions or valuation where items are re-measured. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at quarter-end exchange rates of monetary assets and liabilities denominated in foreign currencies (including those in respect of inter-company balances, unless related to loans of a long-term investment nature) are recognised in income. This is

2A – SIGNIFICANT ACCOUNTING POLICIES, JUDGEMENTS AND ESTIMATES continued

except when recognised in other comprehensive income in respect of cash flow or net investment hedges, and presented within interest and other income or within purchases where not related to financing. Share capital issued in currencies other than the dollar is translated at the exchange rate at the date of issue.

On consolidation, assets and liabilities of non-dollar entities are translated to dollars at year-end rates of exchange, while their statements of income, other comprehensive income and cash flows are translated at quarterly average rates. The resulting translation differences are recognised as currency translation differences within other comprehensive income. Upon sale of all or part of an interest in, or upon liquidation of, an entity, the appropriate portion of cumulative currency translation differences related to that entity are generally recognised in income.

REVENUE RECOGNITION (from January 1, 2018)

Revenue from sales of oil, natural gas, chemicals and other products is recognised at the transaction price to which Shell expects to be entitled, after deducting sales taxes, excise duties and similar levies. For contracts that contain separate performance obligations, the transaction price is allocated to those separate performance obligations by reference to their relative standalone selling prices.

Revenue is recognised when control of the products has been transferred to the customer. For sales by Integrated Gas and Upstream operations, this generally occurs when the product is physically transferred into a vessel, pipe or other delivery mechanism; for sales by refining operations, it is either when the product is placed onboard a vessel or offloaded from the vessel, depending on the contractually agreed terms; and for sales of oil products and chemicals, it is either at the point of delivery or the point of receipt, depending on contractual conditions.

Revenue resulting from hydrocarbon production from properties in which Shell has an interest with partners in joint arrangements is recognised on the basis of Shell's volumes lifted and sold. Revenue resulting from the production of oil and natural gas under production-sharing contracts ("PSCs") is recognised for those amounts relating to Shell's cost recoveries and Shell's share of the remaining production. Gains and losses on derivative contracts and the revenue and costs associated with other contracts that are classified as held primarily for the purpose of being traded are reported on a net basis in the Consolidated Statement of Income. Purchases and sales of hydrocarbons under exchange contracts that are necessary to obtain or reposition feedstocks for refinery operations are presented net in the Consolidated Statement of Income.

Revenue resulting from arrangements that are not considered contracts with customers is presented as revenue from other sources.

REVENUE RECOGNITION (prior to January 1, 2018)

Revenue from sales of oil, natural gas, chemicals and other products is recognised at the fair value of consideration received or receivable, after deducting sales taxes, excise duties and similar levies, when the significant risks and rewards of ownership have been transferred, which is when title passes to the customer. For sales by Integrated Gas and Upstream operations, this generally occurs when product is physically transferred into a vessel, pipe or other delivery mechanism; for sales by refining operations, it is either when product is placed onboard a vessel or offloaded from the vessel, depending on the contractually agreed terms; and for sales of oil products and chemicals, it is either at the point of delivery or the point of receipt, depending on contractual conditions.

Revenue resulting from hydrocarbon production from properties in which Shell has an interest with partners in joint arrangements is recognised on the basis of Shell's working interest (entitlement method). Revenue resulting from the production of oil and natural gas under PSCs is recognised for those amounts relating to Shell's cost recoveries and Shell's share of the remaining production. Gains and losses on derivative contracts and the revenue and costs associated with other contracts that are classified as held for trading purposes are reported on a net basis in the Consolidated Statement of Income. Purchases and sales of hydrocarbons under exchange contracts that are necessary to obtain or reposition feedstocks for refinery operations are presented net in the Consolidated Statement of Income.

RESEARCH AND DEVELOPMENT

Development costs that are expected to generate probable future economic benefits are capitalised as intangible assets. All other research and development expenditure is recognised in income as incurred.

EXPLORATION COSTS

Hydrocarbon exploration costs are accounted for under the successful efforts method: exploration costs are recognised in income when incurred, except that exploratory drilling costs, including in respect of the recapitalisation of depreciation, are included in property, plant and equipment pending determination of proved reserves. Exploration costs capitalised in respect of exploration wells that are more than 12 months old are written off unless: (a) proved reserves are booked; or (b) (i) they have found commercially producible quantities of reserves and (ii) they are subject to further exploration or appraisal activity in that either drilling of additional exploratory wells is under way or firmly planned for the near future or other activities are being undertaken to sufficiently progress the assessing of reserves and the economic and operating viability of the project.

PROPERTY, PLANT AND EQUIPMENT AND INTANGIBLE ASSETS

Recognition

Property, plant and equipment comprise assets owned by Shell, assets held by Shell under lease contracts, and assets operated by Shell as contractor in PSCs. They include rights and concessions in respect of properties with proved reserves ("proved properties") and with no proved reserves ("unproved properties"). Property, plant and equipment, including expenditure on major inspections, and intangible assets are initially recognised in the Consolidated Balance Sheet at cost where it is probable that they will generate future economic benefits. This includes capitalisation of decommissioning and restoration costs associated with provisions for asset retirement (see 'Provisions'), certain development costs (see 'Research and development') and the effects of associated cash flow hedges (see 'Financial instruments (from January 1, 2018)') as applicable. The accounting for exploration costs is described separately (see 'Exploration costs'). Intangible assets include goodwill, liquefied natural gas ("LNG") off-take and sales contracts obtained through acquisition, software costs and trademarks. Interest is capitalised as an increase in property, plant and equipment, on major capital projects during construction.

Property, plant and equipment and intangible assets are subsequently carried at cost less accumulated depreciation, depletion and amortisation (including any impairment). Gains and losses on sale are determined by comparing the proceeds with the carrying amounts of assets sold and are recognised in income, within interest and other income.

An asset is classified as held for sale if its carrying amount will be recovered principally through sale rather than through continuing use, which is when the sale is highly probable, and it is available for immediate sale. Assets classified as held for sale are measured at the lower of the carrying amount upon classification and the fair value less costs to sell.

Depreciation, depletion and amortisation

Property, plant and equipment related to hydrocarbon production activities are in principle depreciated on a unit-of-production basis over the proved developed reserves of the field concerned, other than assets whose useful lives differ from the lifetime of the field which are depreciated applying the straight-line method. However, for certain Upstream assets, the use for this purpose of proved developed reserves, which are determined using the SEC-mandated yearly average oil and gas prices, would result in depreciation charges for these assets which do not reflect the pattern in which their future economic benefits are expected to be consumed as, for example, it may result in assets with long-term expected lives being depreciated in full within one year. Therefore, in these instances, other approaches are applied to determine the reserves base for the purpose of calculating depreciation, such as using management's expectations of future oil and gas prices rather than yearly average prices, to provide a phasing of periodic depreciation charges that more appropriately reflects the expected utilisation of the assets concerned.

Rights and concessions in respect of proved properties are depleted on the unit-of-production basis over the total proved reserves of the relevant area. Where individually insignificant, unproved properties may be grouped and depreciated based on factors such as the average concession term and past experience of recognising proved reserves.

Property, plant and equipment held under leases contracts and capitalised LNG off-take and sales contracts are depreciated or amortised over the term of the respective contract. Other property, plant and equipment and intangible assets are depreciated or amortised on a straight-line basis over their estimated useful lives, except for goodwill, which is not amortised. They include refineries and chemical plants (for which the useful life is generally 20 years), retail service stations (15 years), upgraders (30 years) and major inspection costs, which are depreciated over the estimated period before the next planned major inspection (three to five years).

On classification of an asset as held for sale, depreciation ceases.

Estimates of the useful lives and residual values of property, plant and equipment and intangible assets are reviewed annually and adjusted if appropriate.

Impairment

The carrying amount of goodwill is tested for impairment annually; in addition, assets other than unproved properties (see 'Exploration costs') are tested for impairment whenever events or changes in circumstances indicate that the carrying amounts for those assets may not be recoverable. On classification as held for sale, the carrying amounts of property, plant and equipment and intangible assets are also reviewed. If assets are determined to be impaired, the carrying amounts of those assets are written down to their recoverable amount, which is the higher of fair value less costs to sell (see 'Fair value measurements') and value in use.

Value in use is determined as the amount of estimated risk-adjusted discounted future cash flows. For this purpose, assets are grouped into cash-generating units based on separately identifiable and largely independent cash inflows. Estimates of future cash flows used in the evaluation of impairment of assets are made using management's forecasts of commodity prices, market supply and demand, potential costs associated with operational GHG emissions, and forecast product and refining margins. In addition, management takes into consideration the expected useful lives of the refineries, and exploration and production assets, and expected production volumes. The latter takes into account assessments of field and reservoir performance and includes expectations about both proved reserves and volumes that are expected to constitute proved reserves in the future (unproved volumes), which are risk-weighted utilising geological, production, recovery and economic projections. Cash flow estimates are risk-adjusted to reflect local conditions as appropriate and discounted at a rate based on Shell's marginal cost of debt.

Impairments, except those related to goodwill, are reversed as applicable to the extent that the events or circumstances that triggered the original impairment have changed.

Impairment losses and reversals are reported within depreciation, depletion and amortisation.

Judgements and estimates

Proved oil and gas reserves

Unit-of-production depreciation, depletion and amortisation charges are principally measured based on management's estimates of proved developed oil and gas reserves. Also, exploration drilling costs are capitalised pending the results of further exploration or appraisal activity, which may take several years to complete and before any related proved reserves can be booked.

Proved reserves are estimated by a central group of reserves experts. The estimated proved reserves are made by reference to available geological and engineering data and only include volumes for which access to market is assured with reasonable certainty. Yearly average oil and gas prices are applied in the determination of proved reserves. Estimates of proved reserves are inherently imprecise, require the application of judgement and are subject to regular revision, either upward or downward, based on new information such as from the drilling of additional wells, observation of long-term reservoir performance under producing conditions and changes in economic factors, including product prices, contract terms, legislation or development plans.

Changes to estimates of proved developed reserves affect prospectively the amounts of depreciation, depletion and amortisation charged and, consequently, the carrying amounts of exploration and production assets. It is expected, however, that in the normal course of business the diversity of the asset portfolio will limit the effect of such revisions. The outcome of, or assessment of plans for, exploration or appraisal activity may result in the related capitalised exploration drilling costs being recognised in income in that period.

Judgement is involved in determining when to use an alternative reserves base in order to appropriately reflect the expected utilisation of the assets concerned (see 'Depreciation, depletion and amortisation').

Information about the carrying amounts of exploration and production assets and the amounts charged to income, including depreciation, depletion and amortisation and the quantitative impact of the use of an alternative reserve base, is presented in Note 8.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS continued

2A – SIGNIFICANT ACCOUNTING POLICIES, JUDGEMENTS AND ESTIMATES continued

Judgements and estimates continued

Impairment

For the purposes of determining whether impairment of assets has occurred, and the extent of any impairment loss or its reversal, the key assumptions management uses in estimating risk-adjusted future cash flows for value-in-use measures are future oil and gas prices, potential costs associated with operational GHG emissions, expected production volumes and refining margins appropriate to the local circumstances and environment. These assumptions and the judgements of management that are based on them are subject to change as new information becomes available. Changes in economic conditions can affect the rate used to discount future cash flow estimates or the risk-adjustment in the future cash flows.

Estimation is involved with respect to the expected life of refineries and chemicals sites, and also including management's view on the future development of refining margins.

The determination of cash-generating units requires judgement. Changes in this determination could impact the calculation of value in use and therefore the conclusion on the recoverability of assets' carrying amounts when performing an impairment test.

Judgement, which is subject to change as new information becomes available, can be required in determining when an asset is classified as held for sale. A change in that judgement could result in impairment charges affecting income, depending on whether classification requires a write down of the asset to its fair value less costs to sell.

Significant estimates

Future commodity price assumptions, presented in Note 8, tend to be stable because management does not consider short-term increases or decreases in prices as being indicative of long-term levels, but they are nonetheless subject to change. Expected production volumes, which comprise proved reserves and unproved volumes, are used for impairment testing because management believes this to be the most appropriate indicator of expected future cash flows. As discussed in 'Proved oil and gas reserves' above, reserves estimates are inherently imprecise. Furthermore, projections about unproved volumes are based on information that is necessarily less robust than that available for mature reservoirs. Due to the nature and geographical spread of the business activity in which those assets are used, it is typically not practicable to estimate the likelihood or extent of impairments under different sets of assumptions for Shell overall.

Changes in assumptions could affect the carrying amounts of assets, and any impairment losses and reversals will affect income.

Forecast refining margins are a key input for impairment testing in Downstream. Management's estimate of longer-term refining margins is based on the mean reversion of markets, unless a fundamental shift in markets has been identified, over the life of the refineries. Under this approach, that is consistently applied, it is assumed that refining margins will revert to historical averages over time.

Changes in assumptions could affect the carrying amounts of assets and estimation of environmental provisions. Any impairment losses and reversals will affect income.

Information about the carrying amounts of assets and impairments is presented in Notes 7 and 8.

LEASES (from January 1, 2019)

A contract or parts of contracts, that conveys the right to control the use of an identified asset for a period of time in exchange for payments to be made to the owners (lessors) are accounted for as leases. Contracts are assessed to determine whether a contract is, or contains, a lease at the inception of a contract or when the terms and conditions of a contract are significantly changed. The lease term is the non-cancellable period of a lease, together with contractual options to extend or to terminate the lease early, where it is reasonably certain that an extension option will be exercised or a termination option will not be exercised.

At the commencement of a lease contract, a right-of-use asset and a corresponding lease liability are recognised, unless the lease term is 12 months or less. The commencement date of a lease is the date the underlying asset is made available for use. The lease liability is measured at an amount equal to the present value of the lease payments during the lease term that are not paid at that date. The lease liability includes contingent rentals and variable lease payments that depend on an index, rate, or where they are fixed payments in substance. The lease liability is remeasured when the contractual cash flows of variable lease payments change due to a change in an index or rate when the lease term changes following a reassessment.

Lease payments are discounted using the interest rate implicit in the lease. If that rate is not readily available, the incremental borrowing rate is applied. The incremental borrowing rate reflects the rate of interest that the lessee would have to pay to borrow over a similar term, with a similar security, the funds necessary to obtain an asset of a similar nature and value to the right-of-use asset in a similar economic environment.

In general, a corresponding right-of-use asset is recognised for an amount equal to each lease liability, adjusted by the amount of any pre-paid lease payment relating to the specific lease contract. The depreciation on right-of-use assets is recognised in income unless capitalised as exploration drilling cost (see 'Exploration cost') or capitalised when the right-of-use asset is used to construct another asset.

Where Shell is the lessor in a lease arrangement at inception, the lease arrangement will be classified as a finance lease or an operating lease. Classification is based on the extent to which the risks and rewards incidental to ownership of the underlying asset lie with the lessor or the lessee.

Where Shell, usually in its capacity as operator, has entered into a lease contract on behalf of a joint arrangement, a lease liability is recognised to the extent that Shell has primary responsibility for the lease liability. A finance sub-lease is subsequently recognised if the related right-of-use asset is subleased to the joint arrangement. This is usually the case when the joint arrangement has the right to direct the use of the asset.

Impairment of the right-of-use asset

Right-of-use assets are subject to existing impairment requirements as set out in 'Property, plant and equipment' (see Note 8).

Judgements and estimates

A lease term includes optional lease periods where it is reasonably certain to exercise the option to extend or not to exercise the option to terminate the lease. Determination of the lease term is subject to judgement and has an impact on the measurement of the lease liability and related right-of-use asset.

Where the rate implicit in the lease is not readily available, an incremental borrowing rate is applied. This incremental borrowing rate reflects the rate of interest that the lessee would have to pay to borrow over a similar term, with a similar security, the funds necessary to obtain an asset of a similar nature and value to the right-of-use asset in a similar economic environment. Determination of the incremental borrowing rate requires estimation. The incremental borrowing rate is determined using the risk-free rate over a matched term, adjusted for factors such as the credit rating of the lessee and the borrowing currency.

Significant estimate

The operating leases that were recognised on the balance sheet following the adoption of IFRS 16 (see Note 3) were measured applying an incremental borrowing rate at transition date to the future payments under these lease contracts. To determine the incremental borrowing rate for each lease contract, a risk-free rate at transition date was applied, adjusted for other factors such as the credit rating of the entity that entered into the lease contract, a country risk premium, the impact of currency, an asset specific element and the term of the lease contract. All factors are subject to estimation. If a higher or lower incremental borrowing rate had been applied, the lease liability and corresponding right-of-use asset would respectively have been lower or higher. The incremental borrowing rate will not be revised each period and will not result in a material adjustment to the carrying amount of lease liability and right-of-use asset in the future years.

LEASES (prior to January 1, 2019)

Agreements under which payments are made to owners in return for the right to use an asset for a period are accounted for as leases. Leases that transfer substantially all the risks and rewards of ownership are recognised at the commencement of the lease term as finance leases within property, plant and equipment and debt at the fair value of the leased asset or, if lower, at the present value of the minimum lease payments. Finance lease payments are apportioned between interest expense and repayments of debt. All other leases are classified as operating leases and the cost is recognised in income on a straight-line basis, except where capitalised as exploration drilling costs (see 'Exploration costs').

JOINT ARRANGEMENTS AND ASSOCIATES

Arrangements under which Shell has contractually agreed to share control (see 'Nature of the Consolidated Financial Statements' for the definition of control) with another party or parties are joint ventures where the parties have rights to the net assets of the arrangement, or joint operations where the parties have rights to the assets and obligations for the liabilities relating to the arrangement. Investments in entities over which Shell has the right to exercise significant influence but neither control nor joint control are classified as associates. Information about incorporated joint arrangements and associates at December 31, 2019, can be found in 'Appendix 1: Significant Subsidiaries and Other Related Undertakings'.

Investments in joint ventures and associates are accounted for using the equity method, under which the investment is initially recognised at cost and subsequently adjusted for the Shell share of post-acquisition income less dividends received and the Shell share of other comprehensive income and other movements in equity, together with any loans of a long-term investment nature. Where necessary, adjustments are made to the financial statements of joint ventures and associates to bring the accounting policies used into line with those of Shell. In an exchange of assets and liabilities for an interest in a joint venture, the non-Shell share of any excess of the fair value of the assets and liabilities transferred over the pre-exchange carrying amounts is recognised in income. Unrealised gains on other transactions between Shell and its joint ventures and associates are eliminated to the extent of Shell's interest in them; unrealised losses are treated similarly but may also result in an assessment of whether the asset transferred is impaired.

Shell recognises its assets and liabilities relating to its interests in joint operations, including its share of assets held jointly and liabilities incurred jointly with other partners.

INVENTORIES

Inventories are stated at cost or net realisable value, whichever is lower. Cost comprises direct purchase costs (including transportation), and associated costs incurred in bringing inventories to their present condition and location, and is determined using the first-in, first-out ("FIFO") method for oil, gas and chemicals and by the weighted average cost method for materials.

TAXATION

The charge for current tax is calculated based on the income reported by the Company and its subsidiaries, as adjusted for items that are non-taxable or disallowed and using rates that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is determined, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the Consolidated Balance Sheet and on unused tax losses and credits carried forward.

Deferred tax assets and liabilities are calculated using the enacted or substantively enacted rates that are expected to apply when an asset is realised or a liability is settled. They are not recognised where they arise on the initial recognition of goodwill or of an asset or liability in a transaction (other than in a business combination) that, at the time of the transaction, affects neither accounting nor taxable profit, or in respect of taxable temporary differences associated with subsidiaries, joint ventures and associates where the reversal of the respective temporary difference can be controlled by Shell and it is probable that it will not reverse in the foreseeable future.

Deferred tax assets are recognised to the extent that it is probable that future taxable profits will be available against which the deductible temporary differences, unused tax losses and credits carried forward can be utilised.

Income tax receivables and payables as well as deferred tax assets and liabilities include provisions for uncertain income tax positions/treatments.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS continued

2A – SIGNIFICANT ACCOUNTING POLICIES, JUDGEMENTS AND ESTIMATES continued

Income taxes are recognised in income except when they relate to items recognised in other comprehensive income, in which case the tax is recognised in other comprehensive income. Income tax assets and liabilities are presented separately in the Consolidated Balance Sheet except where there is a right of offset within fiscal jurisdictions and an intention to settle such balances on a net basis.

Judgements and estimates

Tax liabilities are recognised when it is considered probable that there will be a future outflow of funds to a taxing authority. In such cases, provision is made for the amount that is expected to be settled, where this can be reasonably estimated. Provisions for uncertain income tax positions/treatments are measured at the most likely amount or the expected value, whichever method is more appropriate. Generally, uncertain tax treatments are assessed on an individual basis, except where they are expected to be settled collectively. It is assumed that taxing authorities will examine positions taken if they have the right to do so and that they have full knowledge of the relevant information. A change in estimate of the likelihood of a future outflow and/or in the expected amount to be settled would be recognised in income in the period in which the change occurs. This requires the application of judgement as to the ultimate outcome, which can change over time depending on facts and circumstances. Judgements mainly relate to transfer pricing, including inter-company financing, interpretation of PSCs, expenditure deductible for tax purposes and taxation arising on disposal.

Deferred tax assets are recognised only to the extent it is considered probable that those assets will be recoverable. This involves an assessment of when those assets are likely to reverse, and a judgement as to whether or not there will be sufficient taxable profits available to offset the assets when they do reverse. This requires assumptions regarding future profitability and is therefore inherently uncertain. To the extent assumptions regarding future profitability change, there can be an increase or decrease in the amounts recognised in respect of deferred tax assets as well as in the amounts recognised in income in the period in which the change occurs.

Taxation information, including charges and deferred tax assets and liabilities, is presented in Note 16. Income taxes include taxes at higher rates levied on income from certain Integrated Gas and Upstream activities.

RETIREMENT BENEFITS

Benefits in the form of retirement pensions and healthcare and life insurance are provided to certain employees and retirees under defined benefit and defined contribution plans.

Obligations under defined benefit plans are calculated annually by independent actuaries using the projected unit credit method, which takes into account employees' years of service and, for pensions, average or final pensionable remuneration, and are discounted to their present value using interest rates of high-quality corporate bonds denominated in the currency in which the benefits will be paid and of a duration consistent with the plan obligations. Where plans are funded, payments are made to independently managed trusts; assets held by those trusts are measured at fair value. Defined benefit plan surpluses are recognised as assets to the extent that they are considered recoverable, which is generally by way of a refund or lower future employer contributions.

The amounts recognised in income in respect of defined benefit plans mainly comprise service cost and net interest. Service cost comprises principally the increase in the present value of the obligation for benefits resulting from employee service during the period (current service cost) and also amounts relating to past service and settlements or amendments of plans. Plan amendments are changes to benefits and are generally recognised when all legal and regulatory approvals have been received and the effects have been communicated to members. Net interest is calculated using the net defined benefit liability or asset matched against the discount rate yield curve at the beginning of each year for each plan. Remeasurements of the net defined benefit liability or asset resulting from actuarial gains and losses, and the return on plan assets excluding the amount recognised in income, are recognised in other comprehensive income.

For defined contribution plans, pension expense represents the amount of employer contributions payable for the period.

Significant judgements and estimates

Defined benefit obligations and plan assets, and the resulting liabilities and assets that are recognised, are subject to significant volatility as actuarial assumptions regarding future outcomes and market values change. Substantial judgement is required in determining the actuarial assumptions, which vary for the different plans to reflect local conditions but are determined under a common process in consultation with independent actuaries. The assumptions applied in respect of each plan are reviewed annually and adjusted where necessary to reflect changes in experience and actuarial recommendations.

Information about the amounts reported in respect of defined benefit pension plans, assumptions applicable to the principal plans and their sensitivity to changes are presented in Note 17.

PROVISIONS

Provisions are recognised at the balance sheet date at management's best estimate of the expenditure required to settle the present obligation. Non-current amounts are discounted at a rate intended to reflect the time value of money. The carrying amounts of provisions are regularly reviewed and adjusted for new facts or changes in law or technology.

Provisions for decommissioning and restoration costs, which arise principally in connection with hydrocarbon production facilities and pipelines, are measured on the basis of current requirements, technology and price levels; the present value is calculated using amounts discounted over the useful economic life of the assets. The liability is recognised (together with a corresponding amount as part of the related property, plant and equipment) once an obligation crystallises in the period when a reasonable estimate can be made. The effects of changes resulting from revisions to the timing or the amount of the original estimate of the provision are reflected on a prospective basis, generally by adjustment to the carrying amount of the related property, plant and equipment. However, where there is no related asset, or the change reduces the carrying amount to nil, the effect, or the amount in excess of the reduction in the related asset to nil, is recognised in income.

Redundancy provisions are recognised when a detailed formal plan identifies the business or part of the business concerned, the location and number of employees affected, a detailed estimate of the associated costs and an appropriate timeline, and the employees affected have been notified of the plan's main features.

Other provisions are recognised in income in the period in which an obligation arises and the amount can be reasonably estimated. Provisions are measured based on current legal requirements and existing technology where applicable. Recognition of any joint and several liability is based on management's best estimate of the final pro rata share of the liability. Provisions are determined independently of expected insurance recoveries. Recoveries are recognised when virtually certain of realisation.

Significant estimates

Estimates of provisions for future decommissioning and restoration costs are recognised and based on current legal and constructive requirements, technology and price levels. Because actual outflows can differ from estimates due to changes in laws, regulations, public expectations, technology, prices and conditions, and can take place many years in the future, the carrying amounts of provisions are regularly reviewed and adjusted to take account of such changes. The discount rate applied is reviewed annually.

Information about decommissioning and restoration provisions is presented in Note 18.

FINANCIAL INSTRUMENTS (from January 1, 2018)

Financial assets and liabilities are presented separately in the Consolidated Balance Sheet except where there is a legally enforceable right of offset and Shell has the intention to settle on a net basis or realise the asset and settle the liability simultaneously.

Financial Assets

Financial assets are classified at initial recognition and subsequently measured at amortised cost, fair value through other comprehensive income or fair value through profit or loss. The classification of financial assets is determined by the contractual cash flows and where applicable the business model for managing the financial assets.

A financial asset is measured at amortised cost, if the objective of the business model is to hold the financial asset in order to collect contractual cash flows and the contractual terms give rise to cash flows that are solely payments of principal and interest. It is initially recognised at fair value plus or minus transaction costs that are directly attributable to the acquisition or issue of the financial asset. Subsequently the financial asset is measured using the effective interest method less any impairment. Gains and losses are recognised in profit or loss when the asset is derecognised, modified or impaired.

All equity instruments and other debt instruments are recognised at fair value. For equity instruments, on initial recognition, an irrevocable election (on an instrument-by-instrument basis) can be made to designate these as at fair value through other comprehensive income instead of fair value through profit and loss. Dividends received on equity instruments are recognised as other income in profit or loss when the right of payment has been established, except when Shell benefits from such proceeds as a recovery of part of the cost of the financial asset, in which case, such gains are recorded in other comprehensive income.

Investments in securities

Investments in securities ("securities") comprise equity and debt securities. Equity securities are carried at fair value. Generally, unrealised holding gains and losses are recognised in other comprehensive income. On sale, net gains and losses previously accumulated in other comprehensive income are transferred to retained earnings. Debt securities are generally carried at fair value with unrealised holding gains and losses recognised in other comprehensive income. On sale, net gains and losses previously accumulated in other comprehensive income are recognised in income.

Impairment of financial assets

The expected credit loss model is applied for recognition and measurement of impairments in financial assets measured at amortised cost or at fair value through other comprehensive income. The expected credit loss model is also applied for financial guarantee contracts to which IFRS 9 applies and are not accounted for at fair value through profit or loss. The loss allowance for the financial asset is measured at an amount equal to the 12-month expected credit losses. If the credit risk on the financial asset has increased significantly since initial recognition, the loss allowance for the financial asset is measured at an amount equal to the lifetime expected credit losses. Changes in loss allowances are recognised in profit and loss. For trade receivables, a simplified impairment approach is applied recognising expected lifetime losses from initial recognition.

Financial Liabilities

Financial liabilities are measured at amortised cost, unless they are required to be measured at fair value through profit or loss, such as instruments held for trading, or Shell has opted to measure them at fair value through profit or loss. Debt and trade payables are recognised initially at fair value based on amounts exchanged, net of transaction costs, and subsequently at amortised cost except for fixed rate debt subject to fair value hedging which is remeasured for the hedged risk (see below). Interest expense on debt is accounted for using the effective interest method, and other than interest capitalised, is recognised in income. For financial liabilities that are measured under the fair value option, the change in the fair value related to own credit risk is recognised in other comprehensive income. The remaining fair value change is recognised to fair value through profit and loss.

Derivative contracts and hedges

Derivative contracts are used in the management of interest rate risk, foreign exchange risk, commodity price risk, and foreign currency cash balances. Derivatives that are not closely related to the host contract in terms of economic characteristics and risks of which the host contract is not a financial asset, are separated from their host contract and recognised at fair value with the associated gains and losses recognised in income.

Certain derivative contracts qualify and are designated either as a "fair value" hedge of the change in fair value of a recognised asset or liability or an unrecognised firm commitment or as a "cash flow" hedge for the change in cash flows to be received or paid relating to a recognised asset or liability or a highly probable forecast transaction.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS continued

2A – SIGNIFICANT ACCOUNTING POLICIES, JUDGEMENTS AND ESTIMATES continued

A change in the fair value of a fair value hedge is recognised in income, together with the consequential adjustment to the carrying amount of the hedged item. The effective portion of a change in fair value of a derivative contract designated as a cash flow hedge is recognised in other comprehensive income until the hedged transaction occurs; any ineffective portion is recognised in income. Where the hedged item is a non-financial asset or liability, the amount in accumulated other comprehensive income is transferred to the initial carrying amount of the asset or liability (reclassified to the balance sheet); for other hedged items, the amount in accumulated other comprehensive income is reclassified to income when the hedged transaction affects income.

The effective portion of a change due to retranslation at quarter-end exchange rates in the carrying amount of debt and the principal amount of derivative contracts used to hedge net investments in foreign operations is recognised in other comprehensive income until the related investment is sold or liquidated; any ineffective portion is recognised in income.

All relationships between hedging instruments and hedged items are documented, as well as risk management objectives and strategies for undertaking hedge transactions. The effectiveness of hedges is also continually assessed and hedge accounting is discontinued when there is a change in the risk management strategy.

Unless designated as hedging instruments, contracts to sell or purchase non-financial items that can be settled net as if the contracts were financial instruments and that do not meet expected own use requirements (typically, forward sale and purchase contracts for commodities in trading operations), and contracts that are or contain written options, are recognised at fair value; associated gains and losses are recognised in income.

Derivatives that are held primarily for the purpose of trading are presented as current in the Consolidated Balance Sheet.

FINANCIAL INSTRUMENTS (prior to January 1, 2018)

Financial assets and liabilities are presented separately in the Consolidated Balance Sheet except where there is a legally enforceable right of offset and Shell has the intention to settle on a net basis or realise the asset and settle the liability simultaneously.

Financial assets

Investments in securities

Investments in securities (also referred to as "securities") comprise equity and debt securities classified on initial recognition as available-for-sale and are carried at fair value, except where their fair value cannot be measured reliably, in which case they are carried at cost, less any impairment. Unrealised holding gains and losses other than impairments are recognised in other comprehensive income, except for translation differences arising on foreign currency debt securities, which are recognised in income. On maturity or sale, net gains and losses previously deferred in accumulated other comprehensive income are recognised in income.

Interest income on debt securities is recognised in income using the effective interest method. Dividends on equity securities are recognised in income when receivable.

Cash and cash equivalents

Cash and cash equivalents comprise cash at bank and in hand, including offsetting bank overdrafts, short-term bank deposits, money market funds, reverse repos and similar instruments that have a maturity of three months or less at the date of purchase.

Trade receivables

Trade receivables are recognised initially at fair value based on amounts exchanged and subsequently at amortised cost less any impairment.

Financial liabilities

Debt and trade payables are recognised initially at fair value based on amounts exchanged, net of transaction costs, and subsequently at amortised cost except for fixed rate debt subject to fair value hedging which is remeasured for the hedged risk (see below). Interest expense on debt is accounted for using the effective interest method and, other than interest capitalised, is recognised in income.

Derivative contracts and hedges

Derivative contracts are used in the management of interest rate risk, foreign exchange risk and commodity price risk, and in the management of foreign currency cash balances. These contracts are recognised at fair value.

Certain derivative contracts qualify and are designated either as a "fair value" hedge of the change in fair value of a recognised asset or liability or an unrecognised firm commitment or as a "cash flow" hedge of the change in cash flows to be received or paid relating to a recognised asset or liability or a highly probable forecast transaction.

A change in the fair value of a hedging instrument designated as a fair value hedge is recognised in income, together with the consequential adjustment to the carrying amount of the hedged item. The effective portion of a change in fair value of a derivative contract designated as a cash flow hedge is recognised in other comprehensive income until the hedged transaction occurs; any ineffective portion is recognised in income. Where the hedged item is a non-financial asset or liability, the amount in accumulated other comprehensive income is transferred to the initial carrying amount of the asset or liability (reclassified to the balance sheet); for other hedged items, the amount in accumulated other comprehensive income is reclassified to income when the hedged transaction affects income.

The effective portion of a change due to retranslation at quarter-end exchange rates in the carrying amount of debt and the principal amount of derivative contracts used to hedge net investments in foreign operations is recognised in other comprehensive income until the related investment is sold or liquidated; any ineffective portion is recognised in income.

All relationships between hedging instruments and hedged items are documented, as well as risk management objectives and strategies for undertaking hedge transactions. The effectiveness of hedges is also continually assessed and hedge accounting is discontinued when a hedge ceases to be highly effective.

Gains and losses on derivative contracts not qualifying and designated as hedges, including forward sale and purchase contracts for commodities in trading operations that may be settled by the physical delivery or receipt of the commodity, are recognised in income.

Unless designated as hedging instruments, contracts to sell or purchase non-financial items that can be settled net as if the contracts were financial instruments and that do not meet expected own use requirements (typically, forward sale and purchase contracts for commodities in trading operations), and contracts that are or contain written options, are recognised at fair value; associated gains and losses are recognised in income.

Derivatives embedded within contracts that are not already required to be recognised at fair value, and that are not closely related to the host contract in terms of economic characteristics and risks, are separated from their host contract and recognised at fair value; associated gains and losses are recognised in income.

FAIR VALUE MEASUREMENTS

Fair value measurements are estimates of the amounts for which assets or liabilities could be transferred at the measurement date, based on the assumption that such transfers take place between participants in principal markets and, where applicable, taking highest and best use into account.

Judgements and estimates

Where available, fair value measurements are derived from prices quoted in active markets for identical assets or liabilities. In the absence of such information, other observable inputs are used to estimate fair value. Inputs derived from external sources are corroborated or otherwise verified, as appropriate. In the absence of publicly available information, fair value is determined using estimation techniques that take into account market perspectives relevant to the asset or liability, in as far as they can reasonably be ascertained, based on predominantly unobservable inputs. For derivative contracts where publicly available information is not available, fair value estimations are generally determined using models and other valuation methods, the key inputs for which include future prices, volatility, price correlation, counterparty credit risk and market liquidity, as appropriate; for other assets and liabilities, fair value estimations are generally based on the net present value of expected future cash flows.

SHARE-BASED COMPENSATION PLANS

The fair value of share-based compensation expense arising from the Performance Share Plan ("PSP") and the Long-term Incentive Plan ("LTIP") – Shell's main equity-settled plans – is estimated using a Monte Carlo option pricing model and is recognised in income from the date of grant over the vesting period with a corresponding increase directly in equity. The model projects and averages the results for a range of potential outcomes for the vesting conditions, the principal assumptions for which are the share price volatility and dividend yields for Shell and four of its main competitors over the last three years and the last 10 years. Prior to the adoption of the IFRS 2 amendments in 2018, changes in the fair value of share-based compensation for cash-settled plans were recognised in income with a corresponding change in liabilities.

SHARES HELD IN TRUST

Shares in the Company, which are held by employee share ownership trusts and trust-like entities, are not included in assets but are reflected at cost as a deduction from equity as shares held in trust.

ACQUISITIONS AND SALES OF INTERESTS IN A BUSINESS

Assets acquired and liabilities assumed when control is obtained over a business, and when an interest or an additional interest is acquired in a joint operation which is a business, are recognised at their fair value at the date of the acquisition; the amount of the purchase consideration above this value is recognised as goodwill. When control is obtained, any non-controlling interest is recognised as the proportionate share of the identifiable net assets. The acquisition of a non-controlling interest in a subsidiary and the sale of an interest while retaining control are accounted for as transactions within equity. The difference between the purchase consideration or sale proceeds after tax and the relevant proportion of the non-controlling interest, measured by reference to the carrying amount of the interest's net assets at the date of acquisition or sale, is recognised in retained earnings as a movement in equity attributable to Royal Dutch Shell plc shareholders.

CONSOLIDATED STATEMENT OF INCOME PRESENTATION

Purchases reflect all costs related to the acquisition of inventories and the effects of the changes therein, and include associated costs incurred in conversion into finished or intermediate products. Production and manufacturing expenses are the costs of operating, maintaining and managing production and manufacturing assets. Selling, distribution and administrative expenses include direct and indirect costs of marketing and selling products.

2B – CHANGES TO IFRS NOT YET ADOPTED

Inter-Bank Offered Rate ("IBOR") Reform – Phase 1

Amendments to IFRS 9 *Financial Instruments* ("IFRS 9") and IFRS 7 *Financial Instruments: Disclosures* ("IFRS 7") were issued in September 2019. The amendments contain a temporary exception from applying specific hedge accounting requirements pre-IBOR reform (Phase 1). Further amendments to IFRS standards (Phase 2) are expected to address potential financial reporting implications when an existing interest rate benchmark is replaced with an alternative.

Shell's fixed rate debt hedged to floating rate will be affected by the market-wide replacement of London Inter-Bank Offered Rate ("LIBOR") to alternative risk-free reference rates, most significantly by reform of dollar LIBOR.

The majority of Shell's debt related interest rate and currency swaps were designated in fair value hedge relationships at December 31, 2019. In relation to the required prospective assessment of the existence of an economic relationship between the hedged items and hedging instruments for these hedge relationships, Shell will apply the temporary exception in IFRS 9 on hedge relationships directly affected by the IBOR reform. By applying the exception, Shell anticipates that the interest rate benchmark on which the hedged risk is based is not altered as a result of the IBOR reform.

The notional amount of hedging instruments designated in hedge relationships affected by the reform, at December 31, 2019, was $31,823 million.

A Group-wide project is in progress to manage the transition to alternative benchmark rates.

2B – CHANGES TO IFRS NOT YET ADOPTED continued

IFRS 17 *Insurance contracts* ("IFRS 17")

IFRS 17 was issued in 2017, and is currently envisaged to become effective for annual reporting periods beginning on or after January 1, 2021 (the IASB is presently reviewing the effective date, with a potential extension by one or two years). The IFRS 17 model combines a current balance sheet measurement of insurance contracts with recognition of profit over the period that services are provided. The general model in the standard requires insurance contract liabilities to be measured using probability-weighted current estimates of future cash flows, an adjustment for risk, and a contractual service margin representing the profit expected from fulfilling the contracts. Effects of changes in the estimates of future cash flows and the risk adjustment relating to future services are recognised over the period services are provided rather than immediately in profit or loss. Shell is in the process of evaluating the initial impact of this pronouncement.

3 – ADOPTION OF IFRS 16 *LEASES*

IFRS 16 was adopted as from January 1, 2019. All operating lease contracts, with limited exceptions, were recognised on the balance sheet by recognising right-of-use assets and corresponding lease liabilities at the transition date. Shell applied the modified retrospective transition method, and consequently comparative information is not restated. As a practical expedient, no reassessment was performed of contracts that were previously identified as leases and contracts that were not previously identified as containing a lease applying IAS 17 *Leases* ("IAS 17") and IFRIC 4 *Determining whether an Arrangement contains a Lease*. At the adoption date, additional lease liabilities were recognised for leases previously classified as operating leases applying IAS 17. These lease liabilities were measured at the present value of the remaining lease payments and discounted using entity-specific incremental borrowing rates at January 1, 2019. In general, a corresponding right-of-use asset was recognised for an amount equal to each lease liability, adjusted by the amount of any prepaid or accrued lease payments relating to the specific lease contract, as recognised on the balance sheet at December 31, 2018. Provisions for onerous lease contracts at December 31, 2018 were adjusted to the respective right-of-use assets recognised at January 1, 2019. As a practical expedient the recognition exemption for leases with a remaining term of less than 12 months from the adoption date was applied upon adoption.

At the transition date, the remaining lease payments were discounted, as required under the transition approach chosen, using the incremental borrowing rate as per the transition date of January 1, 2019. To determine the incremental borrowing rate for each lease contract, a risk-free rate at transition date was applied, adjusted for other factors such as the credit rating of the entity that entered into the lease contract, a country risk premium, the impact of currency, an asset specific element and the term the lease contract. The weighted average incremental borrowing rate applied upon transition was 7.2%.

Compared with the previous accounting for operating leases under IAS 17, the application of the new standard has a significant impact on the classification of expenditures and cash flows. It also impacts the timing of expenses recognised in the statement of income. With effect from 2019, expenses related to leases previously classified as operating leases are presented under 'Depreciation, depletion and amortisation' and 'Interest expense'. Before 2019, these were mainly included in 'Purchases, Production and manufacturing expenses', and 'Selling, distribution and administrative expenses'. Payments related to leases previously classified as operating leases are presented under 'Cash flow from financing activities' (before 2019 these were included in 'Cash flow from operating activities' and 'Cash flow from investing activities').

The adoption of the new standard had an accumulated impact at January 1, 2019 of $4 million on equity following the recognition of lease liabilities of $16.0 billion and additional right-of-use assets of $15.6 billion and reclassifications mainly related to pre-paid leases and onerous contracts previously recognised.

The reconciliation of differences between the operating lease commitments disclosed under the prior standard and the additional lease liabilities recognised on the balance sheet at January 1, 2019 is as follows:

Lease liabilities reconciliation

	$ million
Undiscounted future minimum lease payments under operating leases at December 31, 2018	**24,219**
Impact of discounting	(5,167)
Leases not yet commenced at January 1, 2019	(2,586)
Short-term leases	(277)
Long-term leases expiring before December 31, 2019	(192)
Other reconciling items (net)	40
Additional lease liability at January 1, 2019	**16,037**
Finance lease liability at December 31, 2018	14,026
Total lease liability at January 1, 2019	**30,063**

The detailed impact on the balance sheet at January 1, 2019, is as follows:

Consolidated Balance Sheet

$ million

	Dec 31, 2018	IFRS 16 impact	Jan 1, 2019
Assets			
Non-current assets			
Intangible assets	23,586	–	23,586
Property, plant and equipment	223,175	15,558	238,733
Joint ventures and associates	25,329	–	25,329
Investments in securities	3,074	–	3,074
Deferred tax	12,097	–	12,097
Retirement benefits	6,051	–	6,051
Trade and other receivables [A]	7,826	(814)	7,012
Derivative financial instruments	574	–	574
	301,712	**14,744**	**316,456**
Current assets			
Inventories	21,117	–	21,117
Trade and other receivables	42,431	69	42,500
Derivative financial instruments	7,193	–	7,193
Cash and cash equivalents	26,741	–	26,741
	97,482	**69**	**97,551**
Total assets	**399,194**	**14,813**	**414,007**
Liabilities			
Non-current liabilities			
Debt	66,690	13,125	79,815
Trade and other payables [B]	2,735	(540)	2,195
Derivative financial instruments	1,399	–	1,399
Deferred tax	14,837	–	14,837
Retirement benefits	11,653	–	11,653
Decommissioning and other provisions [C]	21,533	(347)	21,186
	118,847	**12,238**	**131,085**
Current liabilities			
Debt	10,134	2,912	13,046
Trade and other payables	48,888	(23)	48,865
Derivative financial instruments	7,184	–	7,184
Taxes payable	7,497	–	7,497
Retirement benefits	451	–	451
Decommissioning and other provisions [C]	3,659	(318)	3,341
	77,813	**2,571**	**80,384**
Total liabilities	**196,660**	**14,809**	**211,469**
Equity			
Share capital	685	–	685
Shares held in trust	(1,260)	–	(1,260)
Other reserves	16,615	–	16,615
Retained earnings	182,606	4	182,610
Equity attributable to Royal Dutch Shell plc shareholders	**198,646**	**4**	**198,650**
Non-controlling interest	3,888	–	3,888
Total equity	**202,534**	**4**	**202,538**
Total liabilities and equity	**399,194**	**14,813**	**414,007**

[A] Mainly in respect of pre-paid leases.
[B] Mainly related to operating lease contracts that were measured at fair value under IFRS 3 *Business Combinations* following the acquisition of BG in 2016.
[C] Mainly in respect of onerous contracts.

4 – SEGMENT INFORMATION

General Information

Shell is an international energy company engaged in the principal aspects of the oil and gas industry and reports its business through the segments: Integrated Gas, Upstream, Downstream, and Corporate.

The Integrated Gas segment covers liquefied natural gas ("LNG") activities and the conversion of natural gas into gas-to-liquids fuels and other products, as well as the New Energies portfolio. It includes natural gas exploration and extraction and the operation of the upstream and midstream infrastructure necessary to deliver gas to market. It markets and trades natural gas, LNG, electricity and carbon-emission rights and also markets and sells LNG as a fuel for heavy-duty vehicles and marine vessels.

Upstream combines the following two operating segments: 1) Upstream, which is engaged in the exploration for and extraction of crude oil, natural gas and natural gas liquids, and the marketing and transportation of oil and gas, and 2) Oil Sands, which is engaged in the extraction of bitumen from mined oil sands and conversion into synthetic crude oil. These operating segments have similar economic characteristics because their earnings are significantly dependent on crude oil and natural gas prices and production volumes.

The Downstream segment is engaged in oil products and chemicals manufacturing, marketing and trading activities, that turn crude oil and other feedstocks into a range of products which are moved and marketed around the world for domestic, industrial and transport use.

The Corporate segment covers the non-operating activities supporting Shell, comprising Shell's holdings and treasury organisation, its self-insurance activities and its headquarters and central functions.

Basis of Segmental Reporting

Sales between segments are based on prices generally equivalent to commercially available prices. Third-party revenue and non-current assets information by geographical area are based on the country of operation of the group subsidiaries that report this information. Separate disclosure is provided for the UK as this is the Company's country of domicile.

Segment earnings are presented on a current cost of supplies basis ("CCS earnings"), which is the earnings measure used by the Chief Executive Officer for the purposes of making decisions about allocating resources and assessing performance. On this basis, the purchase price of volumes sold during the period is based on the current cost of supplies during the same period after making allowance for the tax effect. CCS earnings therefore exclude the effect of changes in the oil price on inventory carrying amounts.

With the adoption of IFRS 16, the interest expense on leases, formerly classified as operating leases, is reported under the Corporate segment, while depreciation related to the respective right-of-use assets is reported in the segment making use of the assets. This treatment is consistent with how formerly classified finance leases were treated.

Information by segment on a current cost of supplies basis is as follows:

2019

$ million

	Integrated Gas	Upstream	Downstream	Corporate	Total	
Revenue:						
Third-party	41,322	9,965	293,545	45	344,877	[A][B]
Inter-segment	4,280	36,448	1,132	–	41,860	
Share of profit/(loss) of joint ventures and associates (CCS basis)	1,791	379	1,725	(307)	3,588	
Interest and other income, of which:	263	2,180	266	916	3,625	
Interest income	–	–	–	899	899	
Net gains on sale and revaluation of non-current assets and businesses	282	1,888	297	52	2,519	
Other	(19)	292	(31)	(35)	207	
Third-party and inter-segment purchases (CCS basis)	23,498	7,168	264,966	(6)	295,626	
Production and manufacturing expenses	5,768	11,545	9,088	37	26,438	
Selling, distribution and administrative expenses	716	48	9,280	449	10,493	
Research and development expenses	181	452	329	–	962	
Exploration expenses	281	2,073	–	–	2,354	
Depreciation, depletion and amortisation charge, of which:	6,238	17,003	5,413	47	28,701	
Impairment losses	579	2,576	627	–	3,782	[C]
Impairment reversals	–	–	(190)	–	(190)	[D]
Interest expense	104	534	74	3,978	4,690	
Taxation charge/(credit) (CCS basis)	2,242	5,954	1,241	(578)	8,859	
CCS earnings	8,628	4,195	6,277	(3,273)	15,827	

[A] Includes $3,760 million of revenue from sources other than from contracts with customers, which mainly comprises the impact of fair value accounting of commodity derivatives.
[B] In March 2019, the IFRS Interpretation Committee ("IFRIC") finalised an agenda decision regarding 'Physical settlement of contracts to buy or sell a non-financial item (IFRS 9)'. This agenda decision has been analysed and will be prospectively implemented from January 1, 2020. The impact will be limited to a reclassification within total revenue.
[C] Impairment losses comprise Property, plant and equipment ($3,639 million) and Intangible assets ($143 million).
[D] See Note 8.

2018

	Integrated Gas	Upstream	Downstream	Corporate	$ million Total
Revenue:					
Third-party	43,764	9,892	334,680	43	388,379 [A]
Inter-segment	5,031	37,841	917	–	43,789 [B]
Share of profit/(loss) of joint ventures and associates (CCS basis)	2,273	285	1,785	(222)	4,121
Interest and other income, of which:	2,230	600	345	896	4,071
Interest income	–	–	–	772	772
Net gains on sale and revaluation of non-current assets and businesses	2,231	712	302	20	3,265
Other	(1)	(112)	43	104	34
Third-party and inter-segment purchases (CCS basis)	27,775	6,144	303,709	1	337,629
Production and manufacturing expenses	5,370	11,463	10,294	(157)	26,970
Selling, distribution and administrative expenses	458	200	10,142	560	11,360
Research and development expenses	186	493	307	–	986
Exploration expenses	208	1,132	–	–	1,340
Depreciation, depletion and amortisation charge, of which:	4,850	13,006	4,064	215	22,135
Impairment losses	200	1,065	424	7	1,696 [C]
Impairment reversals	–	(1,265)	–	–	(1,265) [D]
Interest expense	212	591	95	2,847	3,745 [E]
Taxation charge/(credit) (CCS basis)	2,795	8,791	1,515	(1,270)	11,831
CCS earnings	11,444	6,798	7,601	(1,479)	24,364

[A] Includes $3,348 million of revenue from sources other than from contracts with customers, which mainly comprises the impact of fair value accounting of commodity derivatives.
[B] Inter-segment revenue has been revised to amend for transactions within segments that were previously reported as inter-segment revenue, and vice versa.
[C] Impairment losses comprise Property, plant and equipment ($1,515 million) and Intangible assets ($181 million).
[D] See Note 8.
[E] Interest expense has been reclassified between segments compared with prior year.

2017

	Integrated Gas	Upstream	Downstream	Corporate	$ million Total
Revenue:					
Third-party	32,674	7,723	264,731	51	305,179
Inter-segment	4,096	32,469	1,090	–	37,655 [A]
Share of profit/(loss) of joint ventures and associates (CCS basis)	1,714	623	1,956	(129)	4,164
Interest and other income, of which:	687	1,188	154	437	2,466
Interest income	–	–	–	677	677
Net gains on sale and revaluation of non-current assets and businesses	301	1,189	136	14	1,640
Other	386	(1)	18	(254)	149
Third-party and inter-segment purchases (CCS basis)	22,478	5,535	234,321	20	262,354
Production and manufacturing expenses	5,120	12,119	9,519	(106)	26,652
Selling, distribution and administrative expenses	237	5	9,789	478	10,509
Research and development expenses	114	533	275	–	922
Exploration expenses	141	1,804	–	–	1,945
Depreciation, depletion and amortisation charge, of which:	4,965	17,303	3,877	78	26,223
Impairment losses	302	4,118	385	–	4,805 [B]
Impairment reversals	(10)	(605)	–	–	(615) [C]
Interest expense	248	744	109	2,941	4,042
Taxation charge/(credit) (CCS basis)	790	2,409	1,783	(636)	4,346
CCS earnings	5,078	1,551	8,258	(2,416)	12,471

[A] Inter-segment revenue has been revised to amend for transactions within segments that were previously reported as inter-segment revenue, and vice versa.
[B] Impairment losses comprise Property, plant and equipment ($4,572 million) and Intangible assets ($233 million).
[C] See Note 8.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS continued

4 – SEGMENT INFORMATION continued

Reconciliation of CCS earnings to income for the period

$ million

	2019	2018	2017
CCS earnings	15,827	24,364	12,471
Current cost of supplies adjustment:			
Purchases	784	(559)	1,252
Taxation	(194)	116	(349)
Share of profit of joint ventures and associates	15	(15)	61
	605	(458)	964
Income for the period	16,432	23,906	13,435

Information by geographical area is as follows:

2019

$ million

	Europe	Asia, Oceania, Africa	USA	Other Americas	Total
Third-party revenue, by origin	98,455 [A]	139,916 [B]	83,212	23,294	344,877
Intangible assets, property, plant and equipment, joint ventures and associates at December 31	43,262 [C]	119,732	67,105	54,544	284,643

[A] Includes $41,094 million that originated from the UK.
[B] Includes $84,282 million that originated from Singapore.
[C] Includes $24,696 million located in the UK.

2018

$ million

	Europe	Asia, Oceania, Africa	USA	Other Americas	Total
Third-party revenue, by origin	118,960 [A]	153,716 [B]	89,876	25,827	388,379
Intangible assets, property, plant and equipment, joint ventures and associates at December 31	38,617 [C]	117,127	59,625	56,721	272,090

[A] Includes $54,659 million that originated from the UK.
[B] Includes $89,811 million that originated from Singapore.
[C] Includes $21,863 million located in the UK.

2017

$ million

	Europe	Asia, Oceania, Africa	USA	Other Americas	Total
Third-party revenue, by origin	100,609 [A]	114,683 [B]	66,854	23,033	305,179
Intangible assets, property, plant and equipment, joint ventures and associates at December 31	41,416 [C]	122,345	55,898	58,828	278,487

[A] Includes $49,370 million that originated from the UK.
[B] Includes $62,046 million that originated from Singapore.
[C] Includes $22,734 million located in the UK.

5 – INTEREST AND OTHER INCOME

$ million

	2019	2018	2017
Interest income	899	772	677
Dividend income (from investments in equity securities)	23	104	375
Net gains on sale and revaluation of non-current assets and businesses	2,519	3,265	1,640
Net foreign exchange gains/(losses) on financing activities	5	(174)	(453)
Other	179	104	227
Total	3,625	4,071	2,466

In 2019, net gains on sale of non-current assets and businesses arose mainly in respect of gains on the sale of Upstream assets in the USA and Denmark, as well as Downstream assets in Saudi Arabia and China and Integrated Gas assets in Australia.

In 2018, net gains on sale of non-current assets and businesses arose mainly in respect of gains on the sale of Integrated Gas assets in Thailand, Malaysia, Oman and New Zealand, as well as Upstream assets in Iraq and Malaysia and a Downstream divestment in Argentina, partly offset by a charge related to the disposal of our Upstream assets in Ireland.

In 2017, net gains on sale of non-current assets and businesses arose mainly in respect of gains on the sale of Upstream assets in the UK and the USA as well as Downstream assets in Australia and Saudi Arabia, partly offset by a loss on the Motiva transaction. Net foreign exchange losses on financing activities in 2017 includes a charge of $545 million from the release of cumulative currency translation differences following the restructuring of funding for our North America businesses.

6 – INTEREST EXPENSE

$ million

	2019	2018	2017
Interest incurred and similar charges	4,592 [A]	3,550	3,448
Less: interest capitalised	(752)	(876)	(622)
Other net losses on fair value hedges of debt	132	169	114
Accretion expense	718	902	1,102
Total	4,690	3,745	4,042

[A] Includes $2,186 million of interest expenses related to leases of which $1,137 million related to those leases which formerly would have been classified as operating leases (see Note 3).

The rate applied in determining the amount of interest capitalised in 2019 was 4.5% (2018: 4.0%; 2017: 3.0%). The rate increase in 2019 was mainly driven by the weighted average rate for leases recognised upon the adoption of IFRS 16 *Leases* (see Note 3).

7 – INTANGIBLE ASSETS

2019

$ million

	Goodwill	LNG off-take and sales contracts	Other	Total
Cost				
At January 1	14,338	10,365	6,392	31,095
Additions	674	–	586	1,260
Sales, retirements and other movements	(46)	(154)	(122)	(322)
Currency translation differences	7	–	10	17
At December 31	14,973	10,211	6,866	32,050
Depreciation, depletion and amortisation, including impairments				
At January 1	622	3,293	3,594	7,509
Charge for the year	135	876	354	1,365
Sales, retirements and other movements	(1)	(155)	(172)	(328)
Currency translation differences	12	–	6	18
At December 31	768	4,014	3,782	8,564
Carrying amount at December 31	14,205	6,197	3,084	23,486

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS continued

7 – INTANGIBLE ASSETS continued

2018

$ million

	Goodwill	LNG off-take and sales contracts	Other	Total
Cost				
At January 1	14,154	10,429	6,106	30,689
Additions	331	–	659	990
Sales, retirements and other movements	(75)	(64)	(253)	(392)
Currency translation differences	(72)	–	(120)	(192)
At December 31	14,338	10,365	6,392	31,095
Depreciation, depletion and amortisation, including impairments				
At January 1	492	2,432	3,585	6,509
Charge for the year	173	925	370	1,468
Sales, retirements and other movements	(21)	(64)	(275)	(360)
Currency translation differences	(22)	–	(86)	(108)
At December 31	622	3,293	3,594	7,509
Carrying amount at December 31	13,716	7,072	2,798	23,586

Goodwill at December 31, 2019, principally related to the acquisition of BG Group plc in 2016, allocated to Integrated Gas ($4,897 million) and Upstream ($5,967 million) at the operating segment level, and to Pennzoil-Quaker State Company ($1,609 million), a lubricants business in the Downstream segment based largely in North America. Information on annual impairment testing is included in Note 8.

8 – PROPERTY, PLANT AND EQUIPMENT

2019

$ million

	Exploration and production		Manufacturing, supply and distribution	Other	Total
	Exploration and evaluation	Production			
Cost					
At January 1 (as previously published)	21,181	280,381	91,235	22,040	414,837
Impact of IFRS 16 [A]	–	4,871	6,459	4,228	15,558
At January 1 (as revised)	21,181	285,252	97,694	26,268	430,395
Additions	2,659	11,374	10,945	3,145	28,123
Sales, retirements and other movements	(5,442)	(11,253)	(3,683)	(456)	(20,834)
Currency translation differences	198	1,293	(139)	124	1,476
At December 31	18,596	286,666	104,817	29,081	439,160
Depreciation, depletion and amortisation, including impairments					
At January 1	3,287	131,692	46,218	10,465	191,662
Charge for the year	1,096	19,346	5,742	1,573	27,757
Sales, retirements and other movements	(440)	(15,567)	(2,981)	(437)	(19,425)
Currency translation differences	67	829	(107)	28	817
At December 31	4,010	136,300	48,872	11,629	200,811
Carrying amount at December 31	14,586	150,366	55,945	17,452	238,349

[A] See Note 3.

2018

$ million

	Exploration and production		Manufacturing, supply and distribution	Other	Total
	Exploration and evaluation	Production			
Cost					
At January 1	22,510	292,256	86,948	22,355	424,069
Additions	3,514	12,596	6,438	1,594	24,142
Sales, retirements and other movements	(4,443)	(19,643)	(667)	(814)	(25,567)
Currency translation differences	(400)	(4,828)	(1,484)	(1,095)	(7,807)
At December 31	21,181	280,381	91,235	22,040	414,837
Depreciation, depletion and amortisation, including impairments					
At January 1	5,060	137,525	44,483	10,621	197,689
Charge for the year	(979)	16,551	4,000	1,095	20,667
Sales, retirements and other movements	(608)	(19,631)	(1,353)	(756)	(22,348)
Currency translation differences	(186)	(2,753)	(912)	(495)	(4,346)
At December 31	3,287	131,692	46,218	10,465	191,662
Carrying amount at December 31	17,894	148,689	45,017	11,575	223,175

Sales, retirements and other movements in 2019 related to sales of Shell's 36.8% non-operating interest in the Danish Underground Consortium, its 50% interest in the SASREF joint venture in Saudi Arabia and its 22.45% non-operating interest in the Caesar-Tonga asset in the Gulf of Mexico.

The carrying amount of property, plant and equipment at December 31, 2019, included $27,779 million (2018: $33,451 million) of assets under construction. This amount excludes exploration and evaluation assets. The carrying amount at December 31, 2019, also included $1,401 million of assets classified as held for sale (2018: $705 million).

The carrying amount of exploration and production assets at December 31, 2019, included rights and concessions in respect of proved and unproved properties of $14,355 million (2018: $15,860 million). Exploration and evaluation assets principally comprise rights and concessions in respect of unproved properties and capitalised exploration drilling costs.

The carrying amount of assets at December 31, 2019, for which an alternative reserves base was applied in the calculation of the depreciation charge (see Note 2A), was $173 million (2018: $5,838 million). If no alternative reserves base had been used, the pre-tax depreciation charge for the year ended December 31, 2019, would have been $77 million higher (2018: $1,003 million, 2017: $5,558 million).

Contractual commitments for the purchase and lease of property, plant and equipment at December 31, 2019, amounted to $5,519 million. In 2018, the contractual commitments for the purchase of property, plant and equipment amounted to $4,783 million.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS continued

8 – PROPERTY, PLANT AND EQUIPMENT continued

Within property, plant and equipment the following amounts relate to leases:

Right-of-use assets

$ million

	Exploration and production				
	Exploration and evaluation	Production	Manufacturing, supply and distribution	Other	Total
Cost					
At January 1 (as previously published)	–	11,508	4,259	789	16,556
Impact of IFRS 16 [A]	–	4,871	6,459	4,228	15,558
At January 1 (as revised)	–	16,379	10,718	5,017	32,114
Additions	5	664	3,124	917	4,710
Sales, retirements and other movements	–	(1,867)	(268)	(157)	(2,292)
Currency translation differences	–	37	–	(18)	19
At December 31	5	15,213	13,574	5,759	34,551
Depreciation, depletion and amortisation, including impairments					
At January 1	–	5,209	1,110	589	6,908
Charge for the year	–	1,632	1,855	703	4,190
Sales, retirements and other movements	–	(1,091)	(30)	(128)	(1,249)
Currency translation differences	–	11	1	–	12
At December 31	–	5,761	2,936	1,164	9,861
Carrying amount at December 31	5	9,452	10,638	4,595	24,690

[A] Up to and including 2018, Shell recognised lease assets and liabilities that were classified as finance leases under IAS 17 *Leases* (see Note 3).

Impairments

$ million

	2019	2018	2017
Impairment losses [A]			
Exploration and production	2,983	1,066	4,187
Manufacturing, supply and distribution	654	441	376
Other	2	8	9
Total	3,639	1,515	4,572
Impairment reversals [A]			
Exploration and production	–	1,265	615
Manufacturing, supply and distribution	190	–	–
Total	190	1,265	615

[A] See Note 4.

Impairment losses in 2019 were mainly triggered by the revision to Shell's long-term oil and gas price outlook and change to future capital expenditure plans. The impairment losses related primarily to Upstream shale and deep-water properties in North and South America, in Integrated Gas to properties in Australia and in Downstream to the refining portfolio. Impairment losses in 2018 were mainly in Upstream, and principally related to the disposal of Shell's interests in Norway and Ireland and related to assets in the Gulf of Mexico. Impairment reversals in 2018 were mainly related to assets in North America. Impairment losses in 2017 were mainly in Upstream, and principally related to the disposal of interests in Canada and interests in Ireland classified as held for sale.

For impairment testing purposes, the respective carrying amounts of property, plant and equipment and intangible assets were compared with their value in use. Cash flow projections used in the determination of value in use were made using management's forecasts of commodity prices, market supply and demand, potential costs associated with operational GHG emissions, product margins including forecast refining margins and expected production volumes (see Note 2A). These cash flows were adjusted for the risks specific to the assets, and therefore these risks were not included in the determination of the discount rate applied. The nominal pre-tax rate applied in 2019 was 6% (2018: 6%; 2017: 6%).

Oil and gas price assumptions applied for impairment testing are reviewed and, where necessary, adjusted on a periodic basis. Reviews include comparison with available market data and forecasts that reflect developments in demand such as global economic growth, technology efficiency, policy measures and, in supply, consideration of investment and resource potential, cost of development of new supply, and behaviour of major resource holders. The near-term commodity price assumptions applied in impairment testing in 2019 were as follows:

Commodity price assumptions [A]

	2020	2021	2022
Brent crude oil ($/b)	60	60	60
Henry Hub natural gas ($/MMBtu)	2.75	2.75	3.00

[A] Money of the day.

For periods after 2022, the real terms long-term price assumptions applied were $60 per barrel (/b) (2018: $70/b after 2021) for Brent crude oil and $3.00 per million British thermal units (/MMBtu) (2018: $3.50/MMBtu after 2021) for Henry Hub natural gas.

Capitalised exploration drilling costs

$ million

	2019	2018	2017
At January 1	6,629	6,981	7,910
Additions pending determination of proved reserves	2,036	2,588	1,708
Amounts charged to expense	(1,218)	(449)	(897)
Reclassifications to productive wells on determination of proved reserves	(1,655)	(2,461)	(1,894)
Other movements	(124)	(30)	154
At December 31	5,668	6,629	6,981

	Projects		Wells	
	Number	$ million	Number	$ million
Between 1 and 5 years	45	3,195	150	2,117
Between 6 and 10 years	10	961	74	1,746
Between 11 and 15 years	5	237	25	495
Between 16 and 20 years	–	–	2	35
Total	60	4,393	251	4,393

Exploration drilling costs capitalised for periods greater than one year at December 31, 2019, analysed according to the most recent year of activity, are presented in the table above. They comprise $284 million relating to five projects where drilling activities were under way or firmly planned for the future, and $4,109 million relating to 55 projects awaiting development concepts.

9 – JOINT VENTURES AND ASSOCIATES

Shell share of comprehensive income of joint ventures and associates

$ million

	2019			2018			2017		
	Joint ventures	Associates	Total	Joint ventures	Associates	Total	Joint ventures	Associates	Total
Income for the period	1,121	2,483	3,604	1,307	2,799	4,106	2,102	2,123	4,225
Other comprehensive (loss)/income for the period	(82)	8	(74)	172	11	183	164	6	170
Comprehensive income for the period	1,039	2,491	3,530	1,479	2,810	4,289	2,266	2,129	4,395

Carrying amount of interests in joint ventures and associates

$ million

	Dec 31, 2019			Dec 31, 2018		
	Joint ventures	Associates	Total	Joint ventures	Associates	Total
Net assets	13,426	9,382	22,808	14,263	11,066	25,329

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS continued

9 – JOINT VENTURES AND ASSOCIATES continued

Transactions with joint ventures and associates

$ million

	2019	2018	2017
Sales and charges to joint ventures and associates	7,748	8,270	13,121
Purchases and charges from joint ventures and associates	9,573	11,212	10,680

These transactions principally comprise sales and purchases of goods and services in the ordinary course of business. Related balances outstanding at December 31, 2019, and 2018, are presented in Notes 11 and 15.

Other arrangements in respect of joint ventures and associates

$ million

	Dec 31, 2019	Dec 31, 2018
Commitments to make purchases from joint ventures and associates [A]	2,177	1,823 [B]
Commitments to provide debt or equity funding to joint ventures and associates	897	638

[A] Commitments to make purchases from joint ventures and associates mainly relate to contracts associated with LNG processing fees and transportation capacity. Shell has other purchase obligations related to joint ventures and associates that are not fixed or determinable and are principally intended to be resold in a short period of time through sales agreements with third parties. These include long-term LNG and natural gas purchase commitments and commitments to purchase refined products or crude oil at market prices.
[B] As revised to include commitments of $569 million.

10 – INVESTMENTS IN SECURITIES

Investment in securities

$ million

	Dec 31, 2019	Dec 31, 2018
Equity securities:	1,437	1,823
Equity securities at fair value through other comprehensive income	1,437	1,823
Debt securities:	1,552	1,251
Debt securities at amortised cost	11	8
Debt securities at fair value through other comprehensive income	1,086	953
Debt securities at fair value through profit and loss	455	290
Total	2,989	3,074
At fair value		
Measured by reference to prices in active markets for identical assets	1,725	1,873
Measured using predominantly unobservable inputs	1,253	1,193
Total	2,978	3,066
At cost	11	8
Total	2,989	3,074

Equity securities at December 31, 2019, principally comprised interests below 5%, in various investments. Debt securities principally comprised a portfolio required to be held by the Company's internal insurance entities as security for their activities.

Investments in securities measured using predominantly unobservable inputs [A]

$ million

	2019	2018
At January 1	1,193	1,268
(Losses)/Gains recognised in other comprehensive income	(42)	212
Other movements	102	(287)
At December 31	1,253	1,193

[A] Based on expected dividend flows, adjusted for country and other risks as appropriate and discounted to their present value.

11 – TRADE AND OTHER RECEIVABLES

$ million

	Dec 31, 2019		Dec 31, 2018	
	Current	Non-current	Current	Non-current
Trade receivables	30,216	–	27,541	–
Lease receivables [A]	213	1,528		
Other receivables [A]	7,791	4,039	8,543	4,823
Amounts due from joint ventures and associates	912	1,078	992	1,183
Prepayments and deferred charges	4,282	1,440	5,355	1,820
Total	43,414	8,085	42,431	7,826

[A] In 2018 'Lease receivables' were included in 'Other receivables'.

The fair value of financial assets included above approximates the carrying amount and was determined from predominantly unobservable inputs.

Other receivables at December 31, 2019, include receivables from certain governments in their capacity as joint arrangement partners, of $1,209 million (2018: $1,449 million), after provisions for impairments, that are overdue in part or in full. Recoverability and timing thereof is subject to uncertainty, however, the ultimate risk of default on the carrying amount is considered to be low. Other receivables also include income tax and other tax receivables (see Note 16).

Provisions for impairments deducted from trade and other receivables amounted to $649 million at December 31, 2019 (2018: $790 million).

Shell uses a provision matrix to calculate expected credit losses ("ECLs") for trade receivables. The provision matrix is initially based on Shell's historical observed default rates. Shell calculates the ECL to adjust the historical credit loss experienced with forward-looking information. The ECL at December 31, 2019 is $83 million (2018: $23 million) which represents 0.08%-0.27% of all trade receivables.

A loss allowance provision of $193 million (2018: $243 million) was established, in addition to all other impairments to trade receivables as at December 31, 2019, that are outside of the provision matrix calculations.

Lease receivables

Lease contracts where Shell is the lessor are classified as finance lease or operating lease. Receivables for lease contracts classified as finance leases are as follows:

Finance lease

$ million

	Dec 31, 2019
Less than one year	305
Between 1 and 5 years	953
5 years and later	1,019
Total undiscounted lease payments receivable	2,277
Unearned finance income	536
Net investment in the lease	1,741

In addition at December 31, 2019, Shell is entitled to contractual payments under operating leases of $344 million.

12 – INVENTORIES

	$ million	
	Dec 31, 2019	Dec 31, 2018
Oil, gas and chemicals	22,654	19,516
Materials	1,417	1,601
Total	24,071	21,117

Inventories at December 31, 2019, include write-downs to net realisable value of $546 million (2018: $1,473 million).

13 – CASH AND CASH EQUIVALENTS

	$ million	
	Dec 31, 2019	Dec 31, 2018
Cash	4,168	4,034
Short-term bank deposits	2,665	3,655
Money market funds, reverse repos and other cash equivalents	11,222	19,052
Total	18,055	26,741

Included in cash and cash equivalents at December 31, 2019, were amounts totalling $431 million (2018: $443 million as revised) subject to currency controls or other legal restrictions. Information about credit risk is presented in Note 19.

14 – DEBT AND LEASE ARRANGEMENTS

DEBT

Debt

						$ million
	Dec 31, 2019					Dec 31, 2018
	Debt (excluding lease liabilities)	Lease liabilities [A]	Total	Debt (excluding lease liabilities)	Finance lease liabilities	Total
Short-term debt	3,962	–	3,962	693	–	693
Long-term debt due within 1 year	6,146	4,956	11,102	8,419	1,022	9,441
Current debt	10,108	4,956	15,064	9,112	1,022	10,134
Non-current debt	55,779	25,581	81,360	53,686	13,004	66,690
Total	65,887	30,537	96,424	62,798	14,026	76,824

[A] See Note 3.

Net debt

$ million

	Current debt	Non-current debt	Derivative financial instruments	Cash and cash equivalents (see Note 13)	Net debt
At January 1, 2019 (as previously published)	(10,134)	(66,690)	(1,345)	26,741	(51,428)
Impact of IFRS 16 [A]	(2,912)	(13,125)			(16,037)
At January 1, 2019 (as revised)	(13,046)	(79,815)	(1,345)	26,741	(67,465)
Cash flow	10,333	(7,269)	351	(8,810)	(5,395)
Lease additions	(971)	(3,547)			(4,518)
Other movements [B]	(11,453)	9,179	453	–	(1,821)
Currency translation differences and foreign exchange gains/(losses)	73	92	(183)	124	106
At December 31, 2019	(15,064)	(81,360)	(724)	18,055	(79,093)
At January 1, 2018	(11,795)	(73,870)	(591)	20,312	(65,944)
Cash flow	10,392	(2,418)	446	6,878	15,298
Finance lease additions	(51)	(652)			(703)
Other movements	(8,939)	9,270	(261)	–	70
Currency translation differences and foreign exchange gains/(losses)	259	980	(939)	(449)	(149)
At December 31, 2018	(10,134)	(66,690)	(1,345)	26,741	(51,428)

[A] See Note 3.
[B] 'Other movements' includes $1,618 million relating to existing leases entered into on behalf of certain joint operations.

Management's financial strategy is to manage Shell's assets and liabilities with the aim that, across the business cycle, 'cash in' at least equals 'cash out' while maintaining a strong balance sheet.

Gearing is a key measure of Shell's capital structure and is defined as net debt as a percentage of total capital. Net debt is defined as the sum of current and non-current debt, less cash and cash equivalents, adjusted for the fair value of derivative financial instruments used to hedge foreign exchange and interest rate risks relating to debt, and associated collateral balances. Across the business cycle, management aims to return to a gearing level within a range of 15%-25%.

Gearing

$ million, except where indicated

	Dec 31, 2019	Dec 31, 2018 [A]
Net debt	79,093	51,428
Total equity	190,463	202,534
Total capital	269,556	253,962
Gearing	29.3% [B]	20.3%

[A] Shell used the modified retrospective transition method for implementing IFRS 16 *Leases* (see Note 3). Comparative information was not restated, and continues to be presented as previously reported under IAS 17 *Leases*.
[B] Gearing increased to 29.3%, at December 31, 2019, comparable with 25.0% on an IAS 17 basis (2018: 20.3%).

Management's priorities for applying Shell's cash are the servicing and reduction of debt commitments, payment of dividends, followed by a balance of capital investment and share buybacks. Management's policy is to grow the dollar dividend through time, in line with its view of Shell's underlying earnings and cash flow.

Shell has access to international debt capital markets via two commercial paper ("CP") programmes, a Euro medium-term note ("EMTN") programme and a US universal shelf ("US shelf") registration. Issuances under the CP programmes are supported by a committed credit facility and cash.

14 – DEBT AND LEASE ARRANGEMENTS continued

Borrowing facilities and amounts undrawn

$ million

	Facility		Amount undrawn	
	Dec 31, 2019	Dec 31, 2018	Dec 31, 2019	Dec 31, 2018
CP programmes	20,000	20,000	16,610	20,000
EMTN programme	unlimited	unlimited	N/A	N/A
US shelf registration	unlimited	unlimited	N/A	N/A
Committed credit facilities	10,000	8,840	10,000	8,840

Under the CP programmes, Shell can issue debt of up to $10 billion with maturities not exceeding 270 days and $10 billion with maturities not exceeding 397 days. The EMTN programme is updated each year, most recently in July 2019. In 2019, debt issued under this programme amounted to $3 billion (2018: $nil). The US shelf registration provides Shell with the flexibility to issue debt securities, ordinary shares, preferred shares and warrants. The registration is updated every three years and was last updated in December 2017. During 2019, debt totalling $4 billion (2018: $3 billion) was issued under the registration. On December 13, 2019, Shell entered into $10 billion revolving credit facilities, which in anticipation of the LIBOR reform (see Note 2B), were linked to the new Secured Overnight Financing Rate ("SOFR"). Under the terms of the facilities, the LIBOR interest rate will be replaced by SOFR as early as the first anniversary of the signing date of these revolving credit facilities. The committed credit facilities are available at pre-agreed margins, with $2 billion expiring in 2020 and $8 billion expiring in 2024. Each facility includes two one-year extension options at the discretion of each lender. The terms and availability are not conditional on Shell's financial ratios nor its financial credit ratings. The interest and fees paid on both facilities are linked to Shell's progress towards reaching its short-term Net Carbon Footprint intensity target.

In addition, other subsidiaries have access to undrawn short-term bank facilities totalling $2,784 million at December 31, 2019 (2018: $3,035 million).

The following tables compare contractual cash flows for debt excluding lease liabilities at December 31, with the carrying amount in the Consolidated Balance Sheet. Contractual amounts reflect the effects of changes in foreign exchange rates; differences from carrying amounts reflect the effects of discounting, premiums and, where fair value hedge accounting is applied, fair value adjustments. Interest is estimated assuming interest rates applicable to variable rate debt remain constant and there is no change in aggregate principal amounts of debt other than repayment at scheduled maturity, as reflected in the table.

2019

$ million

	Contractual payments								
	Less than 1 year	Between 1 and 2 years	Between 2 and 3	Between 3 and 4 years	Between 4 and 5 years	5 years and later	Total	Difference from carrying amount	Carrying amount
Commercial paper	3,390	–	–	–	–	–	3,390	(38)	3,352
Bonds	5,900	4,971	4,392	4,326	2,091	38,323	60,003	694	60,697
Bank and other borrowings	859	425	56	71	15	412	1,838	–	1,838
Total (excluding interest)	10,149	5,396	4,448	4,397	2,106	38,735	65,231	656	65,887
Interest	1,665	1,559	1,430	1,357	1,263	14,618	21,892		

2018

$ million

	Contractual payments								
	Less than 1 year	Between 1 and 2 years	Between 2 and 3	Between 3 and 4 years	Between 4 and 5 years	5 years and later	Total	Difference from carrying amount	Carrying amount
Bonds	8,163	5,900	4,993	4,458	4,312	33,162	60,988	181	61,169
Bank and other borrowings	945	39	209	50	27	359	1,629	–	1,629
Total (excluding interest)	9,108	5,939	5,202	4,508	4,339	33,521	62,617	181	62,798
Interest	1,780	1,555	1,426	1,319	1,244	14,406	21,730		

Interest rate swaps have been entered into against certain fixed rate debt affecting the effective interest rate on these balances (see Note 19). The fair value of debt excluding lease liabilities at December 31, 2019, was $71,163 million (2018: $64,708 million), mainly determined from the prices quoted for those securities.

LEASE ARRANGEMENTS

From January 1, 2019, leases are recognised as a right-of-use asset (see Note 8) and a corresponding liability at the date which the lease asset is available for the use by Shell (see Note 3). Lease liabilities are secured on the leased assets. Shell has lease contracts in Upstream and Integrated Gas for floating production storage and offloading units, subsea equipment, power generation for drilling and ancillary equipment, service vessels, LNG vessels and land and buildings; in Downstream, principally for tankers, storage capacity and retail sites; and in Corporate, principally for land and buildings.

Lease expenses not included in the measurement of lease liability

$ million

	2019
Expense relating to short-term leases	834
Expense relating to variable lease payments not included in the lease liabilities	1,091

The total cash outflow in respect of leases representing repayment of principal and payment of interest in 2019 was $7,866 million, recognised in the Consolidated Statement of Cash Flows from financing activities.

The future lease payments under lease contracts and the present value of future lease payments at December 31, by payment date are as follows:

2019

$ million

	Contractual lease payments		Interest	Lease liabilities [A]
Less than 1 year	7,337		2,381	4,956
Between 1 and 5 years	17,435		6,141	11,294
5 years and later	21,340		7,053	14,287
Total	46,112	[B]	15,575	30,537

[A] See Note 3.

[B] Future cash outflows in respect of leases may differ from lease liabilities recognised due to future decisions that may be taken by Shell in respect of the use of leased assets. These decisions may result in variable lease payments to be made. In addition, Shell may reconsider whether it will exercise extension options or termination options, where future reconsideration is not reflected in the lease liabilities. There is no exposure to these potential additional payments in excess of the recognised lease liabilities until these decisions have been taken by Shell.

2018

$ million

	Finance leases [A]			Operating leases [A]
	Future minimum lease payments	Interest	Present value of future minimum lease payments	Future minimum lease payments
Less than 1 year	2,061	1,039	1,022	4,784
Between 1 and 5 years	7,508	3,391	4,117	11,575
5 years and later	13,370	4,483	8,887	7,860
Total	22,939	8,913	14,026	24,219

[A] Shell used the modified retrospective transition method for the adoption of IFRS 16 *Leases* (see Note 3). Comparative information is not restated and continues to be presented as previously reported under IAS 17 *Leases*.

15 – TRADE AND OTHER PAYABLES

$ million

	Dec 31, 2019		Dec 31, 2018	
	Current	Non-current	Current	Non-current
Trade payables	29,497	–	30,351	–
Other payables	6,356	2,060	5,597	2,413
Amounts due to joint ventures and associates	3,312	40	2,851	33
Accruals and deferred income	10,043	242	10,089	289
Total	49,208	2,342	48,888	2,735

The fair value of financial liabilities included above approximates the carrying amount and was determined from predominantly unobservable inputs.

Other payables include amounts due to joint arrangement partners and in respect of other project-related items.

Information about offsetting, collateral and liquidity risk is presented in Note 19.

16 – TAXATION

Taxation charge

$ million

	2019	2018	2017
Current tax:			
Charge in respect of current period	7,597	10,415	7,204
Adjustments in respect of prior periods	(1)	60	(613)
Total	7,596	10,475	6,591
Deferred tax:			
Relating to the origination and reversal of temporary differences, tax losses and credits	1,377	1,438	(4,102)
Relating to changes in tax rates and legislation	(67)	(157)	2,004 [A]
Adjustments in respect of prior periods	147	(41)	202
Total	1,457	1,240	(1,896)
Total taxation charge	9,053	11,715	4,695

[A] Mainly in respect of the US Tax Cuts and Jobs Act.

Adjustments in respect of prior periods relate to events in the current period and reflect the effects of changes in rules, facts or other factors compared with those used in establishing the current tax position or deferred tax balance in prior periods.

Reconciliation of applicable tax charge at statutory tax rates to taxation charge

$ million

	2019	2018	2017
Income before taxation	25,485	35,621	18,130
Less: share of profit of joint ventures and associates	(3,604)	(4,106)	(4,225)
Income before taxation and share of profit of joint ventures and associates	21,881	31,515	13,905
Applicable tax charge at standard statutory tax rates [A]	7,214	11,641	4,709
Adjustments in respect of prior periods	146	19	(411)
Tax effects of: [B]			
Expenses not deductible for tax purposes	1,493	1,176	1,000
Derecognition/(recognition) of deferred tax assets	846	(381)	(957)
Incentives for investment and development [A]	(757)	(557)	(527)
Disposals	(235)	(524)	(910)
Income not subject to tax at standard statutory rates	159	(286)	(359)
Changes in tax rates and legislation	(67)	(157)	2,004
Exchange rate differences	(34)	623	320
Other reconciling items	288	161	(174)
Taxation charge	9,053	11,715	4,695

[A] Incentives for investment and development include conditional preferential tax rates to attract investment, uplift on carried forward losses and capital expenditure, investment tax allowances and credits for research and development. Up to and including 2018, preferential tax rates were reported within the applicable tax charge at standard statutory tax rates. Comparative numbers for 2018 and 2017 were reclassified to conform with the current year presentation.

[B] The tax effect categories have changed to provide better insights. Comparative numbers for 2018 and 2017 were reclassified to conform with the current year presentation.

The weighted average of statutory tax rates was 33% in 2019 (2018: 37% as revised; 2017: 34% as revised). Compared with 2018, the decrease in the rate reflects a higher proportion of earnings in the Downstream and Integrated Gas segments, subject to relatively lower tax rates than earnings in the Upstream segment. In addition, a higher proportion of Integrated Gas income was earned in countries with relatively lower statutory tax rates.

Taxes payable

$ million

	Dec 31, 2019	Dec 31, 2018
Income taxes	3,478	3,990
Sales taxes, excise duties and similar levies	3,215	3,507
Total	6,693	7,497

Included in other receivables at December 31, 2019 was income tax receivable of $1,328 million (2018: $1,042 million) (see Note 11).

2019 – Deferred tax

$ million

Deferred tax asset	Decommissioning and other provisions	Property, plant and equipment	Tax losses and credits carried forward	Retirement benefits	Other	Total
At January 1, 2019 (as previously published)	5,902	3,718	12,167	3,310	4,233	29,330
Impact of IFRS 16	(43)	–	–	–	43	–
At January 1, 2019 (as revised)	5,859	3,718	12,167	3,310	4,276	29,330
(Charge)/credit to income	15	(521)	(647)	(76)	10	(1,219)
Currency translation differences	56	6	57	(8)	(2)	109
Other	(550)	(189)	52	434	77	(176)
At December 31, 2019	5,380	3,014	11,629	3,660	4,361	28,044
Deferred tax liability						
At January 1, 2019 (as previously published)		(27,771)		(1,674)	(2,625)	(32,070)
Impact of IFRS 16		144		–	(144)	–
At January 1, 2019 (as revised)		(27,627)		(1,674)	(2,769)	(32,070)
(Charge)/credit to income		(227)		46	(57)	(238)
Currency translation differences		(129)		(6)	(5)	(140)
Other		(57)		541	(78)	406
At December 31, 2019		(28,040)		(1,093)	(2,909)	(32,042)
Net deferred tax liability at December 31, 2019						(3,998)
Deferred tax asset/liability as presented in the balance sheet at December 31, 2019						
Deferred tax asset						10,524
Deferred tax liability						(14,522)

16 – TAXATION continued

2018 – Deferred tax

$ million

Deferred tax asset	Decommissioning and other provisions	Property, plant and equipment	Tax losses and credits carried forward	Retirement benefits	Other	Total
At January 1, 2018	6,182	3,379	13,684	3,868	4,144	31,257
(Charge)/credit to income	166	345	(553)	14	119	91
Currency translation differences	(177)	(32)	(462)	(93)	(42)	(806)
Other	(269)	26	(502)	(479)	12	(1,212)
At December 31, 2018	5,902	3,718	12,167	3,310	4,233	29,330
Deferred tax liability						
At January 1, 2018		(26,904)		(742)	(2,827)	(30,473)
(Charge)/credit to income		(1,751)		180	240	(1,331)
Currency translation differences		409		24	36	469
Other		475		(1,136)	(74)	(735)
At December 31, 2018		(27,771)		(1,674)	(2,625)	(32,070)
Net deferred tax liability at December 31, 2018						(2,740)
Deferred tax asset/liability as presented in the balance sheet at December 31, 2018						
Deferred tax asset						12,097
Deferred tax liability						(14,837)

The presentation in the balance sheet takes into consideration the offsetting of deferred tax assets and deferred tax liabilities within the same tax jurisdiction, where this is permitted. The overall deferred tax position in a particular tax jurisdiction determines if a deferred tax balance related to that jurisdiction is presented within deferred tax assets or deferred tax liabilities.

Other movements in deferred tax assets and liabilities principally relate to acquisitions, sales of non-current assets and businesses, and amounts recognised in other comprehensive income.

The deferred tax category 'Other' primarily includes deferred tax positions in respect of leases, financial assets and liabilities, inventories, intangible assets and investments in subsidiaries, joint ventures and associates.

The amount of deferred tax assets dependent on future taxable profits not arising from the reversal of existing deferred tax liabilities, and which relate to tax jurisdictions where Shell has suffered a loss in the current or preceding year, was $8,773 million at December 31, 2019 (2018: $9,979 million). It is considered probable based on business forecasts that such profits will be available.

Unrecognised taxable temporary differences associated with undistributed retained earnings of investments in subsidiaries, joint ventures and associates amounted to $6,356 million at December 31, 2019 (2018: $3,951 million). These retained earnings are subject to withholding tax upon distribution. The increase of the amount compared with 2018 is related to a change in the withholding tax legislation, as a result of which a larger part of the undistributed retained earnings will be subject to withholding tax.

Unrecognised deductible temporary differences, unused tax losses and credits carried forward amounted to $33,068 million at December 31, 2019 (2018: $30,010 million as revised) including amounts of $24,295 million (2018: $22,704 million as revised) that are subject to time limits for utilisation of five years or later, or are not time limited.

Furthermore, there are unrecognised losses for Petroleum Resource Rent Tax ("PRRT") in Australia, amounting to $36,905 million as at the end of the most recent PRRT fiscal year (June 30, 2019). In 2018, a portion of the PRRT losses amounting to $4,900 million was included in the amount of the unrecognised deductible temporary differences, unused tax losses and credits carried forward. Based on business forecasts at existing commodity price levels, and the annual augmentation of the unused PRRT losses, this amount is expected to increase in the near future.

17 – RETIREMENT BENEFITS

Retirement benefits are provided through a number of funded and unfunded defined benefit plans and defined contribution plans, the most significant of which are in the Netherlands, UK and USA. Benefits comprise principally pensions; retirement healthcare and life insurance are also provided in certain countries.

Retirement benefit expense

$ million

	2019	2018	2017
Defined benefit plans:			
Current service cost, net of plan participants' contributions	1,188	1,494	1,500
Interest expense on obligations	2,364	2,282	2,309
Interest income on plan assets	(2,253)	(2,087)	(2,019)
Other	26	(221)	(404)
Total	1,325	1,468	1,386
Defined contribution plans	428	410	429
Total retirement benefit expense	1,753	1,878	1,815

Retirement benefit expense is presented principally within production and manufacturing expenses and selling, distribution and administrative expenses in the Consolidated Statement of Income. Interest income on plan assets is calculated using the same rate as that applied to the related defined benefit obligations for each plan to determine interest expense.

Remeasurements

$ million

	2019	2018	2017
Actuarial gains/(losses) on obligations:			
Due to changes in financial assumptions [A]	(11,711)	8,186	(4,495)
Due to experience adjustments [B]	232	(268)	37
Due to changes in demographic assumptions [C]	(75)	(459)	933
Total	(11,554)	7,459	(3,525)
Return on plan assets in excess/(shortage) of interest income	8,460	(2,312)	4,942
Other movements	(12)	66	50
Total remeasurements	(3,106)	5,213	1,467

[A] Primarily relates to changes in the discount rate assumptions.
[B] Experience adjustments arise from differences between the actuarial assumptions made in respect of the year and actual outcomes.
[C] Primarily relates to updates in mortality assumptions.

Defined benefit plans

$ million

	Dec 31, 2019	Dec 31, 2018
Obligations	(103,545)	(91,856)
Plan assets	94,826	85,803
Net liability	(8,719)	(6,053)
Retirement benefits in the Consolidated Balance Sheet:		
Non-current assets	4,717	6,051
Non-current liabilities	(13,017)	(11,653)
Current liabilities	(419)	(451)
Total	(8,719)	(6,053)

17 – RETIREMENT BENEFITS continued

Defined benefit plan obligations

	$ million, except where indicated	
	2019	2018
At January 1	91,856	104,285
Current service cost	1,186	1,491
Interest expense	2,364	2,282
Actuarial losses/(gains)	11,554	(7,459)
Benefit payments	(3,961)	(4,435)
Other movements	194	(360)
Currency translation differences	352	(3,948)
At December 31	103,545	91,856
Comprising:		
Funded pension plans	93,727	83,276
Weighted average duration	17 years	17 years
Unfunded pension plans	4,793	4,359
Weighted average duration	13 years	13 years
Other unfunded plans	5,025	4,221
Weighted average duration	14 years	12 years

Defined benefit plan assets

	$ million, except where indicated	
	2019	2018
At January 1	85,803	93,243
Return on plan assets in excess/(shortage) of interest income	8,460	(2,312)
Interest income	2,253	2,087
Employer contributions	1,462	763
Plan participants' contributions	42	47
Benefit payments	(3,741)	(4,123)
Other movements	160	(102)
Currency translation differences	387	(3,800)
At December 31	94,826	85,803
Comprising:		
Quoted in active markets:		
Equities	26%	24%
Debt securities	51%	53%
Real estate	1%	1%
Other	0%	1%
Other:		
Equities	8%	8%
Debt securities	4%	3%
Real estate	6%	6%
Investment funds	3%	3%
Cash	1%	1%

Long-term investment strategies of plans are generally determined by the relevant pension plan trustees using a structured asset/liability modelling approach to define the asset mix that best meets the objectives of optimising returns within agreed risk levels while maintaining adequate funding levels.

Employer contributions to defined benefit pension plans are based on actuarial valuations in accordance with local regulations and are estimated to be $0.7 billion in 2020.

Significant funding requirements:

- Additional contributions to the Netherlands defined benefit pension plan would be required if the 12-month rolling average local funding percentage falls below 105% for six months or more. At the most recent (2019) funding valuation the local funding percentage was above this level;
- There are no set minimum statutory funding requirements for the UK plans. Under an agreement with the trustee of the main UK defined benefit plan, Shell will provide additional contributions if the funding position falls below a certain level, although this is currently not anticipated; and
- Under the Pension Protection Act, US pension plans are subject to minimum required contribution levels based on the funding position. No contributions are required based on the most recent funding valuation.

The principal assumptions applied in determining the present value of defined benefit obligations and their bases were as follows:

- rates of increase in pensionable remuneration, pensions in payment and healthcare costs: historical experience and management's long-term expectation;
- discount rates: prevailing long-term AA corporate bond yields, chosen to match the currency and duration of the relevant obligation; and
- mortality rates: published standard mortality tables for the individual countries concerned adjusted for Shell experience where statistically significant.

The weighted averages for those assumptions and related sensitivity information at December 31 are presented below. Sensitivity information indicates by how much the defined benefit obligations would increase or decrease if a given assumption were to increase or decrease with no change in other assumptions.

$ million, except where indicated

	Assumptions used		Effect of using alternative assumptions		
				Increase/(decrease) in defined benefit obligations	
	2019	2018	Range of assumptions	2019	2018
Rate of increase in pensionable remuneration	4.1%	4.1%	-1% to +1%	(1,975) to 2,266	(1,576) to 1,819
Rate of increase in pensions in payment	1.6%	1.8%	-1% to +1%	(9,541) to 11,757	(8,304) to 10,104
Rate of increase in healthcare costs	6.1%	6.3%	-1% to +1%	(546) to 675	(410) to 496
Discount rate for pension plans	2.1%	2.9%	-1% to +1%	18,431 to (14,155)	15,606 to (12,078)
Discount rate for healthcare plans	3.2%	4.2%	-1% to +1%	704 to (558)	536 to (436)
Expected age at death for persons aged 60:					
Men	87 years	87 years	-1 year to +1 year	(1,717) to 1,782	(1,538) to 1,583
Women	89 years	89 years	-1 year to +1 year	(1,631) to 1,694	(1,436) to 1,476

18 – DECOMMISSIONING AND OTHER PROVISIONS

$ million

	Decommissioning and restoration	Legal	Environmental	Redundancy	Other	Total
At January 1, 2019						
Current (as previously published)	876	213	264	491	1,815	3,659
Impact of IFRS 16 [A]	–	–	–	(50)	(268)	(318)
Current (as revised)	876	213	264	441	1,547	3,341
Non-current (as previously published)	17,057	1,247	1,074	468	1,687	21,533
Impact of IFRS 16 [A]	–	–	–	(188)	(159)	(347)
Non-current (as revised)	17,057	1,247	1,074	280	1,528	21,186
	17,933	1,460	1,338	721	3,075	24,527
Additions	625	585	229	290	535	2,264
Amounts charged against provisions	(797)	(216)	(223)	(304)	(562)	(2,102)
Accretion expense	644	28	16	3	25	716
Disposals	(1,238) [B]	–	(8)	–	(14)	(1,260)
Remeasurements and other movements	1,696	(45)	(155)	(192)	(988) [C]	316
Currency translation differences	156	(1)	–	(3)	(3)	149
	1,086	351	(141)	(206)	(1,007)	83
At December 31, 2019						
Current	755	626	263	295	872	2,811
Non-current	18,264	1,185	934	220	1,196	21,799
	19,019	1,811	1,197	515	2,068	24,610
At January 1, 2018						
Current	817	423	287	758	1,180	3,465
Non-current	19,767	1,095	1,218	560	2,326	24,966
	20,584	1,518	1,505	1,318	3,506	28,431
Additions	418	196	191	535	1,070	2,410
Amounts charged against provisions	(497)	(200)	(212)	(504)	(887)	(2,300)
Accretion expense	755	17	17	15	48	852
Disposals	(1,781)	(14)	(11)	(3)	(49)	(1,858)
Remeasurements and other movements	(1,065)	(47)	(130)	(367)	(122)	(1,731)
Currency translation differences	(481)	(10)	(22)	(35)	(64)	(612)
	(2,651)	(58)	(167)	(359)	(4)	(3,239)
At December 31, 2018						
Current	876	213	264	491	1,815	3,659
Non-current	17,057	1,247	1,074	468	1,687	21,533
	17,933	1,460	1,338	959	3,502	25,192

[A] Following the implementation of IFRS 16 *Leases* (see Note 3) provisions related to onerous operating lease contracts at December 31, 2018 were derecognised and related right-of-use assets were adjusted accordingly. Certain operating lease contracts, mainly related to office buildings became onerous following restructuring and these onerous operating lease contracts were included in the provision for redundancy.
[B] Mainly related to the disposal of interests in Denmark and Canada.
[C] Mainly related to reclassifications to Trade and other payables.

The amount and timing of settlement in respect of these provisions are uncertain and dependent on various factors that are not always within management's control. Reviews of estimated future decommissioning and restoration costs and the discount rate applied are carried out annually. The discount rate applied at December 31, 2019 was 3% (December 31, 2018: 4%). This decrease resulted from the decrease in capital markets rates in 2019.

In 2019, there was an increase of $2,241 million (2018: $nil) in the decommissioning and restoration provision as a result of the change in the discount rate, partly offset by a decrease in the provision resulting from changes in cost estimates of $545 million (2018: $982 million), reported within re-measurements and other movements.

Of the decommissioning and restoration provision at December 31, 2019, an estimated $2,869 million is expected to be utilised within one to five years, $2,432 million within six to 10 years, and the remainder in later periods.

Other provisions include amounts recognised in respect of employee benefits.

19 – FINANCIAL INSTRUMENTS

Financial instruments in the Consolidated Balance Sheet include investments in securities (see Note 10), cash and cash equivalents (see Note 13), debt (see Note 14) and derivative contracts.

Risks

In the normal course of business, financial instruments of various kinds are used for the purposes of managing exposure to interest rate, foreign exchange and commodity price movements.

Treasury standards are applicable to all subsidiaries and each subsidiary is required to adopt a treasury policy consistent with these standards. These policies cover: financing structure; interest rate and foreign exchange risk management; insurance; counterparty risk management; and use of derivative contracts. Wherever possible, treasury operations are carried out through specialist regional organisations without removing from each subsidiary the responsibility to formulate and implement appropriate treasury policies.

Apart from forward foreign exchange contracts to meet known commitments, the use of derivative contracts by most subsidiaries is not permitted by their treasury policy.

Other than in exceptional cases, the use of external derivative contracts is confined to specialist trading and central treasury organisations that have appropriate skills, experience, supervision, control and reporting systems.

Shell's operations expose it to market, credit and liquidity risk, as described below.

Market risk

Market risk is the possibility that changes in interest rates, foreign exchange rates or the prices of crude oil, natural gas, LNG, refined products, chemical feedstocks, power and carbon-emission rights will adversely affect the value of assets, liabilities or expected future cash flows.

Interest rate risk

Most debt is raised from central borrowing programmes. Shell's policy continues to be to have debt principally denominated in dollars and to maintain a largely floating interest rate exposure profile; however, Shell has issued a significant amount of fixed rate debt in recent years, taking advantage of historically low interest rates available in debt markets. As a result, a substantial portion of the debt portfolio at December 31, 2019, is at fixed rates and this reduces Shell's exposure to the dollar LIBOR interest rate (see Note 2B).

The financing of most subsidiaries is structured on a floating-rate basis, and any further interest rate risk management is only applied under exceptional circumstances.

On the basis of the floating-rate net debt position at December 31, 2019 (both issued and hedged), and assuming other factors (principally foreign exchange rates and commodity prices) remained constant and that no further interest rate management action was taken, an increase in interest rates of 1% would have decreased 2019 income before taxation by $98 million (2018: $37 million, based on the floating rate position at December 31, 2018).

The carrying amounts and maturities of debt and borrowing facilities are presented in Note 14. Interest expense is presented in Note 6.

Foreign exchange risk

Many of the markets in which Shell operates are priced, directly or indirectly, in dollars. As a result, the functional currency of most Integrated Gas and Upstream entities and those with significant cross-border business is the dollar. For Downstream entities, the functional currency is typically the local currency. Consequently, Shell is exposed to varying levels of foreign exchange risk when an entity enters into transactions that are not denominated in its functional currency, when foreign currency monetary assets and liabilities are translated at the balance sheet date and as a result of holding net investments in operations that are not dollar-functional. Each entity is required to adopt treasury policies that are designed to measure and manage its foreign exchange exposures by reference to its functional currency.

Foreign exchange gains and losses arise in the normal course of business from the recognition of receivables and payables and other monetary items in currencies other than an entity's functional currency. Foreign exchange risk may also arise in connection with capital expenditure. For major projects, an assessment is made at the final investment decision stage whether to hedge any resulting exposure.

Assuming other factors (principally interest rates and commodity prices) remained constant and that no further foreign exchange risk management action were taken, a 10% appreciation against the dollar at December 31 of the main currencies to which Shell is exposed would have the following effects:

$ million

	Increase/(decrease) in income before taxation		Increase in net assets	
	2019	2018	2019	2018
10% appreciation against the dollar of:				
Canadian dollar	(97)	(40)	1,380	1,245
Euro	36	65	1,227	1,190
Australian dollar	(55)	(109)	835	835
Sterling	(58)	(46)	581	779

19 – FINANCIAL INSTRUMENTS continued

The above sensitivity information was calculated by reference to carrying amounts of assets and liabilities at December 31 only. The effect on income before taxation arises in connection with monetary balances denominated in currencies other than an entity's functional currency; the effect on net assets arises principally from the translation of assets and liabilities of entities that are not dollar-functional.

Foreign exchange gains and losses included in income are presented in Note 5.

Commodity price risk

Certain subsidiaries have a mandate to trade crude oil, natural gas, LNG, refined products, chemical feedstocks, power and carbon-emission rights, and to use commodity derivative contracts (forwards, futures, swaps and options) as a means of managing price and timing risks arising from this trading activity. In effecting these transactions, the entities concerned operate within procedures and policies designed to ensure that risks, including those relating to the default of counterparties, are managed within authorised limits.

Value-at-risk ("VAR") techniques based on variance/covariance or Monte Carlo simulation models are used to make a statistical assessment of the market risk arising from possible future changes in market values over a 1-day holding period and within a 95% confidence level. The calculation of potential changes in fair value takes into account positions, the history of price movements and the correlation of these price movements. Models are regularly reviewed against actual fair value movements to ensure integrity is maintained. The VAR year-end positions in respect of commodities traded in active markets, which are presented in the table below, are calculated on a diversified basis in order to reflect the effect of offsetting risk within combined portfolios.

Value-at-risk (pre-tax)

$ million

	December 31, 2019	December 31, 2018
Global oil	22	28
North America gas and power	12	11
Europe gas and power	5	3
Carbon-emission rights	4	2

Credit risk

Policies are in place to ensure that sales of products are made to customers with appropriate creditworthiness. These policies include detailed credit analysis and monitoring of trading partners against counterparty credit limits. Credit information is regularly shared between business and finance functions, with dedicated teams in place to quickly identify and respond to cases of credit deterioration. Mitigation measures are defined and implemented for high-risk business partners and customers, and include shortened payment terms, collateral or other security posting and vigorous collections. In addition, policies limit the amount of credit exposure to any individual financial institution. There are no material concentrations of credit risk, with individual customers or geographically, and there has been no significant level of counterparty default in recent years.

Surplus cash is invested in a range of short-dated, secure and liquid instruments including short-term bank deposits, money market funds, reverse repos and similar instruments. The portfolio of these investments is diversified to avoid concentrating risk in any one instrument, country or counterparty. Management monitors the investments regularly and adjusts the investment portfolio in light of new market information where necessary to ensure credit risk is effectively diversified.

In commodity trading, counterparty credit risk is managed within a framework of credit limits with utilisation being regularly reviewed. Credit risk exposure is monitored and the acceptable level is determined by a credit committee. Credit checks are performed by a department independent of traders, and are undertaken before contractual commitment. Where appropriate, netting arrangements, credit insurance, prepayments and collateral are used to manage specific risks.

Shell routinely enters into offsetting, master netting and similar arrangements with trading and other counterparties to manage credit risk. Where there is a legally enforceable right of offset under such arrangements and Shell has the intention to settle on a net basis or realise the asset and settle the liability simultaneously, the net asset or liability is recognised in the Consolidated Balance Sheet, otherwise assets and liabilities are presented gross. These amounts, as presented net and gross within trade and other receivables, trade and other payables and derivative financial instruments in the Consolidated Balance Sheet at December 31, were as follows:

2019

$ million

		Amounts offset		Amounts not offset		
	Gross amounts before offset	Amounts offset	Net amounts as presented	Cash collateral received/pledged	Other offsetting instruments	Net amounts
Assets:						
Within trade receivables	13,821	8,975	4,846	54	101	4,691
Within derivative financial instruments	12,995	7,310	5,685	531	2,262	2,892
Liabilities:						
Within trade payables	13,335	9,029	4,306	11	101	4,194
Within derivative financial instruments	12,355	7,253	5,102	706	2,262	2,134

2018

$ million

	Gross amounts before offset	Amounts offset	Net amounts as presented	Amounts not offset: Cash collateral received/pledged	Amounts not offset: Other offsetting instruments	Net amounts
		Amounts offset		Amounts not offset		
Assets:						
Within trade receivables	12,697	8,340	4,358	62	221	4,075
Within derivative financial instruments	12,323	6,353	5,970	437	2,653	2,880
Liabilities:						
Within trade payables	12,931	8,264	4,667	97	221	4,349
Within derivative financial instruments	12,227	5,044	7,183	1,115	2,653	3,415

Amounts not offset principally relate to contracts where the intention to settle on a net basis was not clearly established at December 31.

The carrying amount of financial assets pledged as collateral for liabilities or contingent liabilities at December 31, 2019, presented within trade and other receivables, was $1,948 million (2018: $3,094 million). The carrying amount of collateral held at December 31, 2019, presented within trade and other payables, was $718 million (2018: $535 million). Collateral mainly relates to initial margins held with commodity exchanges and over-the-counter counterparty variation margins. Some derivative contracts are fully cash collateralised, thereby eliminating both counterparty risk and the Group's own non-performance risk

Liquidity risk

Liquidity risk is the risk that suitable sources of funding for Shell's business activities may not be available. Management believes that it has access to sufficient debt funding sources (capital markets), and to undrawn committed borrowing facilities to meet foreseeable requirements. Information about borrowing facilities is presented in Note 14.

DERIVATIVE CONTRACTS AND HEDGES

Derivative contracts are used principally as hedging instruments, however, because hedge accounting is not always applied, movements in the carrying amounts of derivative contracts that are recognised in income are not always matched in the same period by the recognition of the income effects of the related hedged items.

Carrying amounts, maturities and hedges

The carrying amounts of derivative contracts at December 31, designated and not designated as hedging instruments for hedge accounting purposes, were as follows:

2019

$ million

	Assets: Designated	Assets: Not designated	Assets: Total	Liabilities: Designated	Liabilities: Not designated	Liabilities: Total	Net
Interest rate swaps	227	8	235	34	24	58	177
Forward foreign exchange contracts	7	236	243	2	309	311	(68)
Currency swaps and options	90	15	105	932	56	988	(883)
Commodity derivatives	–	6,914	6,914	–	5,281	5,281	1,633
Other contracts	–	341	341	–	–	–	341
Total	324	7,514	7,838	968	5,670	6,638	1,200

2018

$ million

	Assets: Designated	Assets: Not designated	Assets: Total	Liabilities: Designated	Liabilities: Not designated	Liabilities: Total	Net
Interest rate swaps	86	3	89	174	14	188	(99)
Forward foreign exchange contracts	–	331	331	33	264	297	34
Currency swaps and options	186	26	212	1,202	203	1,405	(1,193)
Commodity derivatives	–	6,864	6,864	–	6,637	6,637	227
Other contracts	–	271	271	–	56	56	215
Total	272	7,495	7,767	1,409	7,174	8,583	(816)

19 – FINANCIAL INSTRUMENTS continued

Net losses before tax on derivative contracts, excluding realised commodity contracts and those accounted for as hedges, were $2,004 million in 2019 (2018: $1,818 million losses; 2017: $1,321 million losses).

Certain contracts, mainly to hedge price risk relating to forecast commodity transactions which mature in 2020-2021, were designated in cash flow hedging relationships. The net carrying amount of commodity derivative contracts designated as cash flow hedging instruments at December 31, 2019, was a liability of $101 million (2018: $120 million asset) (see Note 22), and was presented after the offset of related margin balances maintained with exchanges.

Certain interest rate and currency swaps were designated in fair value hedges, principally in respect of debt for which the net carrying amount of the related derivative contracts, net of accrued interest, at December 31, 2019, was a liability of $518 million (2018: $1,242 million).

In the course of trading operations, certain contracts are entered into for delivery of commodities that are accounted for as derivatives. The resulting price exposures are managed by entering into related derivative contracts. These contracts are managed on a fair value basis and the maximum exposure to liquidity risk is the undiscounted fair value of derivative liabilities.

For a minority of commodity derivative contracts, carrying amounts cannot be derived from quoted market prices or other observable inputs, in which case fair value is estimated using valuation techniques such as Black-Scholes, option spread models and extrapolation using quoted spreads with assumptions developed internally based on observable market activity.

Other contracts include certain contracts that are held to sell or purchase commodities and others containing embedded derivatives, which are required to be recognised at fair value because of pricing or delivery conditions, even though they were entered into to meet operational requirements. These contracts are expected to mature in 2020-2025, with certain contracts having early termination rights (for either party). Valuations are derived from quoted market prices.

The contractual maturities of derivative liabilities at December 31 compare with their carrying amounts in the Consolidated Balance Sheet as follows:

2019

$ million

	Contractual maturities								
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later	Total	Difference from carrying amount [A]	Carrying amount
Interest rate swap	35	8	4	4	5	4	60	(2)	58
Forward foreign exchange contracts	214	40	8	–	118	–	380	(69)	311
Currency swaps and options	255	475	444	201	204	1,777	3,356	(2,368)	988
Commodity derivatives	3,472	756	349	189	123	511	5,400	(119)	5,281
Total	3,976	1,279	805	394	450	2,292	9,196	(2,558)	6,638

[A] Mainly related to the effect of discounting.

2018

$ million

	Contractual maturities								
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later	Total	Difference from carrying amount [A]	Carrying amount
Interest rate swap	101	68	20	1	1	1	192	(4)	188
Forward foreign exchange contracts	177	(24)	33	(1)	(5)	(15)	165	132	297
Currency swaps and options	605	265	474	405	198	1,715	3,662	(2,257)	1,405
Commodity derivatives	4,733	978	422	213	138	382	6,866	(229)	6,637
Other contracts	58	–	–	–	–	–	58	(2)	56
Total	5,674	1,287	949	618	332	2,083	10,943	(2,360)	8,583

[A] Mainly related to the effect of discounting.

Fair value measurements

The net carrying amounts of derivative contracts held at December 31, categorised according to the predominant source and nature of inputs used in determining the fair value of each contract, were as follows:

2019

$ million

	Prices in active markets for identical assets/liabilities	Other observable inputs	Unobservable inputs	Total
Interest rate swaps	–	177	–	177
Forward foreign exchange contracts	–	(68)	–	(68)
Currency swaps and options	–	(883)	–	(883)
Commodity derivatives	(6)	895	744	1,633
Other contracts	27	304	10	341
Total	21	425	754	1,200

2018

$ million

	Prices in active markets for identical assets/liabilities	Other observable inputs	Unobservable inputs	Total
Interest rate swaps	–	(99)	–	(99)
Forward foreign exchange contracts	–	34	–	34
Currency swaps and options	–	(1,193)	–	(1,193)
Commodity derivatives	(52)	431	(152)	227
Other contracts	–	90	125	215
Total	(52)	(737)	(27)	(816)

Net carrying amounts of derivative contracts measured using predominantly unobservable inputs

$ million

	2019	2018
At January 1	(27)	297
Net gains/(losses) recognised in revenue	1,085	(258)
Purchases	453	461
Sales	(633)	(540)
Recategorisations (net)	(125)	18
Currency translation differences	1	(5)
At December 31	754	(27)

Included in net gains recognised in revenue in 2019 were unrealised net gains totalling $612 million relating to assets and liabilities held at December 31, 2019 (2018: $36 million losses).

20 – SHARE CAPITAL

Issued and fully paid ordinary shares of €0.07 each [A]

	Number of shares		Nominal value ($ million)		
	A	B	A	B	Total
At January 1, 2019	4,471,889,296	3,745,486,731	376	309	685
Repurchases of shares	(320,101,779)	(16,079,624)	(27)	(1)	(28)
At December 31, 2019	4,151,787,517	3,729,407,107	349	308	657
At January 1, 2018	4,597,136,050	3,745,486,731	387	309	696
Repurchases of shares	(125,246,754)	–	(11)	–	(11)
At December 31, 2018	4,471,889,296	3,745,486,731	376	309	685

[A] Share capital at December 31, 2019, and 2018, also included 50,000 issued and fully paid sterling deferred shares of £1 each.

At the Company's Annual General Meeting ("AGM") on May 21, 2019, the Board was authorised to allot ordinary shares in the Company, and to grant rights to subscribe for or to convert any security into ordinary shares in the Company, up to an aggregate nominal amount of €190.3 million (representing 2,720 million ordinary shares of €0.07 each), and to list such shares or rights on any stock exchange. This authority expires at the earlier of the close of business on August 21, 2020, and the end of the AGM to be held in 2020, unless previously renewed, revoked or varied by the Company in a general meeting.

At the May 21, 2019 AGM, shareholders granted the Company the authority to repurchase up to 815 million ordinary shares (excluding any treasury shares), renewing the authority granted by the shareholders at previous AGMs. The authority will expire at the earlier of the close of business on August 21, 2020, and the end of the AGM of the Company to be held in 2020. Ordinary shares purchased by the Company pursuant to this authority will either be cancelled or held in treasury. Treasury shares are shares in the Company which are owned by the Company itself. The minimum price, exclusive of expenses, which may be paid for an ordinary share is €0.07. The maximum price, exclusive of expenses, which may be paid for an ordinary share is the higher of: (i) an amount equal to 5% above the average market value for an ordinary share for the five business days immediately preceding the date of the purchase; and (ii) the higher of the price of the last independent trade and the highest current independent bid on the trading venues where the purchase is carried out.

21 – SHARE-BASED COMPENSATION PLANS AND SHARES HELD IN TRUST

Share-based compensation expense

			$ million
	2019	2018	2017
Equity-settled	537	531	422
Cash-settled [A]	–	–	380
Total	537	531	802

[A] As from 2018 onwards, components of share-based payments (related to tax) that were previously classified as cash-settled are classified as equity-settled. On an incidental basis awards may be cash settled, where an equity settlement is not possible under local regulations.

The principal share-based employee compensation plans are the PSP and LTIP. Awards of shares and American Depository Shares ("ADSs") of the Company under the PSP and LTIP are granted upon certain conditions to eligible employees. The actual amount of shares that may vest ranges from 0% to 200% of the awards, depending on the outcomes of prescribed performance conditions over a three-year period beginning on January 1 of the award year. Shares and ADSs vest for nil consideration.

Share awards under the PSP and LTIP

	Number of A shares (million)	Number of B shares (million)	Number of A ADSs (million)	Weighted Average remaining contractual life (years)
At January 1, 2019	30	12	8	1.0
Granted	11	3	3	
Vested	(11)	(5)	(3)	
Forfeited	(1)	–	–	
At December 31, 2019	29	10	8	1.0
At January 1, 2018	33	12	9	0.9
Granted	10	4	3	
Vested	(12)	(4)	(4)	
Forfeited	(1)	–	–	
At December 31, 2018	30	12	8	1.0

Other plans offer eligible employees opportunities to acquire shares and ADSs of the Company or receive cash benefits measured by reference to the Company's share price.

Shell employee share ownership trusts and trust-like entities purchase the Company's shares in the open market to meet delivery commitments under employee share plans. At December 31, 2019, they held 17.4 million A shares (2018: 19.6 million), 6.5 million B shares (2018: 7.1 million) and 5.3 million A ADSs (2018: 5.9 million).

22 – OTHER RESERVES

Other reserves attributable to Royal Dutch Shell plc shareholders

$ million

	Merger reserve	Share premium reserve	Capital redemption reserve	Share plan reserve	Accumulated other comprehensive income	Total
At January 1, 2019	37,298	154	95	1,098	(22,030)	16,615
Other comprehensive loss attributable to Royal Dutch Shell plc shareholders	–	–	–	–	(2,069)	(2,069)
Transfer from other comprehensive income	–	–	–	–	(74)	(74)
Repurchases of shares	–	–	28	–	–	28
Share-based compensation	–	–	–	(49)	–	(49)
At December 31, 2019	37,298	154	123	1,049	(24,173)	14,451
At January 1, 2018 (as previously published)	37,298	154	84	1,440	(22,044)	16,932
Impact of IFRS 9	–	–	–	–	(138)	(138)
At January 1, 2018 (as revised)	37,298	154	84	1,440	(22,182)	16,794
Other comprehensive income attributable to Royal Dutch Shell plc shareholders	–	–	–	–	1,123	1,123
Transfer from other comprehensive income	–	–	–	–	(971)	(971)
Repurchases of shares	–	–	11	–	–	11
Share-based compensation	–	–	–	(342)	–	(342)
At December 31, 2018	37,298	154	95	1,098	(22,030)	16,615
At January 1, 2017	37,311	154	84	1,644	(27,895)	11,298
Other comprehensive loss attributable to Royal Dutch Shell plc shareholders	–	–	–	–	5,851	5,851
Scrip dividends	(13)	–	–	–	–	(13)
Share-based compensation	–	–	–	(204)	–	(204)
At December 31, 2017	37,298	154	84	1,440	(22,044)	16,932

The merger reserve and share premium reserve were established as a consequence of the Company becoming the single parent company of Royal Dutch Petroleum Company and The "Shell" Transport and Trading Company, plc, now The Shell Transport and Trading Company Limited, in 2005. The capital redemption reserve was established in connection with repurchases of shares of the Company. The share plan reserve is in respect of equity-settled share-based compensation plans (see Note 21). The movement represents the net of the charge for the year and the release as a result of vested awards and is after deduction of tax of $45 million in 2019 (2018: $71 million; 2017: $11 million).

22 – OTHER RESERVES continued

Accumulated other comprehensive income comprises the following:

Accumulated other comprehensive income attributable to Royal Dutch Shell plc shareholders

$ million

	Currency translation differences	Unrealised gains/ (losses) on securities	Debt instruments remeasurements	Cash flow and net investment hedging gains/(losses)	Deferred cost of hedging	Retirement benefits remeasurements	Equity instrument remeasurements	Total
At January 1, 2019	(11,747)		(21)	117	(353)	(10,932)	906	(22,030)
Recognised in other comprehensive income	302		24	(579)	9	(3,106)	(17)	(3,367)
Reclassified to income	38		5	268	86	–	–	397
Reclassified to the balance sheet	–		–	11	–	–	–	11
Reclassified to retained earnings	–		–	–	–	11	(85)	(74)
Tax on amounts recognised/reclassified	4		–	33	(29)	1,004	(13)	999
Total, net of tax	344		29	(267)	66	(2,091)	(115)	(2,034)
Share of joint ventures and associates	(2)		–	(74)	–	–	2	(74)
Other comprehensive income/(loss) for the period	342		29	(341)	66	(2,091)	(113)	(2,108)
Less: non-controlling interest	(35)		–	–	–	–	–	(35)
Attributable to Royal Dutch Shell plc shareholders	307		29	(341)	66	(2,091)	(113)	(2,143)
At December 31, 2019	(11,440)		8	(224)	(287)	(13,023)	793	(24,173)
At January 1, 2018 (as previously published)	(8,735)	1,969	–	(633)	–	(14,645)	–	(22,044)
Impact of IFRS 9	–	(1,969)	(6)	6	(144)	–	1,975	(138)
At January 1, 2018 (as revised)	(8,735)		(6)	(627)	(144)	(14,645)	1,975	(22,182)
Recognised in other comprehensive income	(3,794)		(15)	50	(362)	5,213	(147)	945
Reclassified to income	651		–	722	95	–	–	1,468
Reclassified to the balance sheet	–		–	(30)	–	–	–	(30)
Reclassified to retained earnings	–		–	–	–	137	(1,108)	(971)
Tax on amounts recognised/reclassified	(29)		–	(12)	58	(1,625)	(6)	(1,614)
Total, net of tax	(3,172)		(15)	730	(209)	3,725	(1,261)	(202)
Share of joint ventures and associates	(25)		–	14	–	1	193	183
Other comprehensive loss for the period	(3,197)		(15)	744	(209)	3,726	(1,068)	(19)
Less: non-controlling interest	185		–	–	–	(13)	(1)	171
Attributable to Royal Dutch Shell plc shareholders	(3,012)		(15)	744	(209)	3,713	(1,069)	152
At December 31, 2018	(11,747)		(21)	117	(353)	(10,932)	906	(22,030)
At January 1, 2017	(13,831)	1,321	–	(144)	–	(15,241)	–	(27,895)
Recognised in other comprehensive income	4,513	796	–	(467)	–	1,467	–	6,309
Reclassified to income	610	(211)	–	(87)	–	–	–	312
Reclassified to the balance sheet	–	–	–	(18)	–	–	–	(18)
Tax on amounts recognised/reclassified	33	8	–	20	–	(863)	–	(802)
Total, net of tax	5,156	593	–	(552)	–	604	–	5,801
Share of joint ventures and associates	53	55	–	63	–	(1)	–	170
Other comprehensive income/(loss) for the period	5,209	648	–	(489)	–	603	–	5,971
Less: non-controlling interest	(113)	–	–	–	–	(7)	–	(120)
Attributable to Royal Dutch Shell plc shareholders	5,096	648	–	(489)	–	596	–	5,851
At December 31, 2017	(8,735)	1,969	–	(633)	–	(14,645)	–	(22,044)

23 – DIVIDENDS

Interim dividends

$ million

	2019	2018	2017
A shares:			
Cash: $1.88 per share (2018: $1.88; 2017: $1.88)	8,147	8,605	4,919
Scrip: none (2018: none; 2017: $1.88 per share)	–	–	3,558
Total – A shares	8,147	8,605	8,477
B shares:			
Cash: $1.88 per share (2018: $1.88; 2017: $1.88)	7,051	7,070	5,958
Scrip: none (2018: none; 2017: $1.88 per share)	–	–	1,193
Total – B shares	7,051	7,070	7,151
Total	15,198	15,675	15,628

In addition, on January 30, 2020, the Directors announced a further interim dividend in respect of 2019 of $0.47 per A share and $0.47 per B share. The total dividend is estimated to be $3,691 million and is payable on March 23, 2020, to shareholders on the register at February 14, 2020. The Scrip Dividend Programme has been cancelled with effect from the fourth quarter 2017 interim dividend.

Dividends on A shares are by default paid in euros, although holders may elect to receive dividends in US dollars or in sterling. Dividends on B shares are by default paid in sterling, although holders may elect to receive dividends in US dollars or in euros. Dividends on ADSs are paid in dollars.

24 – EARNINGS PER SHARE

	2019	2018	2017
Income attributable to Royal Dutch Shell plc shareholders ($ million)	15,842	23,352	12,977
Weighted average number of A and B shares used as the basis for determining:			
Basic earnings per share (million)	8,058.3	8,282.8	8,223.4
Diluted earnings per share (million)	8,112.5	8,348.7	8,299.0

Basic earnings per share are calculated by dividing the income attributable to Royal Dutch Shell plc shareholders for the year by the weighted average number of A and B shares outstanding during the year. The weighted average number of shares outstanding excludes shares held in trust.

Diluted earnings per share are based on the same income figures. The weighted average number of shares outstanding during the year is increased by dilutive shares related to share-based compensation plans.

Earnings per share are identical for A and B shares.

25 – LEGAL PROCEEDINGS AND OTHER CONTINGENCIES

General

In the ordinary course of business, Shell subsidiaries are subject to a number of contingencies arising from litigation and claims brought by governmental, including tax authorities, and private parties. The operations and earnings of Shell subsidiaries continue, from time to time, to be affected to varying degrees by political, legislative, fiscal and regulatory developments, including those relating to the protection of the environment and indigenous groups in the countries in which they operate. The industries in which Shell subsidiaries are engaged are also subject to physical risks of various types.

The amounts claimed in relation to such events and, if such claims against Shell were successful, the costs of implementing the remedies sought in the various cases could be substantial. Based on information available to date and taking into account that in some cases it is not practicable to estimate the possible magnitude or timing of any resultant payments, management believes that the foregoing are not expected to have a material adverse impact on Shell's Consolidated Financial Statements. However, there remains a high degree of uncertainty around these contingencies, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

In certain divestment transactions, liabilities related to dismantling and restoration are de-recognised upon transfer of these obligations to the buyer. For certain of these obligations Shell has issued guarantees to third parties and continues to be liable in case that the primary obligator is not able to meet its obligation. These potential obligations arising from issuance of these guarantees are assessed to be remote.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS continued

Pesticide litigation

Shell Oil Company ("SOC"), along with another agricultural chemical pesticide manufacturer and several distributors, has been sued by public and quasi-public water purveyors alleging responsibility for groundwater contamination caused by applications of chemical pesticides. There are approximately 36 such cases currently pending. These suits assert various theories of strict liability and negligence, and seek to recover actual damages, including drinking well treatment and remediation costs. Most assert claims for punitive damages. While the Company continues to vigorously defend these lawsuits, a new environmental regulatory standard became effective in the State of California, where a majority of the suits are pending. The new standard requires public water systems state wide to perform quarterly or monthly sampling of their drinking water sources for a chemical contained in certain pesticides, beginning in January 2018. Water systems deemed out of compliance with the new five parts per trillion regulatory standard must take corrective action to resolve the exceedance or take the potable water source out of service. In response to this new regulatory standard, the Company is monitoring the sampling results to determine the number of wells potentially impacted. Based on the claims asserted and SOC's track record, with regard to amounts paid to resolve varying claims, management does not expect the outcome of these lawsuits pending at December 31, 2019, to have a material adverse impact on Shell. However, there remains a high degree of uncertainty regarding the potential outcome of some of these pending lawsuits, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

Climate change litigation

In the USA, 12 lawsuits have been filed by several municipalities and one state against oil and gas companies, including Royal Dutch Shell plc. The plaintiffs seek damages for claimed harm to their public and private infrastructure from rising sea levels allegedly due to climate change caused by the defendants' fossil fuel products. A similar suit has been filed by a crab fishing industry group claiming harm to their fisheries as a result of alleged ocean-related impacts of climate change. In the Netherlands a case has been filed against Shell by a group of environmental non-governmental organisations ("eNGOs") and individual claimants seeking a court order that Shell reduce by (net) 100% by 2050 the emissions associated with its business activities and products. Management believes the outcome of these matters should be resolved in a manner favourable to Shell, however, there remains a high degree of uncertainty regarding the ultimate outcome of these lawsuits, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

Brazil tax

Pursuant to Law 7.183/2015 issued by the State of Rio de Janeiro (RJ State) and effective March 2016, a value-added levy has been imposed on oil extraction in the RJ State. The Company understands that the obligations arising from this law are not legally sustainable and Shell obtained favourable injunctions suspending the enforcement of the law in two separate lawsuits, one filed to cover year 2016 and the other covering year 2017 onwards. The injunctions remain in effect and Shell received favourable decisions on the subject matter from the RJ State Court. The RJ State has appealed against both decisions and one is pending confirmation by the State Court while the other is pending final decisions by the Brazilian Superior and Supreme Courts. In addition, and as this is an industry-wide issue, the Brazilian Association of Oil and Gas Exploration and Production Companies, of which Shell is a member, filed a suit in February 2016 before the Brazilian Supreme Court, challenging the constitutionality of the law. This matter is currently pending with the Supreme Court. Should Shell be required to pay such a levy, it could result in a potential total liability of approximately $5,275 million as of end 2019.

Louisiana coast litigation

The State of Louisiana and multiple local governments have initiated 43 lawsuits against 200+ Oil and Gas companies claiming historical oil and gas operations caused or contributed to wide-spread contamination, land loss and the erosion of the Louisiana coastline. Shell entities are named in 14 of the suits. The amounts claimed are unspecified. The cases are of first impression, arise out of an untested 1980 Louisiana statute and represent a novel attempt to render illegal operations that federal and state agencies permitted and authorized at the time. Management believes the outcome of these matters should be resolved in a manner favourable to Shell; there remains a high degree of uncertainty, however, concerning the scope of the claims and the ultimate outcome, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

Nigerian litigation

Shell subsidiaries and associates operating in Nigeria are parties to various environmental and contractual disputes brought in the courts of Nigeria, England and the Netherlands. These disputes are at different stages in litigation, including at the appellate stage, where judgements have been rendered against Shell entities. If taken at face value, the aggregate amount of these judgements could be seen as material. Management, however, believes that the outcomes of these matters will ultimately be resolved in a manner favourable to Shell. However, there remains a high degree of uncertainty regarding these cases, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

The authorities in various countries are investigating Shell Nigeria Exploration and Production Company Ltd.'s ("SNEPCO's") investment in Nigerian oil block OPL 245 and the 2011 settlement of litigation pertaining to that block with regard to potential anti-bribery, anti-corruption and anti-money laundering laws.

On January 27, 2017, the Nigeria Federal High Court issued an Interim Order of Attachment for Oil Prospecting Licence 245 ("OPL 245"), pending the conclusion of the investigation. SNEPCO applied for and was granted a discharge of this order on constitutional and procedural grounds. Also in Nigeria, in March 2017 criminal charges alleging official corruption and conspiracy to commit official corruption were filed against SNEPCO, one current Shell employee and third parties including ENI SpA and one of its subsidiaries. Those proceedings are ongoing. In January 2020, criminal charges alleging disobeying direction of law were filed in Nigeria against Shell Nigeria Ultra Deep Ltd., SNEPCO, and third parties including Nigeria Agip Exploration Limited. Those proceedings are ongoing. In March 2017, parties alleging to be shareholders of Malabu Oil and Gas Company Ltd. (Malabu) filed two actions to challenge the 2011 settlement and the award of OPL 245 to SNEPCO and an ENI SpA subsidiary by the Federal Government of Nigeria. Those proceedings are also ongoing. On May 8, 2018, Human Environmental Development Agenda ("HEDA") sought permission from the Federal High Court of Nigeria to apply for an order to direct the Attorney General of the Federation to revoke OPL 245 on grounds that the entire Malabu transaction in relation to the OPL is unconstitutional, illegal and void as it was obtained through fraudulent and corrupt practice. On October 4, 2018, SNEPCO was joined as a defendant in the HEDA action. Those proceedings are ongoing. On December 12, 2018, the Federal Republic of Nigeria issued a claim form in the UK against Shell and six subsidiaries, ENI SpA and two of its subsidiaries, Malabu as well as two other entities for the amount of $1,092 million plus damages for having participated in a fraudulent and corrupt scheme leading to the acquisition by Shell and ENI corporate defendants in 2011 of OPL 245. The Shell entities were served in April and May 2019. The Shell entities and other defendants have challenged the jurisdiction of the English courts to try the claims and a hearing is scheduled for April 2020. On February 14, 2017, Royal Dutch Shell plc received a notice of request for indictment from the Milan public

prosecutor with respect to this matter. On December 20, 2017, Royal Dutch Shell plc along with four former Shell employees including one former executive were remanded to trial in Milan. On May 14, 2018, a trial commenced in the Court of Milan. On September 18, 2018, Shell was joined to the proceedings as the civilly responsible party (responsabile civile) for the damages caused by the alleged illegal acts of the four former Shell employees. Three other Shell entities (Shell UK Ltd, Shell Petroleum Development Company of Nigeria Ltd. and Shell Exporation and Production Africa Ltd.) also joined the proceedings but were denied status as responsabile civile for their respective former employees at that phase of the proceedings. The trial is ongoing with closing arguments scheduled to begin on March 25, 2020. Based on Shell's review of the Prosecutor of Milan's file and all the information and facts currently available to Shell, management does not believe that there is a basis to convict Shell in Milan. Furthermore, management is not aware of any evidence to convict any former or current Shell employee in Milan.

On September 20, 2018, a guilty judgement was filed by the Milan Judge of the Preliminary Hearing in a separate OPL 245 fast track trial of two individuals, neither of whom worked on behalf of Shell. That decision is under appeal.

In February 2019, we were informed by the Dutch Public Prosecutor's Office ("DPP") that they were nearing the conclusion of their investigation and preparing to prosecute Royal Dutch Shell plc for criminal charges directly or indirectly related to the 2011 settlement of disputes over OPL 245 in Nigeria. On October 2, 2019 the U.S. Department of Justice ("DOJ") informed Shell that it was closing its inquiry into Shell in relation to OPL 245. We understand that the decision was based on the facts available to the DOJ, including ongoing legal proceedings in Europe.

There remains a high degree of uncertainty around the OPL 245 matters and contingencies discussed above, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition. Accordingly, at this time, it is not practicable to estimate the magnitude and timing of any possible obligations or payments. Any violation of the US Foreign Corrupt Practices Act or other relevant anti-bribery, anti-corruption or anti-money laundering legislation could have a material adverse effect on Royal Dutch Shell plc's earnings, cash flows and financial condition.

26 – EMPLOYEES

Employee costs

$ million

	2019	2018	2017
Remuneration	10,075	10,167	10,855
Social security contributions	844	810	844
Retirement benefits (see Note 17)	1,753	1,878	1,815
Share-based compensation (see Note 21)	537	531	802
Total [A]	13,209	13,386	14,316

[A] Excludes employees seconded to joint ventures and associates.

Average employee numbers

Thousand

	2019	2018	2017
Integrated Gas	10	9	8
Upstream	14	14	16
Downstream	36	39	42
Corporate [A]	23	20	19
Total [B]	83	82	85

[A] Includes all employees working in business service centres irrespective of the segment they support.
[B] Excludes employees seconded to joint ventures and associates (2019: 3,000 employees, 2018: 3,000 employees, 2017: 3,000 employees).

27 – DIRECTORS AND SENIOR MANAGEMENT

Remuneration of Directors of the Company

$ million

	2019	2018	2017
Emoluments	8	12	11
Value of released awards under long-term incentive plans	12	20	5
Employer contributions to pension plans	1	1	1

Emoluments comprise salaries and fees, annual bonuses (for the period for which performance is assessed) and other benefits. The value of released awards under long-term incentive plans for the period is in respect of the performance period ending in that year. In 2019, retirement benefits were accrued in respect of qualifying services under defined benefit plans by two Directors.

Further information on the remuneration of the Directors can be found in the Directors' Remuneration Report on pages 135-138.

27 – DIRECTORS AND SENIOR MANAGEMENT continued

Directors and Senior Management expense

$ million

	2019	2018	2017
Short-term benefits	18	26	23
Retirement benefits	3	3	3
Share-based compensation	15	14	17
Termination and related amounts	2	–	3
Total	38	43	46

Directors and Senior Management comprise members of the Executive Committee and the Non-executive Directors of the Company.

Short-term benefits comprise salaries and fees, annual bonuses delivered in cash and shares (for the period for which performance is assessed), other benefits and employer social security contributions.

28 – AUDITOR'S REMUNERATION

$ million

	2019	2018	2017
Fees in respect of the audit of the Consolidated and Parent Company Financial Statements, including audit of consolidation returns	32	31	27
Other audit fees, principally in respect of audits of accounts of subsidiaries	18	16	21
Total audit fees	50	47	48
Audit-related fees	4	5	4
Fees in respect of other non-audit services	–	1	1
Total	54	53	53

In addition, the auditor provided audit services to retirement benefit plans for employees of subsidiaries. Remuneration paid by those benefit plans amounted to $1 million in 2019 (2018: $1 million; 2017: $1 million).

29 – POST-BALANCE SHEET EVENTS

On February 27, 2020 the fully-consolidated Shell Midstream Partners, L.P. ("SHLX") signed an agreement with its Shell-controlled general partner to eliminate all incentive distribution rights and economic general partner interest in SHLX and convert the general partner's two per cent general partner interest in SHLX into a non-economic general partner interest in SHLX. SHLX has also entered into a Purchase and Sale Agreement with Shell affiliates to acquire our 79% interest in the Mattox Pipeline Company LLC, which owns the Mattox Pipeline, and certain logistics assets at the Shell Norco Manufacturing Complex. As consideration for the assets and the elimination of incentive distribution rights, Shell will receive 160 million newly issued SHLX common units, plus $1.2 billion of Series A perpetual convertible preferred units at a price of $23.63 per unit. The transaction is expected to close in the second quarter of 2020 and is subject to regulatory approvals and other customary closing conditions.

After the balance sheet date, we have seen macro-economic uncertainty with regards to prices and demand for oil, gas and products as a result of the COVID-19 (coronavirus) outbreak. Furthermore, recent global developments and uncertainty in oil supply in March have caused further abnormally large volatility in commodity markets. The scale and duration of these developments remain uncertain but could impact our earnings, cash flow and financial condition.

SUPPLEMENTARY INFORMATION – OIL AND GAS (UNAUDITED)

The information set out on pages 239-256 is referred to as "unaudited" as a means of clarifying that it is not covered by the audit opinion of the independent registered public accounting firm that has audited and reported on the Consolidated Financial Statements.

PROVED RESERVES

Proved reserves estimates are calculated pursuant to the US Securities and Exchange Commission ("SEC") Rules and the Financial Accounting Standard Board's Topic 932. Proved reserves can be either developed or undeveloped. The definitions used are in accordance with the SEC Rule 4–10 (a) of Regulation S-X. We include proved reserves associated with future production that will be consumed in operations.

Proved reserves shown are net of any quantities of crude oil or natural gas that are expected to be (or could be) taken as royalties in kind. Proved reserves outside North America include quantities that will be settled as royalties in cash. Proved reserves include certain quantities of crude oil or natural gas that will be produced under arrangements that involve Shell subsidiaries, joint ventures and associates in risks and rewards but do not transfer title of the product to those entities.

Subsidiaries' proved reserves at December 31, 2019, were divided into 79% developed and 21% undeveloped on a barrel of oil equivalent basis. For the Shell share of joint ventures and associates, the proved reserves at December 31, 2019, were divided into 86% developed and 14% undeveloped on a barrel of oil equivalent basis.

Proved reserves are recognised under various forms of contractual agreements. Shell's proved reserves volumes at December 31, 2019, present in agreements such as production-sharing contracts ("PSC"), tax/variable royalty contracts or other forms of economic entitlement contracts, where the Shell share of reserves can vary with commodity prices, were 2,170 million barrels of crude oil and natural gas liquids, and 13,433 thousand million standard cubic feet (scf) of natural gas.

Proved reserves cannot be measured exactly because estimation of reserves involves subjective judgement (see "Risk factors" on page 27 and our "Proved reserves assurance process" below). These estimates remain subject to revision and are unaudited supplementary information.

PROVED RESERVES ASSURANCE PROCESS

A central group of reserves experts, who on average have around 28 years' experience in the oil and gas industry, undertake the primary assurance of the proved reserves bookings. This group of experts is part of the Resources Assurance and Reporting ("RAR") organisation within Shell. A Vice President with 34 years' experience in the oil and gas industry currently heads the RAR organisation. He is a member of the Society of Petroleum Engineers, Society of Petroleum Evaluation Engineers and holds a BA in mathematics from Oxford University and an MEng in Petroleum Engineering from Heriot Watt University. The RAR organisation reports directly to an Executive Vice President of Finance, who is a member of the Upstream Reserves Committee ("URC"). The URC is a multidisciplinary committee consisting of senior representatives from the Finance, Legal, Projects & Technology and Upstream organisations. The URC reviews and endorses all major (larger than 20 million barrels of oil equivalent) proved reserves bookings and de-bookings and endorses the total aggregated proved reserves. Final approval of all proved reserves bookings remains with Shell's Executive Committee, and all proved reserves bookings are reviewed by Shell's Audit Committee. The Internal Audit function also provides secondary assurance through audits of the control framework.

CRUDE OIL, NATURAL GAS LIQUIDS, SYNTHETIC CRUDE OIL AND BITUMEN

Shell subsidiaries' proved reserves of crude oil, natural gas liquids ("NGLs"), synthetic crude oil and bitumen at the end of the year; their share of the proved reserves of joint ventures and associates at the end of the year; and the changes in such reserves during the year are set out on pages 240-242. Significant changes in these proved reserves are discussed below, where 'revisions and reclassifications' are changes based on new information that resulted from development drilling, production history, and changes in economic factors.

PROVED RESERVES 2019–2018

Shell subsidiaries

Europe

The net decrease of 65 million barrels in sales and purchases resulted from divestments carried out in Denmark.

Asia

The net increase of 226 million barrels in revisions and reclassifications was mainly in Oman and Kazakhstan.

USA

The increase of 86 million barrels in revisions and reclassifications mainly resulted from field performance studies and development activities in the Permian Basin and in Mars and Ursa field in the Gulf of Mexico. The increase of 74 million barrels in extensions and discoveries was in the Permian Basin and PowerNap.

South America

The increase of 72 million barrels in revisions and reclassifications mainly resulted from field performance studies and development activities in Lula and Lapa Field (Brazil). The net increase of 60 million barrels in extensions and discoveries was mainly in Mero (Brazil).

PROVED RESERVES 2018–2017

Shell subsidiaries

Europe

The net increase of 94 million barrels in revisions and reclassifications was mainly in the UK and Denmark.

Asia

The net increase of 227 million barrels in revisions and reclassifications was mainly in Oman and Kazakhstan. The sale of minerals in place of 52 million barrels occurred in Iraq (West Qurna) and Oman (Mukhaizna).

USA

The net increase of 81 million barrels in revisions and reclassifications was mainly in the Mars and Ursa fields in the Gulf of Mexico. The increase of 179 million barrels in extensions and discoveries was mainly in the Vito field in the Gulf of Mexico and in the Permian Basin.

South America

The net increase of 139 million barrels in extensions and discoveries was mainly in Mero (Brazil) and Vaca Muerta (Argentina).

SUPPLEMENTARY INFORMATION – OIL AND GAS (UNAUDITED) continued

Proved developed and undeveloped reserves 2019

Million barrels

	Europe	Asia	Oceania	Africa	North America				South America				Total
					USA			Canada					
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	All products
Shell subsidiaries													
At January 1	368	1,502	129	420	1,017	23	661	–	1,027	4,486	661	–	5,147
Revisions and reclassifications	27	226	2	33	86	(2)	(34)	–	72	444	(34)	–	410
Improved recovery	–	–	–	–	–	–	–	–	4	4	–	–	4
Extensions and discoveries	–	7	–	6	74	11	–	–	60	158	–	–	158
Purchases of minerals in place	–	–	–	–	5	–	–	–	–	5	–	–	5
Sales of minerals in place	(65)	–	–	–	(29)	(2)	–	–	–	(96)	–	–	(96)
Production [A]	(56)	(184)	(10)	(64)	(171)	(12)	(20)	–	(130)	(627)	(20)	–	(647)
At December 31	274	1,551	121	395	982	18	607	–	1,033	4,374	607	–	4,981
Shell share of joint ventures and associates													
At January 1	9	281	–	–	–	–	–	–	–	290	–	–	290
Revisions and reclassifications	4	21	–	–	–	–	–	–	–	25	–	–	25
Improved recovery	–	4	–	–	–	–	–	–	–	4	–	–	4
Extensions and discoveries	–	2	–	–	–	–	–	–	–	2	–	–	2
Purchases of minerals in place	–	–	–	–	–	–	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	–	–	–	–	–	–	–	–	–
Production	(1)	(37)	–	–	–	–	–	–	–	(38)	–	–	(38)
At December 31	12	271	–	–	–	–	–	–	–	283	–	–	283
Total	286	1,822	121	395	982	18	607	–	1,033	4,657	607	–	5,264
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	–	–	–	–	–	–	304	–	–	–	304	–	304

[A] Includes 1 million barrels consumed in operations for synthetic crude oil.

Proved developed reserves 2019

Million barrels

	Europe	Asia	Oceania	Africa	North America				South America				Total
					USA			Canada					
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	All products
Shell subsidiaries													
At January 1	243	1,318	108	335	629	21	661	–	634	3,288	661	–	3,949
At December 31	156	1,403	106	314	641	15	607	–	675	3,310	607	–	3,917
Shell share of joint ventures and associates													
At January 1	8	251	–	–	–	–	–	–	–	259	–	–	259
At December 31	11	240	–	–	–	–	–	–	–	251	–	–	251

Proved undeveloped reserves 2019

Million barrels

	Europe	Asia	Oceania	Africa	North America				South America				Total
					USA			Canada					
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	All products
Shell subsidiaries													
At January 1	124	185	21	85	388	2	–	–	394	1,199	–	–	1,199
At December 31	118	149	15	80	341	3	–	–	358	1,064	–	–	1,064
Shell share of joint ventures and associates													
At January 1	1	30	–	–	–	–	–	–	–	31	–	–	31
At December 31	1	31	–	–	–	–	–	–	–	32	–	–	32

Proved developed and undeveloped reserves 2018

Million barrels

	Europe	Asia	Oceania	Africa	North America				South America				Total
					USA			Canada					
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	All products
Shell subsidiaries													
At January 1	356	1,482	132	463	899	22	649	–	946	4,300	649	–	4,949
Revisions and reclassifications	94	227	14	18	81	7	32	–	48	489	32	–	521
Improved recovery	–	27	–	–	–	–	–	–	14	41	–	–	41
Extensions and discoveries	2	3	–	–	179	6	–	–	139	329	–	–	329
Purchases of minerals in place	–	–	–	–	–	–	–	–	3	3	–	–	3
Sales of minerals in place	(14)	(52)	(8)	–	(2)	–	–	–	–	(76)	–	–	(76)
Production [A]	(70)	(185)	(9)	(61)	(140)	(13)	(20)	–	(122)	(600)	(20)	–	(620)
At December 31	368	1,502	129	420	1,017	23	661	–	1,027	4,486	661	–	5,147
Shell share of joint ventures and associates													
At January 1	12	301	–	–	–	–	–	–	–	313	–	–	313
Revisions and reclassifications	(2)	(2)	–	–	–	–	–	–	–	(4)	–	–	(4)
Improved recovery	–	–	–	–	–	–	–	–	–	–	–	–	–
Extensions and discoveries	–	18	–	–	–	–	–	–	–	18	–	–	18
Purchases of minerals in place	–	–	–	–	–	–	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	–	–	–	–	–	–	–	–	–
Production	(1)	(37)	–	–	–	–	–	–	–	(38)	–	–	(38)
At December 31	9	281	–	–	–	–	–	–	–	290	–	–	290
Total	377	1,783	129	420	1,017	23	661	–	1,027	4,776	661	–	5,437
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	–	–	–	–	–	–	331	–	–	–	331	–	331

[A] Includes 1 million barrels consumed in operations for synthetic crude oil.

Proved developed reserves 2018

Million barrels

	Europe	Asia	Oceania	Africa	North America				South America				Total
					USA			Canada					
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	All products
Shell subsidiaries													
At January 1	250	1,364	46	373	569	21	649	–	651	3,274	649	–	3,923
At December 31	243	1,318	108	335	629	21	661	–	634	3,288	661	–	3,949
Shell share of joint ventures and associates													
At January 1	11	253	–	–	–	–	–	–	–	264	–	–	264
At December 31	8	251	–	–	–	–	–	–	–	259	–	–	259

Proved undeveloped reserves 2018

Million barrels

	Europe	Asia	Oceania	Africa	North America				South America				Total
					USA			Canada					
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	All products
Shell subsidiaries													
At January 1	106	118	86	90	330	1	–	–	295	1,026	–	–	1,026
At December 31	124	185	21	85	388	2	–	–	394	1,199	–	–	1,199
Shell share of joint ventures and associates													
At January 1	1	48	–	–	–	–	–	–	–	49	–	–	49
At December 31	1	30	–	–	–	–	–	–	–	31	–	–	31

SUPPLEMENTARY INFORMATION – OIL AND GAS (UNAUDITED) continued

Proved developed and undeveloped reserves 2017

Million barrels

	Europe	Asia	Oceania	Africa	North America				South America				Total
					USA			Canada					
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	All products
Shell subsidiaries													
At January 1	435	1,386	128	529	491	18	2,014	2	992	3,979	2,014	2	5,995
Revisions and reclassifications	61	153	13	23	235	8	(3)	2	38	531	(3)	2	530
Improved recovery	–	35	–	–	38	–	–	–	–	73	–	–	73
Extensions and discoveries	–	95	–	–	242	7	–	–	30	374	–	–	374
Purchases of minerals in place	–	–	–	–	2	–	664	–	–	2	664	–	666
Sales of minerals in place	(50)	–	–	(14)	–	–	(1,992)	(2)	–	(64)	(1,992)	(2)	(2,058)
Production [A]	(90)	(187)	(9)	(75)	(109)	(11)	(34)	(2)	(114)	(595)	(34)	(2)	(631)
At December 31	356	1,482	132	463	899	22	649	–	946	4,300	649	–	4,949
Shell share of joint ventures and associates													
At January 1	7	256	–	–	–	–	–	–	–	263	–	–	263
Revisions and reclassifications	6	76	–	–	–	–	–	–	–	82	–	–	82
Improved recovery	–	3	–	–	–	–	–	–	–	3	–	–	3
Extensions and discoveries	–	1	–	–	–	–	–	–	–	1	–	–	1
Purchases of minerals in place	–	–	–	–	–	–	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	–	–	–	–	–	–	–	–	–
Production	(1)	(35)	–	–	–	–	–	–	–	(36)	–	–	(36)
At December 31	12	301	–	–	–	–	–	–	–	313	–	–	313
Total	368	1,783	132	463	899	22	649	–	946	4,613	649	–	5,262
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	–	–	–	–	–	–	325	–	–	–	325	–	325

[A] Includes 1 million barrels consumed in operations for synthetic crude oil.

Proved developed reserves 2017

Million barrels

	Europe	Asia	Oceania	Africa	North America				South America				Total
					USA			Canada					
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	All products
Shell subsidiaries													
At January 1	257	1,184	36	461	437	14	1,387	2	543	2,932	1,387	2	4,321
At December 31	250	1,364	46	373	569	21	649	–	651	3,274	649	–	3,923
Shell share of joint ventures and associates													
At January 1	4	215	–	–	–	–	–	–	–	219	–	–	219
At December 31	11	253	–	–	–	–	–	–	–	264	–	–	264

Proved undeveloped reserves 2017

Million barrels

	Europe	Asia	Oceania	Africa	North America				South America				Total
					USA			Canada					
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	Oil and NGL	Oil and NGL	Synthetic crude oil	Bitumen	All products
Shell subsidiaries													
At January 1	178	202	92	68	54	4	627	–	449	1,047	627	–	1,674
At December 31	106	118	86	90	330	1	–	–	295	1,026	–	–	1,026
Shell share of joint ventures and associates													
At January 1	3	41	–	–	–	–	–	–	–	44	–	–	44
At December 31	1	48	–	–	–	–	–	–	–	49	–	–	49

NATURAL GAS

Shell subsidiaries' proved reserves of natural gas at the end of the year, their share of the proved reserves of joint ventures and associates at the end of the year, and the changes in such reserves during the years are set out on pages 244-246. Significant changes in these proved reserves are discussed below. Volumes are not adjusted to standard heat content. Apart from integrated projects, volumes of gas are reported on an "as-sold" basis. The price used to calculate future revenue and cash flows from proved gas reserves is the contract price or the 12-month average on "as-sold" volumes. Volumes associated with integrated projects are those measured at a designated transfer point between the upstream and downstream portions of the integrated project. Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

PROVED RESERVES 2019–2018

Shell subsidiaries

Asia

The net increase of 859 thousand million scf in revisions and reclassifications was mainly in Qatar and Malaysia (Sabah and Sarawak).

Oceania

The net increase of 699 thousand million scf in revisions and reclassifications was mainly in Surat, Gorgon and Jansz-Io.

Africa

The net increase of 290 thousand million scf in revisions and reclassifications was mainly in Bonny and Gbaran (Nigeria).

Canada

The net increase of 317 thousand million scf in extensions and discoveries was mainly in Groundbirch.

Shell share of joint ventures and associates

Europe

The net decrease of 322 thousand million scf in revisions and reclassifications was mainly in Groningen (Netherlands).

PROVED RESERVES 2018–2017

Shell subsidiaries

Europe

The net increase of 1,183 thousand million scf in revisions and reclassifications was mainly in Norway, the UK, Denmark and Germany.

Asia

The net decrease of 483 thousand million scf in revisions and reclassifications was mainly in Qatar, Malaysia and Kazakhstan. The increase of 354 thousand million scf in extensions and discoveries was in Malaysia.

Oceania

The net increase of 1,438 thousand million scf in revisions and reclassifications was mainly in the Surat Basin, Jansz-Io and Gorgon (all Australia).

Africa

The net increase of 896 thousand million scf in revisions and reclassifications was mainly in Gbaran, Assa North, Forcaddos-Yokri (Nigeria) and Sapphire (Egypt).

USA

The net decrease of 296 thousand million scf in revisions and reclassifications was mainly in Tioga. The increase of 283 thousand million scf in extensions and discoveries was mainly in the Permian Basin.

Shell share of joint ventures and associates

Europe

The net decrease of 3,653 thousand million scf in revisions and reclassifications was mainly in Groningen (the Netherlands). Groningen: The decrease of 3,673 thousand million scf is as a result of the Dutch cabinet's announcement on March 29, 2018, about its aspiration to end Groningen production by 2030, and an agreement signed by Shell, ExxonMobil and the Dutch government in June 2018. The proved reserves are aligned with the new regulatory framework and the updated production outlook issued in November 2018 by the Dutch Ministry of Economic Affairs.

SUPPLEMENTARY INFORMATION – OIL AND GAS (UNAUDITED) continued

Proved developed and undeveloped reserves 2019

Thousand million standard cubic feet

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	3,600	10,631	8,427	2,544	2,147	989	1,509	29,847
Revisions and reclassifications	(46)	859	699	290	114	235	29	2,180
Improved recovery	–	–	–	–	–	–	3	3
Extensions and discoveries	–	36	–	152	142	317	37	684
Purchases of minerals in place	–	–	–	–	5	–	–	5
Sales of minerals in place	(210)	–	–	–	(132)	(30)	–	(372)
Production [A]	(346)	(908)	(766)	(378)	(408)	(230)	(319)	(3,355)
At December 31	2,998	10,618	8,360	2,608	1,868	1,281	1,259	28,992
Shell share of joint ventures and associates								
At January 1	1,163	4,581	24	–	–	–	–	5,768
Revisions and reclassifications	(322)	64	34	–	–	–	–	(224)
Improved recovery	–	1	–	–	–	–	–	1
Extensions and discoveries	–	5	–	–	–	–	–	5
Purchases of minerals in place	–	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	–	–	–	–
Production [B]	(246)	(453)	(22)	–	–	–	–	(721)
At December 31	595	4,198	36	–	–	–	–	4,829
Total	3,593	14,816	8,396	2,608	1,868	1,281	1,259	33,821
Reserves attributable to non-controlling interest in shell subsidiaries at December 31	–	–	–	–	–	–	–	–

[A] Includes 247 thousand million standard cubic feet consumed in operations.
[B] Includes 42 thousand million standard cubic feet consumed in operations.

Proved developed reserves 2019

Thousand million standard cubic feet

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	2,658	10,092	5,820	1,573	1,706	721	1,238	23,808
At December 31	2,060	10,091	5,769	1,523	1,615	781	968	22,807
Shell share of joint ventures and associates								
At January 1	1,136	3,938	24	–	–	–	–	5,099
At December 31	555	3,519	36	–	–	–	–	4,110

Proved undeveloped reserves 2019

Thousand million standard cubic feet

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	942	539	2,607	971	441	268	271	6,039
At December 31	937	528	2,591	1,085	254	499	291	6,185
Shell share of joint ventures and associates								
At January 1	27	643	–	–	–	–	–	670
At December 31	39	680	–	–	–	–	–	719

Proved developed and undeveloped reserves 2018

Thousand million standard cubic feet

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	3,100	11,822	7,978	2,082	2,569	1,272	1,501	30,324
Revisions and reclassifications	1,183	(483)	1,438	896	(296)	(153)	181	2,766
Improved recovery	–	–	–	–	–	–	7	7
Extensions and discoveries	3	354	–	–	283	131	65	836
Purchases of minerals in place	–	–	–	–	–	–	14	14
Sales of minerals in place	(192)	(157)	(232)	–	(32)	–	–	(613)
Production [A]	(494)	(906)	(757)	(434)	(377)	(261)	(258)	(3,487)
At December 31	3,600	10,631	8,427	2,544	2,147	989	1,509	29,847
Shell share of joint ventures and associates								
At January 1	5,125	4,964	19	–	–	–	–	10,108
Revisions and reclassifications	(3,653)	62	25	–	–	–	–	(3,566)
Improved recovery	–	–	–	–	–	–	–	–
Extensions and discoveries	–	5	–	–	–	–	–	5
Purchases of minerals in place	–	–	–	–	–	–	–	–
Sales of minerals in place	(37)	–	–	–	–	–	–	(37)
Production [B]	(273)	(450)	(20)	–	–	–	–	(743)
At December 31	1,163	4,581	24	–	–	–	–	5,768
Total	4,763	15,212	8,451	2,544	2,147	989	1,509	35,615
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	–	–	–	–	–	–	–	–

[A] Includes 245 thousand million standard cubic feet consumed in operations.
[B] Includes 41 thousand million standard cubic feet consumed in operations.

Proved developed reserves 2018

Thousand million standard cubic feet

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	2,978	11,460	5,026	1,493	1,652	859	1,225	24,693
At December 31	2,658	10,092	5,820	1,573	1,706	721	1,238	23,808
Shell share of joint ventures and associates								
At January 1	5,055	4,275	19	–	–	–	–	9,349
At December 31	1,136	3,938	24	–	–	–	–	5,099

Proved undeveloped reserves 2018

Thousand million standard cubic feet

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	122	362	2,952	589	917	413	276	5,631
At December 31	942	539	2,607	971	441	268	271	6,039
Shell share of joint ventures and associates								
At January 1	70	689	–	–	–	–	–	759
At December 31	27	643	–	–	–	–	–	670

SUPPLEMENTARY INFORMATION – OIL AND GAS (UNAUDITED) continued

Proved developed and undeveloped reserves 2017

Thousand million standard cubic feet

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	3,741	11,073	9,051	2,225	675	844	1,650	29,259
Revisions and reclassifications	197	979	(574)	287	958	412	45	2,304
Improved recovery	–	66	–	–	74	–	–	140
Extensions and discoveries	2	549	–	–	1,163	205	6	1,925
Purchases of minerals in place	–	–	204	–	3	43	27	277
Sales of minerals in place	(224)	–	–	(7)	(11)	(6)	–	(248)
Production [A]	(616)	(845)	(703)	(423)	(293)	(226)	(227)	(3,333)
At December 31	3,100	11,822	7,978	2,082	2,569	1,272	1,501	30,324
Shell share of joint ventures and associates								
At January 1	6,497	4,754	31	–	–	–	–	11,282
Revisions and reclassifications	(1,027)	652	9	–	–	–	–	(366)
Improved recovery	–	1	–	–	–	–	–	1
Extensions and discoveries	–	11	–	–	–	–	–	11
Purchases of minerals in place	–	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	–	–	–	–
Production [B]	(345)	(454)	(21)	–	–	–	–	(820)
At December 31	5,125	4,964	19	–	–	–	–	10,108
Total	8,225	16,786	7,997	2,082	2,569	1,272	1,501	40,432
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	–	2	–	–	–	–	–	2

[A] Includes 215 thousand million standard cubic feet consumed in operations.
[B] Includes 41 thousand million standard cubic feet consumed in operations.

Proved developed reserves 2017

Thousand million standard cubic feet

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	3,437	10,569	3,966	1,618	563	458	1,172	21,783
At December 31	2,978	11,460	5,026	1,493	1,652	859	1,225	24,693
Shell share of joint ventures and associates								
At January 1	5,240	4,110	31	–	–	–	–	9,381
At December 31	5,055	4,275	19	–	–	–	–	9,349

Proved undeveloped reserves 2017

Thousand million standard cubic feet

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	304	504	5,085	607	112	386	478	7,476
At December 31	122	362	2,952	589	917	413	276	5,631
Shell share of joint ventures and associates								
At January 1	1,257	644	–	–	–	–	–	1,901
At December 31	70	689	–	–	–	–	–	759

STANDARDISED MEASURE OF DISCOUNTED FUTURE CASH FLOWS

The SEC Form 20-F requires the disclosure of a standardised measure of discounted future net cash flows, relating to proved reserves quantities and based on a 12-month unweighted arithmetic average sales price, calculated on a first-day-of-the-month basis, with cost factors based on those at the end of each year, currently enacted tax rates and a 10% annual discount factor. In our view, the information so calculated does not provide a reliable measure of future cash flows from proved reserves, nor does it permit a realistic comparison to be made of one entity with another because the assumptions used cannot reflect the varying circumstances within each entity. In addition, a substantial but unknown proportion of future real cash flows from oil and gas production activities is expected to derive from reserves which have already been discovered, but which cannot yet be regarded as proved.

STANDARDISED MEASURE OF DISCOUNTED FUTURE CASH FLOWS RELATING TO PROVED RESERVES AT DECEMBER 31

2019 – Shell subsidiaries

$ million

					North America		South	
	Europe	Asia	Oceania	Africa	USA	Canada	America	Total
Future cash inflows	33,762	111,802	71,775	31,046	55,800	31,522	64,957	400,664
Future production costs	11,818	32,581	21,589	12,158	30,139	16,651	32,362	157,298
Future development costs	6,047	13,449	10,103	4,081	11,137	4,603	13,219	62,639
Future tax expenses	9,285	25,938	7,016	10,542	2,397	2,313	5,429	62,920
Future net cash flows	6,612	39,834	33,067	4,265	12,127	7,955	13,947	117,807
Effect of discounting cash flows at 10%	1,917	17,851	13,328	377	1,815	5,571	4,094	44,953
Standardised measure of discounted future net cash flows	4,695	21,983	19,739	3,888	10,312	2,384	9,853	72,854
Non-controlling interest included	–	–	–	–	–	1,371	–	1,371

2019 – Shell share of joint ventures and associates

$ million

					North America		South	
	Europe	Asia	Oceania	Africa	USA	Canada	America	Total
Future cash inflows	3,615	38,099	122	–	–	–	–	41,836
Future production costs	2,810	18,336	81	–	–	–	–	21,227
Future development costs	935	6,946	36	–	–	–	–	7,917
Future tax expenses	718	6,160	4	–	–	–	–	6,882
Future net cash flows	(848)	6,657	1	–	–	–	–	5,812
Effect of discounting cash flows at 10%	(266)	1,190	(7)	–	–	–	–	917
Standardised measure of discounted future net cash flows	(582) [A]	5,467	8	–	–	–	–	4,893

[A] While proved reserves are economically producible at the 2019 yearly average price, the standardised measure of discounted future net cash flows was negative for those proved reserves at December 31, 2019, due to addition of overhead, tax and abandonment costs and ongoing commitments post production of proved reserves.

2018 – Shell subsidiaries

$ million

					North America		South	
	Europe	Asia	Oceania	Africa	USA	Canada	America	Total
Future cash inflows	50,392	122,037	72,355	36,080	68,546	34,719	74,417	458,545
Future production costs	18,400	32,773	22,219	13,237	32,533	17,378	42,301	178,842
Future development costs	8,649	12,301	11,598	4,672	11,486	4,674	6,991	60,370
Future tax expenses	12,603	30,994	5,899	12,805	1,948	3,257	7,764	75,271
Future net cash flows	10,739	45,969	32,639	5,366	22,578	9,411	17,360	144,062
Effect of discounting cash flows at 10%	3,024	20,957	12,130	572	5,039	6,446	6,048	54,217
Standardised measure of discounted future net cash flows	7,715	25,012	20,509	4,794	17,539	2,964	11,312	89,845
Non-controlling interest included	–	1	–	–	–	1,638	–	1,639

SUPPLEMENTARY INFORMATION – OIL AND GAS (UNAUDITED) continued

2018 – Shell share of joint ventures and associates

$ million

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	5,260	44,327	104	–	–	–	–	49,691
Future production costs	2,712	20,886	80	–	–	–	–	23,677
Future development costs	1,083	6,726	36	–	–	–	–	7,844
Future tax expenses	1,136	7,128	1	–	–	–	–	8,265
Future net cash flows	329	9,588	(13)	–	–	–	–	9,904
Effect of discounting cash flows at 10%	(76)	2,759	(8)	–	–	–	–	2,675
Standardised measure of discounted future net cash flows	405	6,829	(5) [A]	–	–	–	–	7,229

[A] While proved reserves are economically producible at the 2018 yearly average price, the standardised measure of discounted future net cash flows was negative for those proved reserves at December 31, 2018, due to addition of overhead, tax and abandonment costs and ongoing commitments post production of proved reserves.

2017 – Shell subsidiaries

$ million

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	34,902	94,535	51,052	29,276	49,389	32,576	50,620	342,350
Future production costs	15,672	30,894	18,264	11,496	29,505	20,242	30,924	156,997
Future development costs	7,852	12,558	14,062	4,920	14,200	5,115	6,210	64,917
Future tax expenses	5,747	18,048	1,169	9,064	2,177	2,509	4,888	43,602
Future net cash flows	5,631	33,035	17,557	3,796	3,507	4,710	8,598	76,834
Effect of discounting cash flows at 10%	825	15,115	5,773	(9)	(796)	3,077	2,325	26,310
Standardised measure of discounted future net cash flows	4,806	17,920	11,784	3,805	4,303	1,633	6,273	50,524
Non-controlling interest included	–	1	–	–	–	870	–	871

2017 – Shell share of joint ventures and associates

$ million

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	22,725	37,954	69	–	–	–	–	60,748
Future production costs	17,442	17,592	54	–	–	–	–	35,088
Future development costs	1,051	7,605	64	–	–	–	–	8,720
Future tax expenses	1,803	5,172	–	–	–	–	–	6,975
Future net cash flows	2,429	7,585	(49)	–	–	–	–	9,965
Effect of discounting cash flows at 10%	1,008	1,862	(14)	–	–	–	–	2,856
Standardised measure of discounted future net cash flows	1,421	5,723	(35) [A]	–	–	–	–	7,109

[A] While proved reserves are economically producible at the 2017 yearly average price, the standardised measure of discounted future net cash flows was negative for those proved reserves at December 31, 2017, due to addition of overhead, tax and abandonment costs and ongoing commitments post production of proved reserves.

CHANGE IN STANDARDISED MEASURE OF DISCOUNTED FUTURE NET CASH FLOWS RELATING TO PROVED RESERVES

2019

$ million

	Shell subsidiaries	Shell share of joint ventures and associates	Total
At January 1	89,845	7,229	97,074
Net changes in prices and production costs	(18,759)	(1,017)	(19,776)
Revisions of previous reserves estimates	13,777	(293)	13,484
Extensions, discoveries and improved recovery	5,193	93	5,286
Purchases and sales of minerals in place	(2,831)	–	(2,831)
Development cost related to future production	(9,417)	(2)	(9,419)
Sales and transfers of oil and gas, net of production costs	(33,319)	(3,918)	(37,237)
Development cost incurred during the year	10,430	702	11,132
Accretion of discount	12,004	1,133	13,137
Net change in income tax	5,931	966	6,897
At December 31	72,854	4,893	77,747

2018

$ million

	Shell subsidiaries	Shell share of joint ventures and associates	Total
At January 1	50,524	7,109	57,633
Net changes in prices and production costs	58,128	6,156	64,284
Revisions of previous reserves estimates	15,265	(1,447)	13,818
Extensions, discoveries and improved recovery	8,936	532	9,468
Purchases and sales of minerals in place	(3,401)	(20)	(3,421)
Development cost related to future production	(3,876)	(308)	(4,184)
Sales and transfers of oil and gas, net of production costs	(38,014)	(4,858)	(42,872)
Development cost incurred during the year	10,724	666	11,390
Accretion of discount	7,060	994	8,054
Net change in income tax	(15,501)	(1,595)	(17,096)
At December 31	89,845	7,229	97,074

2017

$ million

	Shell subsidiaries	Shell share of joint ventures and associates	Total
At January 1	27,718	4,176	31,894
Net changes in prices and production costs	34,190	3,952	38,142
Revisions of previous reserves estimates	13,769	1,931	15,700
Extensions, discoveries and improved recovery	3,901	79	3,980
Purchases and sales of minerals in place	(2,068)	–	(2,068)
Development cost related to future production	(4,823)	461	(4,362)
Sales and transfers of oil and gas, net of production costs	(27,544)	(3,652)	(31,196)
Development cost incurred during the year	14,262	536	14,798
Accretion of discount	3,844	630	4,474
Net change in income tax	(12,725)	(1,004)	(13,729)
At December 31	50,524	7,109	57,633

SUPPLEMENTARY INFORMATION – OIL AND GAS (UNAUDITED) continued

OIL AND GAS EXPLORATION AND PRODUCTION ACTIVITIES CAPITALISED COSTS

The aggregate amount of property, plant and equipment and intangible assets, excluding goodwill, relating to oil and gas exploration and production activities, and the aggregate amount of the related depreciation, depletion and amortisation at December 31, are shown in the tables below.

Shell subsidiaries

$ million

	2019	2018
Cost		
Proved properties [A]	265,700	265,489
Unproved properties	18,669	21,256
Support equipment and facilities	11,043	6,404
	295,412	293,149
Depreciation, depletion and amortisation		
Proved properties [A]	129,809	126,641
Unproved properties	4,089	3,362
Support equipment and facilities	4,078	3,424
	137,976	133,427
Net capitalised costs	157,436	159,722

[A] Includes capitalised asset decommissioning and restoration costs and related depreciation.

Shell share of joint ventures and associates

$ million

	2019	2018
Cost		
Proved properties [A]	46,895	44,331
Unproved properties	2,428	2,591
Support equipment and facilities	4,882	4,399
	54,205	51,321
Depreciation, depletion and amortisation		
Proved properties [A]	34,120	31,702
Unproved properties	–	–
Support equipment and facilities	2,817	2,586
	36,937	34,288
Net capitalised costs	17,268	17,033

[A] Includes capitalised asset decommissioning and restoration costs and related depreciation.

OIL AND GAS EXPLORATION AND PRODUCTION ACTIVITIES COSTS INCURRED

Costs incurred during the year in oil and gas property acquisition, exploration and development activities, whether capitalised or charged to income currently, are shown in the tables below. As a result of the adoption of IFRS 16 *Leases* as of January 1, 2019, leases are included in year 2019. Development costs include capitalised asset decommissioning and restoration costs (including increases or decreases arising from changes to cost estimates or to the discount rate applied to the obligations) and exclude costs of acquiring support equipment and facilities, but include depreciation thereon.

Shell subsidiaries

$ million

					North America		South	
	Europe	Asia	Oceania	Africa	USA	Other [A]	America	Total
Acquisition of properties								
Proved	3	105	–	10	–	–	–	118
Unproved	–	11	–	67	118	5	3	204
Exploration	428	165	117	253	1,723	402	500	3,588 [B]
Development	2,054	1,434	1,225	1,480	4,455	287	2,418	13,353

[A] Comprises Canada and Mexico.
[B] Includes $1,195 million of Shales-related exploration activities. In 2019, we participated in 231 Shales productive exploratory wells with proved reserves allocated (Shell share: 117 wells).

2018

$ million

	Europe	Asia	Oceania	Africa	North America USA	North America Other [A]	South America	Total
Acquisition of properties								
Proved	3	3	–	596	44	–	–	646
Unproved	2	6	–	76	44	310	486	924
Exploration	384	182	49	188	1,912	251	502	3,468 [B]
Development	1,452	1,102	1,632	962	4,052	505	2,095	11,800

[A] Comprises Canada, Honduras and Mexico.
[B] Includes $1,581 million of Shales-related exploration activities. In 2018, we participated in 234 Shales productive exploratory wells with proved reserves allocated (Shell share: 118 wells).

2017

$ million

	Europe	Asia	Oceania	Africa	North America USA	North America Other [A]	South America	Total
Acquisition of properties								
Proved	–	–	–	10	–	2,246	19	2,275
Unproved	–	12	–	18	141	320	57	548
Exploration	329	135	38	138	1,354	235	600	2,829
Development	776	840	2,493	371	4,123	722	1,671	10,996

[A] Comprises Canada, Honduras and Mexico.

SHELL SHARE OF JOINT VENTURES AND ASSOCIATES

Joint ventures and associates did not incur costs in the acquisition of oil and gas properties in 2019, 2018 or 2017.

2019

$ million

	Europe	Asia	Oceania	Africa	North America USA	North America Canada	South America	Total
Exploration	1	116	12	–	–	–	–	129
Development	94	1,400	65	–	–	–	–	1,559

2018

$ million

	Europe	Asia	Oceania	Africa	North America USA	North America Canada	South America	Total
Exploration	–	90	14	–	–	–	–	104
Development	229	1,026	79	–	–	–	–	1,334

2017

$ million

	Europe	Asia	Oceania	Africa	North America USA	North America Canada	South America	Total
Exploration	3	82	8	–	–	–	–	93
Development	(22) [A]	660	58	–	–	–	–	696

[A] Includes a revision of decommissioning and restoration provisions.

SUPPLEMENTARY INFORMATION – OIL AND GAS (UNAUDITED) continued

OIL AND GAS EXPLORATION AND PRODUCTION ACTIVITIES EARNINGS

The results of operations for oil and gas producing activities are shown in the tables below. Taxes other than income tax include cash-paid royalties to governments outside North America.

Shell subsidiaries

2019

$ million

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Other [A]		
Revenue								
Third parties	1,257	3,065	931	1,936	2,638	632	844	11,303
Sales between businesses	4,911	10,526	4,719	3,289	7,786	1,936	7,647	40,814
Total	6,168	13,591	5,650	5,225	10,424	2,568	8,491	52,117
Production costs excluding taxes	1,582	2,065	1,178	1,062	2,807	983	1,135	10,812
Taxes other than income tax	94	749	136	370	103	–	2,613	4,065
Exploration	619	583	107	187	411	159	288	2,354
Depreciation, depletion and amortisation	2,604	2,130	1,957	1,354	6,932	858	3,929	19,764
Other costs/(income)	(20)	1,599	(105)	121	(575)	818	1,379	3,217
Earnings before taxation	1,289	6,465	2,377	2,131	746	(250)	(853)	11,905
Taxation charge/(credit)	848	4,013	1,094	1,431	154	(110)	(78)	7,352
Earnings after taxation	441	2,452	1,283	700	592	(140)	(775)	4,553

[A] Comprises Canada and Mexico.

2018

$ million

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Other [A]		
Revenue								
Third parties	1,875	3,364	1,389	2,401	2,165	507	1,023	12,724
Sales between businesses	6,705	11,284	4,683	3,586	7,716	1,946	7,154	43,074
Total	8,580	14,648	6,072	5,987	9,881	2,453	8,177	55,798
Production costs excluding taxes	2,262	2,143	1,073	1,093	2,573	1,069	1,401	11,614
Taxes other than income tax	122	841	199	328	83	–	2,767	4,340
Exploration	277	149	78	144	341	114	237	1,340
Depreciation, depletion and amortisation	2,684	2,301	1,571	1,394	4,543	(346)	3,271	15,418
Other costs/(income)	947	(180)	(514)	609	447	667	849	2,825
Earnings before taxation	2,288	9,394	3,665	2,419	1,894	949	(348)	20,261
Taxation (credit)/charge	2,047	4,851	893	902	550	236	1,162	10,641
Earnings after taxation	241	4,543	2,772	1,517	1,344	713	(1,510)	9,620

[A] Comprises Canada, Honduras and Mexico.

2017

$ million

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Other [A]		
Revenue								
Third parties	1,193	2,708	1,414	1,872	1,080	339	689	9,295
Sales between businesses	7,120	9,061	2,400	3,218	5,119	2,938	5,245	35,101
Total	8,313	11,769	3,814	5,090	6,199	3,277	5,934	44,396
Production costs excluding taxes	2,509	2,469	1,110	1,365	2,558	1,571	1,218	12,800
Taxes other than income tax	89	556	119	287	98	1	1,691	2,841
Exploration	243	245	42	129	868	142	276	1,945
Depreciation, depletion and amortisation	2,560	2,892	1,777	1,863	3,410	3,886	3,374	19,762
Other costs/(income)	(157)	1,073	(382)	145	114	1,050	469	2,312
Earnings before taxation	3,069	4,534	1,148	1,301	(849)	(3,373)	(1,094)	4,736
Taxation charge/(credit)	1,689	2,969	(202)	(361)	363	(1,486)	(294)	2,678
Earnings after taxation	1,380	1,565	1,350	1,662	(1,212)	(1,887)	(800)	2,058

[A] Comprises Canada, Honduras and Mexico.

SHELL SHARE OF JOINT VENTURES AND ASSOCIATES

$ million

					North America		South	
	Europe	Asia	Oceania	Africa	USA	Canada	America	Total
Third-party revenue	1,233	5,475	81	–	–	–	–	6,789
Total	1,233	5,475	81	–	–	–	–	6,789
Production costs excluding taxes	249	669	88	–	–	–	–	1,006
Taxes other than income tax	75	1,037	6	–	–	–	–	1,118
Exploration	4	51	–	–	–	–	–	55
Depreciation, depletion and amortisation	217	949	415	–	–	–	–	1,581
Other costs/(income)	547	622	(18)	–	1	1	–	1,153
Earnings before taxation	141	2,147	(410)	–	(1)	(1)	–	1,876
Taxation charge	39	957	–	–	–	–	–	996
Earnings after taxation	102	1,190	(410)	–	(1)	(1)	–	880

2018

$ million

					North America		South	
	Europe	Asia	Oceania	Africa	USA	Canada	America	Total
Third-party revenue	1,395	5,884	79	–	–	–	–	7,358
Total	1,395	5,884	79	–	–	–	–	7,358
Production costs excluding taxes	307	674	105	–	–	–	–	1,086
Taxes other than income tax	82	1,259	4	–	–	–	–	1,345
Exploration	5	45	–	–	–	–	–	50
Depreciation, depletion and amortisation	318	1,016	163	–	–	–	–	1,497
Other costs/(income)	595	615	(26)	–	–	–	–	1,184
Earnings before taxation	88	2,275	(167)	–	–	–	–	2,196
Taxation charge	7	975	–	–	–	–	–	982
Earnings after taxation	81	1,300	(167)	–	–	–	–	1,214

2017

$ million

					North America		South	
	Europe	Asia	Oceania	Africa	USA	Canada	America	Total
Third-party revenue	1,646	4,503	58	–	–	–	–	6,207
Total	1,646	4,503	58	–	–	–	–	6,207
Production costs excluding taxes	337	729	93	–	–	–	–	1,159
Taxes other than income tax	631	705	4	–	–	–	–	1,340
Exploration	7	57	4	–	–	–	–	68
Depreciation, depletion and amortisation	188	1,654	40	–	–	–	–	1,882
Other costs/(income)	(83)	511	(60)	–	–	–	–	368
Earnings before taxation	566	847	(23)	–	–	–	–	1,390
Taxation charge	173	197	–	–	–	–	–	370
Earnings after taxation	393	650	(23)	–	–	–	–	1,020

SUPPLEMENTARY INFORMATION – OIL AND GAS (UNAUDITED) continued

ACREAGE AND WELLS

The tables below reflect acreage and wells of Shell subsidiaries, joint ventures and associates. The term "gross" refers to the total activity in which Shell subsidiaries, joint ventures and associates have an interest. The term "net" refers to the sum of the fractional interests owned by Shell subsidiaries plus the Shell share of joint ventures and associates' fractional interests. Data below are rounded to the nearest whole number.

Oil and gas acreage (at December 31)

Thousand acres

	2019				2018				2017			
	Developed		Undeveloped		Developed		Undeveloped		Developed		Undeveloped	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Europe [A]	6,289	1,915	13,864	6,082	6,022 [B]	1,954 [B]	14,385 [C]	6,540 [C]	6,214 [D]	2,051 [D]	13,079 [E]	5,823 [E]
Asia	21,387	7,672	31,486	14,880	22,087	7,885	31,676	15,433	25,975	9,139	35,305	18,730
Oceania	3,025	1,215	11,720	6,260	3,202	1,220	15,319 [F]	10,095 [F]	3,296	1,255	22,295 [G]	13,985
Africa	4,663	1,938	62,965	32,564	4,666	1,940	38,874	22,732	4,663	1,938	33,453	20,811
North America – USA	1,333	877	2,489	1,917	1,541	952	2,133	1,635	1,936	1,134	2,718	1,937
North America – Mexico	–	–	5,178	3,291	–	–	5,178	3,885	–	–	–	–
North America – Canada	483	329	1,783	1,265	1,108	752	1,681	1,193	953	651	15,818	14,468
South America	1,393	595	16,446	10,214	1,490	710	10,352	6,725	1,302	606	9,338	6,196
Total	38,573	14,541	145,931	76,473	40,116	15,413	119,598	68,238	44,339	16,774	132,006	81,950

[A] Includes Greenland for 2018 and 2017.
[B] Corrected from 6,228 (1,958 net).
[C] Corrected from 15,443 (6,913 net).
[D] Corrected from 6,463 (2,071 net).
[E] Corrected from 14,119 (6,187 net).
[F] Corrected from 15,662 (10,298 net).
[G] Corrected from 22,406.

Number of productive wells [A] (at December 31)

	2019				2018				2017			
	Oil		Gas		Oil		Gas		Oil		Gas	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Europe	893	217	1,091	345	1,077	277	1,201	379	1,138 [B]	299 [B]	1,255 [C]	396 [C]
Asia	7,767	2,841	336	193	7,455 [D]	2,728 [D]	331	189	9,279	3,067	682	269
Oceania	–	–	3,352	1,896	–	–	3,411	1,924	–	–	3,499	1,926
Africa	514	206	202	139	478	189	195	132	380	155	180	122
North America – USA	14,935	7,638	822	516	15,224	7,745	1,479	672	15,408	7,817	1,636	717
North America – Canada	–	–	748	676	1	1	936	846	–	–	892	794
South America	137	63	58	36	117 [E]	52 [E]	63 [F]	41	111	47	55	32
Total	24,246	10,965	6,609	3,801	24,352	10,992	7,616	4,183	26,316	11,385	8,199	4,256

[A] The number of productive wells with multiple completions at December 31, 2019, was 955 gross (418 net); December 31, 2018: 1,061 gross (454 net), corrected from 1,132 Gross (489 Net); December 31, 2017: 1,696 gross (636 net).
[B] Corrected from 1,156 (303 net).
[C] Corrected from 1,235 (392 net).
[D] Corrected from 7,498 (2,750 net).
[E] Corrected from 119 (53 net).
[F] Corrected from 62.

Number of net productive wells and dry holes drilled

	2019		2018		2017	
	Productive	Dry	Productive	Dry	Productive	Dry
Exploratory [A]						
Europe	–	4	1	2	–	1
Asia	25	17	22 [B]	11 [C]	18 [D]	5
Oceania	–	2	–	–	2	–
Africa	8	8	6	6	2	3
North America – USA	89	9	104	4	9	6
North America – Canada	24	–	14		30	5
South America	8	1	6	7	6	–
Total	154	41	153	30	67	20
Development						
Europe	4	1	4	–	5	–
Asia	182	–	198 [E]	–	291 [F]	4
Oceania	16	–	54 [G]	–	63	–
Africa	34	–	24	1	24	3
North America – USA	280	5	276	–	237	–
North America – Canada	6	–	53	–	56	1
South America	10	1	5	–	1	–
Total	532	7	614	1	677	8

[A] Productive wells are wells with proved reserves allocated. Wells in the process of drilling are excluded and presented separately below.
[B] Corrected from 9.
[C] Corrected from 10.
[D] Corrected from 3.
[E] Corrected from 222.
[F] Corrected from 312.
[G] Corrected from 41.

Number of wells in the process of exploratory drilling [A]

	At January 1		Wells in the process of drilling at January 1 and allocated proved reserves during the year		Wells in the process of drilling at January 1 and determined as dry during the year		New wells in the process of drilling at December 31		At December 31	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Europe	19	10	(1)	–	(5)	(3)	2	1	15	8
Asia	75 [B]	28 [B]	(21)	(8)	(21)	(8)	20	8	53	20
Oceania	42 [C]	15	–	–	(3)	(1)	1	1	40	15
Africa	47	31	(3)	(3)	(6)	(6)	7	6	45	28
North America – USA	239 [D]	158 [D]	(126)	(60)	(13)	(9)	97	37	197	126
North America – Canada	5 [E]	5 [E]	(5)	(5)	–	–	21	21	21	21
South America	37 [F]	19	(10)	(7)	(1)	–	7	4	33	16
Total	464	266	(166)	(83)	(49)	(27)	155	78	404	234

[A] Wells in the process of exploratory drilling includes wells pending further evaluation.
[B] Corrected from 68 (25 net).
[C] Corrected from 45.
[D] Corrected from 151 (96 net).
[E] Corrected from 0 (0 net).
[F] Corrected from 36.

SUPPLEMENTARY INFORMATION – OIL AND GAS (UNAUDITED) continued

Number of wells in the process of development drilling

	2019			
	At January 1		At December 31	
	Gross	Net	Gross	Net
Europe	5	2	11	3
Asia	41 [A]	16 [A]	53	21
Oceania	19 [B]	8 [B]	123	71
Africa	5	5	5	2
North America – USA	40 [C]	20 [C]	41	34
North America – Canada	12 [D]	12 [D]	–	–
South America	9	4	12	8
Total	131	67	245	139

[A] Corrected from 36 (14 net).
[B] Corrected from 3 (1 net).
[C] Corrected from 64 (33 net).
[D] Corrected from 17 (17 net).

In addition to the present activities mentioned above, the following recovery methods are operational in the following countries: water flooding (Brazil (including water alternating gas), Brunei, Egypt, Malaysia, Nigeria, Norway, Oman, Russia, the UK and the USA); gas injection (Brunei, Kazakhstan, Malaysia, Nigeria and Oman); steam injection (the Netherlands, Oman and the USA), and polymer flooding (Oman).

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PARENT COMPANY FINANCIAL STATEMENTS continued

STATEMENT OF INCOME

$ million

	Notes	2019	2018
Dividend income		21,051	23,278
Interest and other income	3	101	141
Administrative expenses		(54)	(43)
Interest and other expense	3	(146)	(222)
Income before taxation		**20,952**	**23,154**
Taxation charge	6	567	44
Income for the period		**20,385**	**23,110**

STATEMENT OF COMPREHENSIVE INCOME

$ million

	2019	2018
Income for the period	20,385	23,110
Comprehensive income for the period	**20,385**	**23,110**

BALANCE SHEET

$ million

	Notes	Dec 31, 2019	Dec 31, 2018
Assets			
Non-current assets			
Investments in subsidiaries	4	256,654	256,920
Deferred tax	6	–	355
		256,654	**257,275**
Current assets			
Amounts due from subsidiaries	13	1,864	9,263
Cash and cash equivalents		4	3
		1,868	**9,266**
Total assets		**258,522**	**266,541**
Liabilities			
Current liabilities			
Accounts payable and accrued liabilities	5	1,775	4,862
Total liabilities		**1,775**	**4,862**
Equity			
Share capital	8	657	685
Other reserves	9	235,561	235,536
Retained earnings		20,529	25,458
Total equity		**256,747**	**261,679**
Total liabilities and equity		**258,522**	**266,541**

Signed on behalf of the Board

/s/ Jessica Uhl

JESSICA UHL
Chief Financial Officer
March 11, 2020

STATEMENT OF CHANGES IN EQUITY

$ million

	Notes	Share capital	Other reserves	Retained earnings	Total equity
At January 1, 2019		**685**	**235,536**	**25,458**	**261,679**
Comprehensive income for the period		–	–	20,385	20,385
Dividends	10	–	–	(15,199)	(15,199)
Repurchases of shares	8	(28)	28	(10,286)	(10,286)
Share-based compensation	9	–	(3)	171	168
At December 31, 2019		**657**	**235,561**	**20,529**	**256,747**
At January 1, 2018		**696**	**235,366**	**21,778**	**257,840**
Comprehensive income for the period		–	–	23,110	23,110
Dividends	10	–	–	(15,675)	(15,675)
Repurchases of shares	8	(11)	11	(4,519)	(4,519)
Share-based compensation [A]	9	–	159	764	923
At December 31, 2018		**685**	**235,536**	**25,458**	**261,679**

[A] The amendments to IFRS 2 *Share-based payment* became effective January 1, 2018. Following adoption of the amendments, components of share-based payments (related to tax) that were previously classified as cash-settled are classified as equity-settled from 2018 onwards.

STATEMENT OF CASH FLOWS

$ million

	Notes	2019	2018
Income for the period		20,385	23,110
Adjustment for:			
Dividend income		(21,051)	(23,278)
Taxation charge		567	44
Interest income		(101)	(141)
Interest expense		111	156
Share-based compensation		19	16
Decrease/(Increase) in working capital		4,008	(3,796)
Cash flow from operating activities		**3,938**	**(3,889)**
Dividends received		21,051	23,278
Interest received		101	141
Share-based compensation		408	248
Cash flow from investing activities		**21,560**	**23,667**
Cash dividends paid	10	(15,198)	(15,675)
Shares repurchased	8	(10,188)	(3,947)
Interest and other expenses paid		(111)	(156)
Cash flow from financing activities		**(25,497)**	**(19,778)**
Change in cash and cash equivalents		1	–
Cash and cash equivalents at beginning of the year		3	3
Cash and cash equivalents at end of the year		**4**	**3**

NOTES TO THE PARENT COMPANY FINANCIAL STATEMENTS

1 BASIS OF PREPARATION

The Financial Statements of Royal Dutch Shell plc (the "Company") have been prepared in accordance with the provisions of the Companies Act 2006 (the "Act") and with International Financial Reporting Standards ("IFRS") as adopted by the European Union. As applied to the Company, there are no material differences from IFRS as issued by the International Accounting Standards Board ("IASB"); therefore, the Financial Statements have been prepared in accordance with IFRS as issued by the IASB.

As described in the accounting policies in Note 2, the Financial Statements have been prepared under the historical cost convention except for certain items measured at fair value. Those accounting policies have been applied consistently in all periods.

The Financial Statements were approved and authorised for issue by the Board of Directors on March 11, 2020.

The preparation of financial statements in conformity with IFRS requires the use of certain accounting estimates. It also requires management to exercise its judgement in the process of applying the Company's accounting policies. Actual results may differ from those estimates.

The financial results of the Company are included in the Consolidated Financial Statements on pages 190-238. The financial results of the Company incorporate the results of the Dividend Access Trust (the "Trust"), the financial statements of which are presented on pages 268-271.

The Company's principal activity is being the parent company for Shell, as described in Note 1 of the Consolidated Financial Statements (see page 195)

2 SIGNIFICANT ACCOUNTING POLICIES

The Company's accounting policies follow those of Shell as set out in Note 2A of the Consolidated Financial Statements (see pages 195-203). The following are Company-specific policies.

PRESENTATION AND FUNCTIONAL CURRENCY

The Company's presentation and functional currency is US dollars (dollars).

INVESTMENTS

Investments in subsidiaries are stated at cost, net of any impairment. Investments are tested for impairment whenever events or changes in circumstances indicate that the carrying amounts for those investments may not be recoverable. For the purposes of determining whether impairment of investments in subsidiaries has occurred, and the extent of any impairment loss or its reversal, the key assumptions management uses in estimating risk-adjusted future cash flows for value-in-use measures include future oil and gas prices, expected production volumes and refining margins appropriate to the local circumstances and environment. These assumptions and the judgements of management that are based on them are subject to change as new information becomes available. Cash flow estimates are risk-adjusted to reflect local conditions as appropriate and discounted at a rate based on Shell's marginal cost of debt. Changes in economic conditions can also affect the rate used to discount future cash flow estimates. Future price assumptions are presented in Note 8 of the Consolidated Financial Statements (see pages 210-213).

The original cost of the Company's investment in Royal Dutch Petroleum Company ("Royal Dutch") was based on the fair value of the shares transferred to the Company by the former shareholders of Royal Dutch in exchange for A shares in the Company during the public exchange offer in 2005. The original cost of the Company's investment in The "Shell" Transport and Trading Company, plc, now The Shell Transport and Trading Company Limited ("Shell Transport"), was the fair value of the shares held by the former shareholders of The "Shell" Transport and Trading Company plc transferred in consideration for the issuance of B shares as part of the Scheme of Arrangement in 2005. The Company's investments in Royal Dutch and Shell Transport now represent an investment in Shell Petroleum N.V. ("Shell Petroleum"); this change had no impact on the cost of investments in subsidiaries. On February 15, 2016 the Company acquired all the voting rights in BG Group plc via the issuance of shares and cash payments of total fair value $53,086 million. In September 2016, the Company's shares in BG Group Limited ("BG"), formerly BG Group plc, were exchanged for an increased investment in Shell Petroleum.

DIVIDEND INCOME

Dividends are recognised on a paid basis unless the dividend has been confirmed by a general meeting of Shell Petroleum, in which case income is recognised on the date at which receipt is deemed virtually certain.

SHARE-BASED COMPENSATION PLANS

The fair value of share-based compensation for equity-settled plans granted to employees of subsidiaries under the Company's plans is recognised as an investment in subsidiaries from the date of grant over the vesting period with a corresponding increase in equity.

In the year of vesting of a plan, the costs for the actual deliveries are charged to the relevant employing subsidiaries. This is recognised as a realisation of the investment originally booked. If the actual vesting costs are higher than the cumulatively recognised share-based compensation charge, the difference is recognised in income.

Note 21 of the Consolidated Financial Statements (see page 232-233) for information on the Company's principal plan.

TAXATION

The Company is tax-resident in the Netherlands. For the assessment of corporate income tax in the Netherlands, the Company and certain of its subsidiaries form a fiscal unit, in respect of which the Company recognises any current tax receivable or payable (and deferred tax asset or liability) for the fiscal unit as a whole to the extent such balances have been settled between the Company and other members of the fiscal unit at the balance sheet date. Balances not settled with the Company at the balance sheet date are recognised in the member's financial statements and, to the extent they are material, are disclosed in the notes to the Company's financial statements.

The Company's tax charge or credit recognised in income is calculated at the statutory tax rate prevailing in the Netherlands for current tax and statutory tax rate substantively enacted in the Netherlands for deferred tax.

3 INTEREST AND OTHER INCOME/EXPENSE

$ million

	2019	2018
Interest and other income:		
Interest income	101	141
Total	101	141
Interest and other expenses:		
Interest expense	(111)	(156)
Foreign exchange losses	(35)	(66)
Total	(146)	(222)

4 INVESTMENTS IN SUBSIDIARIES

$ million

	2019	2018
At January 1	256,920	256,882
Share-based compensation	506	512
Recovery of vested share-based compensation	(772)	(474)
At December 31	256,654	256,920

5 ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

$ million

	Dec 31, 2019		Dec 31, 2018	
	Current	Non-current	Current	Non-current
Amounts due to subsidiaries (see Note 13)	750	–	3,934	–
Accruals and other liabilities	730	–	614	–
Withholding tax payable	291	–	311	–
Unclaimed dividends	4	–	3	–
Total	1,775	–	4,862	–

Accruals and other liabilities at December 31, 2019, and at December 31, 2018, principally comprise commitments for share repurchases undertaken on the Company's behalf under irrevocable, non-discretionary arrangements.

6 TAXATION

Taxation charge

$ million

	2019	2018
Current tax:		
Charge in respect of current period	9	–
Total	9	–
Deferred tax:		
Relating to the origination and reversal of tax losses and credits	539	33
Relating to changes in tax rates and legislation	19	11
Total	558	44
Taxation charge	567	44

In 2019, the deferred tax charge related to derecognition of deferred tax assets on unused tax losses and tax credits carried forward.

NOTES TO THE PARENT COMPANY FINANCIAL STATEMENTS continued

6 TAXATION continued

Reconciliation of applicable tax charge at statutory tax rate to taxation charge

$ million

	2019	2018
Income before taxation	20,952	23,154
Applicable tax charge at the statutory tax rate of 25.0% (2018: 25.0%)	5,238	5,789
Derecognition of deferred tax assets	539	–
Tax effects of:		
Income not subject to tax at statutory rates	(5,253)	(5,820)
Expenses not deductible for tax purposes	24	20
Other	19	55
Taxation charge	567	44

Taxes payable are reported within accounts payable and accrued liabilities (see Note 5).

Deferred tax assets

$ million

	2019	2018
At January 1	355	598
Recognised in income	(558)	(44)
Other movements	203	(199)
At December 31	–	355

In the Company's capacity as head of the fiscal unity, no deferred tax assets have been recognised at December 31, 2019. Deferred tax assets recognised in this capacity at December 31, 2018 amounted to $355 million and were in respect of credits carried forward and unused tax losses. At December 31, 2019, unrecognised unused tax losses amounted to $1,683 million (2018: $nil) and unrecognised credits carried forward amounted to $273 million (2018: $99 million). Unused tax losses are available for relief against future taxable profits for up to a period of six to nine years, dependent upon the year in which the losses were incurred. Unused tax credits are available indefinitely.

7 FINANCIAL INSTRUMENTS

Financial assets and liabilities measured at amortised cost in the Company's Balance Sheet comprise amounts due from subsidiaries (see Note 13) and certain amounts reported within accounts payable and accrued liabilities (see Note 5). The fair value of financial assets and liabilities at December 31, 2019, and 2018, approximates their carrying amount.

Information on financial risk management is presented in Note 19 of the Consolidated Financial Statements (see pages 227-231). Foreign currency derivatives are used by the Company to manage foreign exchange risk, which arises when certain transactions are denominated in a currency that is not the Company's functional currency. There were no derivative financial instruments held at December 31, 2019, or 2018.

8 SHARE CAPITAL

Issued and fully paid ordinary shares of €0.07 each [A]

	Number of shares		Nominal value ($ million)		
	A	B	A	B	Total
At January 1, 2019	4,471,889,296	3,745,486,731	376	309	685
Repurchases of shares	(320,101,779)	(16,079,624)	(27)	(1)	(28)
At December 31, 2019	4,151,787,517	3,729,407,107	349	308	657
At January 1, 2018	4,597,136,050	3,745,486,731	387	309	696
Repurchases of shares	(125,246,754)	–	(11)	–	(11)
At December 31, 2018	4,471,889,296	3,745,486,731	376	309	685

[A] Share capital at December 31, 2019, and 2018, also included 50,000 issued and fully paid sterling deferred shares of £1 each.

At the Company's Annual General Meeting ("AGM") on May 21, 2019, the Board was authorised to allot ordinary shares in the Company, and to grant rights to subscribe for or to convert any security into ordinary shares in the Company, up to an aggregate nominal amount of €190.3 million (representing 2,720 million ordinary shares of €0.07 each), and to list such shares or rights on any stock exchange. This authority expires at the earlier of the close of business on August 21, 2020, and the end of the AGM to be held in 2020, unless previously renewed, revoked or varied by the Company in a general meeting.

At the May 21, 2019 AGM, shareholders granted the Company the authority to repurchase up to 815 million ordinary shares (excluding any treasury shares), renewing the authority granted by the shareholders at previous AGMs. The authority will expire at the earlier of the close of business on August 21, 2020, and the end of the AGM of the Company to be held in 2020. Ordinary shares purchased by the Company pursuant to this authority will either be cancelled or held in treasury. Treasury shares are shares in the Company which are owned by the Company itself. The minimum price, exclusive of expenses, which may be paid for an ordinary share is €0.07. The maximum price, exclusive of expenses, which may be paid for an ordinary share is the higher of: (i) an amount equal to 5% above the average market value for an ordinary share for the five business days immediately preceding the date of the purchase; and (ii) the higher of the price of the last independent trade and the highest current independent bid on the trading venues where the purchase is carried out.

A and B shares repurchased in 2019 under the Company's share buyback programme were all cancelled.

B shares rank equally in all respects with A shares except for the dividend access mechanism described below. The Company, Shell Transport and BG, can procure the termination of the dividend access mechanism at any time. Upon such termination, B shares will form one class with A shares ranking equally in all respects and A and B shares will be known as ordinary shares without further distinction.

The sterling deferred shares are redeemable only at the discretion of the Company for £1 each and carry no voting rights. There are no further rights to participate in profits or assets, including the right to receive dividends. Upon winding up or liquidation, the shares carry a right to repayment of paid-up nominal value, ranking ahead of A and B shares.

For information on the number of shares in the Company held by Shell employee share ownership trusts and trust-like entities to meet delivery commitments under employee share plans, see Note 21 of the Consolidated Financial Statements (see pages 232-233).

DIVIDEND ACCESS MECHANISM FOR B SHARES

General

Dividends paid on A shares have a Dutch source for tax purposes and are subject to Dutch withholding tax.

It is the expectation and the intention, although there can be no certainty, that holders of B shares will receive dividends through the dividend access mechanism. Any dividends paid on the dividend access shares will have a UK source for UK and Dutch tax purposes. There will be no Dutch withholding tax on such dividends. From April 2016, there were changes to the taxation of dividends for individual shareholders resident in the UK. The dividend tax credit was abolished, and a tax-free dividend allowance introduced.

Description of dividend access mechanism

Shell Transport and BG have each issued a dividend access share to Computershare Trustees (Jersey) Limited as Trustee. Pursuant to a declaration of trust, the Trustee will hold any dividends paid in respect of the dividend access shares on trust for the holders of B shares and will arrange for prompt disbursement of such dividends to holders of B shares. Interest and other income earned on unclaimed dividends will be for the account of Shell Transport and BG and any dividends which are unclaimed after 12 years will revert to Shell Transport and BG once forfeited. Holders of B shares will not have any interest in either dividend access share and will not have any rights against Shell Transport and BG as issuers of the dividend access shares. The only assets held on trust for the benefit of the holders of B shares will be dividends paid to the Trustee in respect of the dividend access shares.

The declaration and payment of dividends on the dividend access shares will require board action by Shell Transport and BG (as applicable) and will be subject to any applicable limitations in law or in the Shell Transport or BG (as appropriate) articles of association in effect. In no event will the aggregate amount of the dividend paid by Shell Transport and BG under the dividend access mechanism for a particular period exceed the aggregate of the dividend announced by the Board of the Company on B shares in respect of the same period (after giving effect to currency conversions).

In particular, under their respective articles of association, Shell Transport and BG are each only able to pay a dividend on their respective dividend access shares which represents a proportional amount of the aggregate of any dividend announced by the Company on the B shares in respect of the relevant period, where such proportions are calculated by reference to, in the case of Shell Transport, the number of B shares in existence prior to completion of the Company's acquisition of BG and, in the case of BG, the number of B shares issued as part of the acquisition, in each case as against the total number of B shares in issue immediately following completion of the acquisition of BG.

Operation of the dividend access mechanism

If, in connection with the announcement of a dividend by the Company on B shares, the Board of Shell Transport and/or the Board of BG elects to declare and pay a dividend on their respective dividend access shares to the Trustee, the holders of B shares will be beneficially entitled to receive their share of those dividends pursuant to the declaration of trust (and arrangements will be made to ensure that the dividend is paid in the same currency in which they would have received a dividend from the Company).

If any amount is paid by Shell Transport or BG by way of a dividend on the dividend access shares and paid by the Trustee to any holder of B shares, the dividend which the Company would otherwise pay on B shares will be reduced by an amount equal to the amount paid to such holders of B shares by the Trustee.

The Company will have a full and unconditional obligation, in the event that the Trustee does not pay an amount to holders of B shares on a cash dividend payment date (even if that amount has been paid to the Trustee), to pay immediately the dividend announced on B shares. The right of holders of B shares to receive distributions from the Trustee will be reduced by an amount equal to the amount of any payment actually made by the Company on account of any dividend on B shares.

NOTES TO THE PARENT COMPANY FINANCIAL STATEMENTS continued

8 SHARE CAPITAL continued

If for any reason no dividend is paid on the dividend access shares, holders of B shares will only receive dividends from the Company directly. Any payment by the Company will be subject to Dutch withholding tax (unless an exemption is obtained under Dutch law or under the provisions of an applicable tax treaty).

The Dutch tax treatment of dividends paid under the dividend access mechanism has been confirmed by the Dutch Revenue Service in an agreement ("vaststellingsovereenkomst") with the Company and N.V. Koninklijke Nederlandsche Petroleum Maatschappij (Royal Dutch Petroleum Company) dated October 26, 2004, as supplemented and amended by an agreement between the same parties dated April 25, 2005, and a final settlement agreement in connection with the acquisition of BG dated November 9, 2015. The agreements state, among other things, that dividend distributions on the dividend access shares by Shell Transport and/or BG will not be subject to Dutch withholding tax provided that the dividend access mechanism is structured and operated substantially as set out above.

The Company may not extend the dividend access mechanism to any future issuances of B shares without prior consultation with the Dutch Revenue Service.

Accordingly, the Company would not expect to issue additional B shares unless confirmation from the Dutch Revenue Service was obtained or the Company were to determine that the continued operation of the dividend access mechanism was unnecessary. Any further issue of B shares is subject to advance consultation with the Dutch Revenue Service.

The dividend access mechanism may be suspended or terminated at any time by the Company's Directors or the Directors of Shell Transport or BG, for any reason and without financial recompense. This might, for instance, occur in response to changes in relevant tax legislation.

9 OTHER RESERVES

$ million

	Merger reserve	Share premium reserve	Capital redemption reserve	Share plan reserve	Total
At January 1, 2019	234,231	154	95	1,056	235,536
Repurchases of shares	–	–	28	–	28
Share-based compensation	–	–	–	(3)	(3)
At December 31, 2019	234,231	154	123	1,053	235,561
At January 1, 2018	234,231	154	84	897	235,366
Repurchases of shares	–	–	11	–	11
Share-based compensation	–	–	–	159	159
At December 31, 2018	234,231	154	95	1,056	235,536

The merger reserve was established as a consequence of the Company becoming the single parent company of Royal Dutch and Shell Transport and represented the difference between the cost of the investment in those companies and the nominal value of shares issued in exchange for those investments as required by the prevailing legislation at that time, section 131 of the Companies Act 1985. On February 15, 2016, the Company acquired all shares in BG Group plc by means of a Scheme of Arrangement under Part 26 of the Act, via the issuance of 218.7 million A shares and 1,305.1 million B shares and cash payments. This resulted in an increase in the merger reserve, representing the difference between the fair value and the nominal value of the shares issued by the Company.

On January 6, 2006, loan notes were converted into 4,827,974 A shares. The difference between the carrying value of the loan notes and the nominal value of the new shares issued was credited to the share premium reserve. The capital redemption reserve was established in connection with repurchases of shares of the Company. The share plan reserve is in respect of equity-settled share-based compensation plans (see Note 21 to the Consolidated Financial Statements) and movement in share-based compensation for the year is the net of the charge to equity and the release as a result of vested awards.

10 DIVIDENDS

See Note 23 of the Consolidated Financial Statements (see page 235).

11 LEGAL PROCEEDINGS AND OTHER CONTINGENCIES

See Note 25 of the Consolidated Financial Statements (see pages 235-237).

12 DIRECTORS AND SENIOR MANAGEMENT

See Note 27 of the Consolidated Financial Statements (see page 237) for the remuneration of Directors of the Company. In 2019, the Company recognised $25 million (2018: $24 million) in administrative expenses for the compensation of Directors and Senior Management.

13 RELATED PARTIES

Information about the Company's subsidiaries, and whether these are held directly or indirectly, and other related undertakings (all of which are held indirectly), at December 31, 2019, is set out in 'Appendix 1: Significant Subsidiaries and Other Related Undertakings'.

$ million

	Amounts due from subsidiaries		Amounts due to subsidiaries (see Note 5)	
	2019	2018	2019	2018
Shell Petroleum	–	–	748	550
Shell Treasury Centre Limited	1,862	9,260	–	–
Shell Corporate Services Switzerland AG	–	–	–	3,384
Other	2	3	2	–
Total	1,864	9,263	750	3,934

The Company received interest income from Shell Petroleum in 2019 of $60 million (2018: $134 million). Interest was calculated at US LIBOR less 0.21% (December 31, 2018: US LIBOR less 0.21%). At both December 31, 2019 and 2018 the closing amount due from Shell Petroleum was $nil.

The amount due from Shell Treasury Centre Limited ("STCL") comprises call deposits in dollars, sterling and euros. Interest is calculated at US LIBOR less 0.21% (2018: US LIBOR less 0.21%) on dollar balances, at GBP LIBOR less 0.19% (2018: GBP LIBOR less 0.19%) on sterling balances and at Euro Overnight Index Average ("EONIA") (2018: EONIA) on euro balances, unless this results in a negative interest rate in which case no interest is earned. Net interest income in 2019 from STCL was $41 million (2018: $7 million).

In 2019, the Company settled an interest-bearing receivable and an interest-bearing payable at fair value, equal to the carrying amount of the balances at transfer date, with Shell Corporate Services Switzerland AG ("SCSS"). The net amount due to SCSS at December 31, 2019, is $nil (2018: interest-bearing receivable of €4,690 million and an interest-bearing payable of $8,746 million). Interest on euro balances was calculated at EONIA (2018: EONIA) unless this resulted in a negative interest rate in which case no interest was earned. Interest on dollar balances was calculated at US LIBOR (2018: US LIBOR). Net interest expense on these balances in 2019 was $111 million (2018: $67 million).

OTHER TRANSACTIONS AND BALANCES

The Company periodically enters into forward and spot foreign currency contracts with Treasury companies, which are subsidiaries. There were no open foreign currency contracts at December 31, 2019, or 2018.

The Company settles general and administrative expenses of the Trust, including the auditor's remuneration.

The Company has guaranteed contractual payments totalling $52,974 million at December 31, 2019 (2018: $53,357 million), and related interest, in respect of listed debt issued by Shell International Finance B.V.

14 AUDITOR'S REMUNERATION

See Note 28 of the Consolidated Financial Statements (see pages 238).

INDEPENDENT AUDITOR'S REPORT TO COMPUTERSHARE TRUSTEES (JERSEY) LIMITED AS TRUSTEE OF THE ROYAL DUTCH SHELL DIVIDEND ACCESS TRUST AND THE BOARD OF DIRECTORS OF ROYAL DUTCH SHELL PLC

TO COMPUTERSHARE TRUSTEES (JERSEY) LIMITED AS TRUSTEE OF THE ROYAL DUTCH SHELL DIVIDEND ACCESS TRUST AND THE BOARD OF DIRECTORS AND SHAREHOLDERS OF ROYAL DUTCH SHELL PLC

Opinion on the Financial Statements

We have audited the non-statutory financial statements of the Royal Dutch Shell Dividend Access Trust (the Financial Statements) for the year ended December 31, 2019 which comprise the Statement of Income, the Statement of Comprehensive Income, the Balance Sheet, the Statement of Changes in Equity, the Statement of Cash Flows and the related notes 1 to 8. The financial reporting framework that has been applied in their preparation is International Financial Reporting Standards (IFRS) as adopted by the European Union (EU) and IFRS as issued by the International Accounting Standards Board (IASB).

In our opinion the Financial Statements:

- give a true and fair view of the Royal Dutch Shell Divided Access Trust's (the Trust) affairs as at December 31, 2019 and of its income for the year then ended; and
- have been properly prepared both in accordance with IFRS as adopted by the EU and IFRS as issued by the IASB.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the "Auditor's responsibilities for the audit of the financial statements" section of our report below. We are independent of the Trust in accordance with the ethical requirements that are relevant to our audit of the Financial Statements in the UK, including the Financial Reporting Council's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating to going concern

We have nothing material to report in respect of the following matters in relation to which the ISAs (UK) require us to report to you where:

- the Trustee of Royal Dutch Shell Dividend Access Trust's (the Trustee) use of the going concern basis of accounting in the preparation of the Financial Statements is not appropriate; or
- the Trustee has not disclosed in the Financial Statements any identified material uncertainties that may cast significant doubt about the Trust's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date of approval of the Financial Statements.

Other information

The other information comprises the information included in the annual report, other than the Financial Statements and our auditor's report thereon. The Board of Directors of Royal Dutch Shell plc (the Directors) are responsible for the other information.

Our opinion on the Financial Statements does not cover the other information and, we do not express any form of assurance conclusion thereon.

In connection with our audit of the Financial Statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the Financial Statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the Financial Statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact.

We have nothing to report in this regard.

Responsibilities of the Trustee

The Trustee is responsible for the preparation of the Financial Statements and for being satisfied that they give a true and fair view, and for such internal control as the Trustee determines is necessary to enable the preparation of Financial Statements that are free from material misstatement, whether due to fraud or error.

In preparing the Financial Statements, the Trustee is responsible for assessing the Trust's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Trustee either intends to liquidate the Trust or to cease operations, or have no realistic alternative but to do so. The Trustee is also required to: present fairly the financial position, financial performance and cash flows of the Trust; select suitable accounting policies in accordance with IAS 8: Accounting Policies, Changes in Accounting Estimates and Errors and then apply them consistently; present information, including accounting policies, in a manner that provides relevant, reliable, comparable and understandable information; make judgements that are reasonable; provide additional disclosures when compliance with the specific requirements in IFRS as adopted by the EU and as issued by the IASB is insufficient to enable users to understand the impact of particular transactions, other events and conditions on the Trust's financial position and financial performance; and state whether the Financial Statements have been prepared in accordance with IFRS as adopted by the EU and as issued by the IASB.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the Financial Statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these Financial Statements.

A further description of our responsibilities for the audit of the Financial Statements is located on the Financial Reporting Council's website at https://www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

Use of our report

This report is made solely to the Trustee and the Directors as a body, in accordance with our engagement letter. Our audit work has been undertaken so that we might state to the Trustee and the Directors those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Trust and the Trustee and the Directors as a body, for our audit work, for this report, or for the opinions we have formed.

/s/ Ernst & Young LLP

London
March 11, 2019

[A] The maintenance and integrity of the Shell website are the responsibility of the Directors of Royal Dutch Shell plc; the work carried out by the auditors does not involve consideration of these matters and, accordingly, the auditors accept no responsibility for any changes that may have occurred to the financial statements since they were initially presented on the website.

[B] Legislation in the UK governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

ROYAL DUTCH SHELL DIVIDEND ACCESS TRUST FINANCIAL STATEMENTS

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271 Note 8 Auditor's remuneration

STATEMENT OF INCOME

£ million

	2019	2018	2017
Dividend income	5,484	5,328	4,567
Income before taxation and for the period	**5,484**	**5,328**	**4,567**

STATEMENT OF COMPREHENSIVE INCOME

£ million

	2019	2018	2017
Income for the period	5,484	5,328	4,567
Comprehensive income for the period	**5,484**	**5,328**	**4,567**

BALANCE SHEET

£ million

	Notes	Dec 31, 2019	Dec 31, 2018
Assets			
Current assets		–	–
Cash and cash equivalents		3	3
Total assets		**3**	**3**
Liabilities			
Current liabilities		–	–
Unclaimed dividends	4	3	3
Total liabilities		**3**	**3**
Equity			
Capital account	5	–	–
Revenue account		–	–
Total equity		**–**	**–**
Total liabilities and equity		**3**	**3**

Signed on behalf of Computershare Trustees (Jersey) Limited
as Trustee of the Royal Dutch Shell Dividend Access Trust

/s/ Karen Kurys

KAREN KURYS
March 11, 2020

/s/ Martin Fish

MARTIN FISH

ROYAL DUTCH SHELL DIVIDEND ACCESS TRUST FINANCIAL STATEMENTS continued

STATEMENT OF CHANGES IN EQUITY

£ million

	Notes	Capital account	Revenue account	Total equity
At January 1, 2019		–	–	–
Comprehensive income for the period		–	5,484	5,484
Distributions made	6	–	(5,484)	(5,484)
At December 31, 2019		–	–	–
At January 1, 2018		–	–	–
Comprehensive income for the period		–	5,328	5,328
Distributions made	6	–	(5,328)	(5,328)
At December 31, 2018		–	–	–
At January 1, 2017		–	–	–
Comprehensive income for the period		–	4,567	4,567
Distributions made	6	–	(4,567)	(4,567)
At December 31, 2017		–	–	–

STATEMENT OF CASH FLOWS

£ million

	2019	2018	2017
Income for the period	5,484	5,328	4,567
Adjustment for:			
Dividends received	(5,484)	(5,328)	(4,567)
Cash flow from operating activities	–	–	–
Dividends received	5,484	5,328	4,567
Cash flow from investing activities	**5,484**	**5,328**	**4,567**
Cash distributions made	(5,484)	(5,327)	(4,567)
Cash flow from financing activities	**(5,484)**	**(5,327)**	**(4,567)**
Change in cash and cash equivalents	–	1	–
Cash and cash equivalents at January 1	**3**	**2**	**2**
Cash and cash equivalents at December 31	**3**	**3**	**2**

NOTES TO THE ROYAL DUTCH SHELL DIVIDEND ACCESS TRUST FINANCIAL STATEMENTS

1 THE TRUST

The Royal Dutch Shell Dividend Access Trust (the "Trust") was established on May 19, 2005, by The "Shell" Transport and Trading Company plc, now The Shell Transport and Trading Company Limited ("Shell Transport"), and Royal Dutch Shell plc (the "Company"). The Trust is governed by the applicable laws of England and Wales and is resident and domiciled in Jersey. The Trust is not subject to taxation. The Trustee of the Trust is Computershare Trustees (Jersey) Limited, registration number 92182 (the "Trustee"), Queensway House, Hilgrove Street, St Helier, Jersey, JE1 1ES. The Trust was established as part of a dividend access mechanism.

Shell Transport and BG Group Limited ("BG"), have each issued a dividend access share to the Trustee. Following the announcement of a dividend by the Company on the B shares, Shell Transport and BG may declare a dividend on their dividend access shares.

The primary purposes of the Trust are to receive, on behalf of the B shareholders of the Company and in accordance with their respective holdings of B shares in the Company, any amounts paid by way of dividend on the dividend access shares and to pay such amounts to the B shareholders on the same pro rata basis. The Trust is not subject to significant market risk, credit risk or liquidity risk.

The Trust shall not endure for a period in excess of 80 years from May 19, 2005, being the date on which the Trust Deed was executed.

2 THE BASIS OF PREPARATION

The Financial Statements of the Trust have been prepared in accordance with International Financial Reporting Standards ("IFRS") as adopted by the European Union. As applied to the Trust, there are no material differences from IFRS as issued by the International Accounting Standards Board ("IASB"); therefore, the Financial Statements have been prepared in accordance with IFRS as issued by the IASB.

The Financial Statements have been prepared under the historical cost convention. The accounting policies described in Note 3 have been applied consistently in all periods presented.

The Financial Statements were approved and authorised for issue by the Trustee on March 11, 2020.

The financial results of the Trust are included in the Consolidated and Parent Company Financial Statements on pages 190-238 and pages 257-265 respectively.

3 SIGNIFICANT ACCOUNTING POLICIES

The Trust's accounting policies follow those of Shell as set out in Note 2A of the Consolidated Financial Statements (see pages 195-203). The following are Trust-specific policies.

Presentation and functional currency

The Trust's presentation and functional currency is sterling. The Trust's dividend income and dividends paid are principally in sterling.

Dividend income

Dividends on the dividend access shares are recognised on a paid basis unless the dividend has been confirmed by a general meeting of Shell Transport or BG, in which case income is recognised on the date on which receipt is deemed virtually certain.

Distributions made

Amounts are recorded as distributed once a wire transfer or cheque is issued. To the extent that cheques expire or are returned unpresented, the Trust records a liability for unclaimed dividends and a corresponding amount of cash.

4 UNCLAIMED DIVIDENDS

Unclaimed dividends of £3,456,974 (2018: £2,816,655) include any dividend cheque payments that have not been presented within 12 months, have expired or have been returned unpresented. Dividends which are unclaimed after 12 years will revert to Shell Transport and BG once forfeited.

5 CAPITAL ACCOUNT

The capital account is represented by the dividend access share of 25 pence settled in the Trust by Shell Transport and the dividend access share of 10 pence settled in the Trust by BG. There have been no changes in the capital account in the current or prior year.

6 DISTRIBUTIONS MADE

Distributions are made to the B shareholders of the Company in accordance with the Trust Deed. See Note 23 of the Consolidated Financial Statements (see pages 235) for information about dividends per share. Any wire transfers that are not completed are replaced by cheques.

7 RELATED PARTIES

The Trust received dividend income of £3,573 million (2018: £3,470 million; 2017: £2,970 million) in respect of the dividend access share from Shell Transport and £1,911 million (2018: £1,858 million; 2017: £1,597 million) in respect of the dividend access share from BG. The Trust made distributions of £5,484 million (2018: £5,328 million; 2017: £4,567 million) to the B shareholders of the Company.

The Company pays the general and administrative expenses of the Trust, including the auditor's remuneration.

8 AUDITOR'S REMUNERATION

Auditor's remuneration for 2019 audit services was £33,750 (2018: £33,750; 2017: £33,750).

ADDITIONAL INFORMATION

274 Shareholder information
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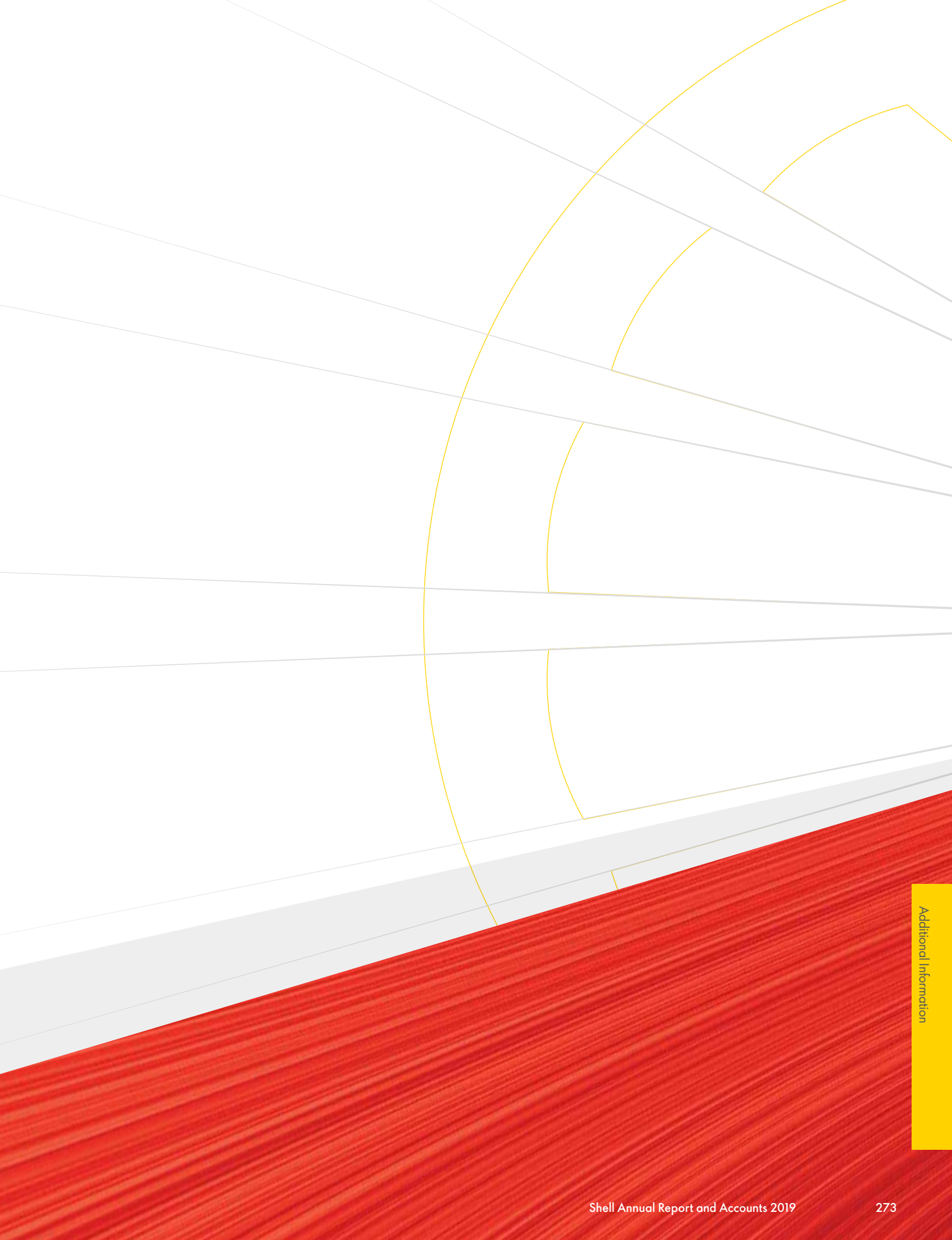
282 Appendix 1: Significant Subsidiaries and Other Related Undertakings (Audited)



SHAREHOLDER INFORMATION

Royal Dutch Shell plc (the Company) was incorporated in England and Wales on February 5, 2002, as a private company under the Companies Act 1985, as amended. On October 27, 2004, the Company was re-registered as a public company limited by shares and changed its name from Forthdeal Limited to Royal Dutch Shell plc. The Company is registered at Companies House, Cardiff, under company number 4366849, and at the Chamber of Commerce, The Hague, under company number 34179503. The Legal Entity Identifier (LEI) issued by the London Stock Exchange is 21380068P1DRHMJ8KU70. The business address for the Directors and Senior Management is Carel van Bylandtlaan 30, 2596 HR, The Hague, The Netherlands.

The Company is resident in the Netherlands for Dutch and UK tax purposes and its primary objective is to carry on the business of a holding company. It is not directly or indirectly owned or controlled by another corporation or by any government and does not know of any arrangements that may result in a change of control of the Company.

NATURE OF TRADING MARKET

The Company has two classes of ordinary shares: A and B shares. The principal trading market for A shares is Euronext Amsterdam and the principal trading market for B shares is the London Stock Exchange. Ordinary shares are traded in registered form.

A and B American Depositary Shares (ADSs) are listed on the New York Stock Exchange [A]. A depositary receipt is a certificate that evidences ADSs. Depositary receipts are issued, cancelled and exchanged at the office of JP Morgan Chase Bank, N.A., 383 Madison Avenue, New York, New York 10179, USA, as depositary (the Depositary), under a deposit agreement between the Company, the Depositary and the holders of ADSs. Each ADS represents two €0.07 shares of Royal Dutch Shell plc deposited under the agreement. More information relating to ADSs is given on pages 274-278.

[A] At February 14, 2020, 395,595,127 A ADSs and 322,677,233 B ADSs were outstanding, representing 5.04% and 4.11% of the respective share capital class, held by 5,003 and 912 holders of record with an address in the USA, respectively. In addition to holders of ADSs, at February 14, 2020, 21,380 A shares and 920,170 B shares of €0.07 each were outstanding, representing 0.0003% and 0.0117% of the respective share capital class, held by 299 and 3,061 holders of record registered with an address in the USA, respectively.

Listing information

	A shares	B shares
Ticker symbol London	RDSA	RDSB
Ticker symbol Amsterdam	RDSA	RDSB
Ticker symbol New York (ADS [A])	RDS.A	RDS.B
ISIN Code	GB00B03MLX29	GB00B03MM408
CUSIP	G7690A100	G7690A118
SEDOL Number London	B03MLX2	B03MM40
SEDOL Number Euronext	B09CBL4	B09CBN6
Weighting on FTSE at 31/12/19	4.97%	4.44%
Weighting on AEX at 31/12/19	11.9%	not included

[A] Each A ADS represents two A shares of €0.07 each and each B ADS represents two B shares of €0.07 each.

SHARE CAPITAL

The issued and fully paid share capital of the Company at February 14, 2020, was as follows:

Share capital

	Issued and fully paid	
	Number	Nominal value
Ordinary shares of €0.07 each		
A shares	4,125,109,180	€ 288,757,643
B shares	3,727,267,215	€ 260,908,705
Sterling deferred shares of £1 each	50,000	£50,000

The Directors may only allot new ordinary shares if they have authority from shareholders to do so. The Company seeks to renew this authority annually at its AGM. Under the resolution passed at the Company's 2019 AGM, the Directors were granted authority to allot ordinary shares up to an aggregate nominal amount equivalent to approximately one-third of the issued ordinary share capital of the Company (in line with the guidelines issued by institutional investors).

The following is a summary of the material terms of the Company's ordinary shares, including brief descriptions of the provisions contained in the Articles of Association (the Articles) and applicable laws of England and Wales in effect on the date of this document. This summary does not purport to include complete statements of these provisions:

- upon issuance, A and B shares are fully paid and free from all liens, equities, charges, encumbrances and other interest of the Company and not subject to calls of any kind;
- all A and B shares rank equally for all dividends and distributions on ordinary share capital; and
- A and B shares are admitted to the Official List of the UK Financial Conduct Authority and to trading on the market for listed securities of the London Stock Exchange. A and B shares are also admitted to trading on Euronext Amsterdam. A and B ADSs are listed on the New York Stock Exchange.

At December 31, 2019, trusts and trust-like entities holding shares for the benefit of employee share plans of Shell held (directly and indirectly) 35 million shares of the Company with an aggregate market value of $1,021 million and an aggregate nominal value of €3 million.

SIGNIFICANT SHAREHOLDINGS

The Company's A and B shares have identical voting rights, and accordingly the Company's major shareholders do not have different voting rights.

Significant direct shareholdings

Direct holdings of 3% or more of A and B shares combined held by registered members representing the interests of underlying investors at February 14, 2020 are given below.

	A shares		B shares		Total	
	Number	%	Number	%	Number	%
Nederlands Centraal Instituut Voor Giraal Effectenverkeer Bv	1,648,160,815.00	39.95	15,631,116.00	0.42	1,663,791,931.00	21.19
Guaranty Nominees Limited	780,888,066.00	18.93	635,107,032.00	17.04	1,415,995,098.00	18.03
State Street Nominees Limited	153,192,955.00	3.71	176,114,622.00	4.73	329,307,577.00	4.19
Chase Nominees Limited	39,792,354.00	0.96	223,049,935.00	5.98	262,842,289.00	3.35

Significant indirect shareholdings

Interests of investors with 3% or more of A and B shares combined at February 14, 2020 are given below.

	A shares		B shares		Total	
	Number	%	Number	%	Number	%
The Capital Group [A]	42,482,002	0.54	349,161,475	4.45	391,643,477	4.99
The Vanguard Group	197,154,328	4.75	141,041,343	3.78	338,195,671	4.29
BlackRock Inc	304,037,938	7.32	259,041,285	6.95	563,079,223	7.14

[A] Information presented as at February 24, 2020.

Notification of major shareholdings

The Company received two notifications pursuant to Disclosure Guidance and Transparency Rule (DTR) 5 during the year and up to February 14, 2020, (being a date not more than one month prior to the date of the Company's Notice of Annual General Meeting). The information provided includes the percentage of issued capital as at the date of the notifications.

Investor

	A shares		B shares		Total [A]	
	Number	%	Number	%	Number	%
The Capital Group Companies, Inc.[B]	64,854,057	0.80	337,594,482	4.19	402,448,539	4.99
The Capital Group Companies, Inc. [C] [D]	51,230,530	0.65	342,234,201	4.35	393,464,731	5.00

[A] Excludes financial instruments according to Art. 13(1)(a) of Directive 2004/109/EC (DTR 5.3.1.1 (a)) and financial instruments with similar economic effect according to Art. 13(1)(b) of Directive 2004/109/EC (DTR 5.3.1.1 (b)).
[B] The notification was announced on 9 July 2019.
[C] The notification was announced on 20 January 2020.
[D] On 24 February 2020, Royal Dutch Shell plc announced receipt of a notification from The Capital Group Companies Inc. disclosing a holding of 31,948,156 A shares and 10,533,846 A ADR shares (0.54%) and 166,464,737 B shares and 182,696,738 B ADR shares (4.45%) being a total of 391,643,477 shares held (4.99%).

DIVIDENDS

The following tables show the dividends on each class of share and each class of ADS for the years 2015–2019.

A and B shares

					$
	2019	2018	2017	2016	2015
Q1	0.47	0.47	0.47	0.47	0.47
Q2	0.47	0.47	0.47	0.47	0.47
Q3	0.47	0.47	0.47	0.47	0.47
Q4	0.47	0.47	0.47	0.47	0.47
Total announced in respect of the year	1.88	1.88	1.88	1.88	1.88

SHAREHOLDER INFORMATION continued

A shares

	2019	2018	2017	2016	€ [A] 2015
Q1	0.42	0.40	0.42	0.42	0.42
Q2	0.43	0.40	0.39	0.42	0.42
Q3	0.42	0.41	0.40	0.44	0.43
Q4	0.42	0.42	0.38	0.44	0.42
Total announced in respect of the year	1.68	1.64	1.59	1.72	1.69
Amount paid during the year	1.68	1.60	1.65	1.70	1.71

[A] Euro equivalent, rounded to the nearest euro cent.

B shares

	2019	2018	2017	2016	Pence [A] 2015
Q1	36.97	35.18	37.12	32.98	30.75
Q2	38.01	36.50	36.28	35.27	30.92
Q3	35.73	36.77	35.02	37.16	31.07
Q4	36.40	35.94	33.91	38.64	32.78
Total announced in respect of the year	147.11	144.39	142.33	144.05	125.52
Amount paid during the year	146.65	142.36	147.06	138.19	123.94

[A] Sterling equivalent.

A and B ADSs

	2019	2018	2017	2016	$ 2015
Q1	0.94	0.94	0.94	0.94	0.94
Q2	0.94	0.94	0.94	0.94	0.94
Q3	0.94	0.94	0.94	0.94	0.94
Q4	0.94	0.94	0.94	0.94	0.94
Total announced in respect of the year	3.76	3.76	3.76	3.76	3.76
Amount paid during the year	3.76	3.76	3.76	3.76	3.76

METHOD OF HOLDING SHARES OR AN INTEREST IN SHARES

There are several ways in which Royal Dutch Shell plc registered shares or an interest in these shares can be held, including:

- directly as registered shares either in uncertificated form or in certificated form in a shareholder's own name;
- indirectly through Euroclear Nederland (in respect of which the Dutch Securities Giro Act ("Wet giraal effectenverkeer") is applicable);
- through the Royal Dutch Shell Corporate Nominee Service;
- through another third-party nominee or intermediary company; and
- as a direct or indirect holder of either an A or a B ADS with the Depositary.

AMERICAN DEPOSITARY SHARES

The Depositary is the registered shareholder of the shares underlying the A or B ADSs and enjoys the rights of a shareholder under the Articles. Holders of ADSs will not have shareholder rights. The rights of the holder of an A or a B ADS are specified in the Deposit Agreement with the Depositary and are summarised below.

The Depositary will receive all cash dividends and other cash distributions made on the deposited shares underlying the ADSs and, where possible and on a reasonable basis, will distribute such dividends and distributions to holders of ADSs. Rights to purchase additional shares will also be made available to the Depositary who may make such rights available to holders of ADSs. All other distributions made on the Company's shares will be distributed by the Depositary in any means that the Depositary thinks is equitable and practical. The Depositary may deduct its fees and expenses and the amount of any taxes owed from any payments to holders and it may sell a holder's deposited shares to pay any taxes owed. The Depositary is not responsible if it decides that it is unlawful or impractical to make a distribution available to holders of ADSs.

The Depositary will notify holders of ADSs of shareholders' meetings of the Company and will arrange to deliver voting materials to such holders of ADSs if requested by the Company. Upon request by a holder, the Depositary will endeavour to appoint such holder as proxy in respect of such holder's deposited shares entitling such holder to attend and vote at shareholders' meetings. Holders of ADSs may also instruct the Depositary to vote their deposited securities and the Depositary will try, as far as practical and lawful, to vote deposited shares in accordance with such instructions. The Company cannot ensure that holders will receive voting materials or otherwise learn of an upcoming shareholders' meeting in time to ensure that holders can instruct the Depositary to vote their shares.

Upon payment of appropriate fees, expenses and taxes: (i) shareholders may deposit their shares with the Depositary and receive the corresponding class and amount of ADSs; and (ii) holders of ADSs may surrender their ADSs to the Depositary and have the corresponding class and amount of shares credited to their account.

Further, subject to certain limitations, holders may, at any time, cancel ADSs and withdraw their underlying shares or have the corresponding class and amount of shares credited to their account.

FEES PAID BY HOLDERS OF ADSs

The Depositary collects its fees for delivery and surrender of ADSs directly from investors depositing shares or surrendering ADSs for the purpose of withdrawal or from intermediaries acting for them. The Depositary collects fees for making distributions to investors by deducting those fees from the amounts distributed or by selling a portion of distributable property to pay the fees. The Depositary may generally refuse to provide fee-attracting services until its fees for those services are paid. See page 278.

PAYMENTS BY DEPOSITARY TO THE COMPANY

J.P. Morgan Chase Bank, N.A., as Depositary, has agreed to share with the Company portions of certain fees collected, less ADS programme expenses paid by the Depositary. For example, these expenses include the Depositary's annual programme fees, transfer agency fees, custody fees, legal expenses, postage and envelopes for mailing annual and interim financial reports, printing and distributing dividend cheques, electronic filing of US federal tax information, mailing required tax forms, stationery, postage, facsimile and telephone calls and the standard out-of-pocket maintenance costs for the ADSs. From January 1, 2019, to February 14, 2020, the Company received $1,320,599 from the Depositary.

Persons depositing or withdrawing shares must pay:	For:
$5.00 or less per 100 ADSs (or portion of 100 ADSs)	▪ Issuance of ADSs, including those resulting from a distribution of shares, rights or other property; ▪ Cancellation of ADSs for the purpose of their withdrawal, including if the deposit agreement terminates; and ▪ Distribution of securities to holders of deposited securities by the Depositary to ADS registered holders.
Registration and transfer fees	▪ Registration and transfer of shares on the share register to or from the name of the Depositary or its agent when they deposit or withdraw shares.
Expenses of the Depositary	▪ Cable, telex and facsimile transmissions (when expressly provided in the deposit agreement); and ▪ Converting foreign currency into dollars.
Taxes and other governmental charges the Depositary or the custodian has to pay on any ADS or share underlying an ADS, for example, share transfer taxes, stamp duty or withholding taxes	▪ As necessary.

In addition to the above, the Depositary may charge: (i) a dividend fee of $5.00 or less per 100 ADSs (or portion of 100 ADSs) for cash dividends or issuance of ADSs resulting from share dividends and (ii) an administrative fee of $5.00 or less per 100 ADSs (or portion of 100 ADSs) per calendar year. The Company and Depositary have agreed not to charge these fees at this time.

DIVIDEND REINVESTMENT PLAN

Equiniti Financial Services Limited, part of the same group of companies as the Company's Registrar, Equiniti Limited, operates a Dividend Reinvestment Plan ("DRIP") which enables RDS shareholders to elect to have their dividend payments used to purchase RDS shares of the same class as those already held by them. More information can be found at www.shareview.co.uk/info/drip or by contacting Equiniti.

ABN AMRO Bank N.V. and JP Morgan Chase Bank, N.A. also operate dividend reinvestment options. More information can be found by contacting the relevant provider.

EXCHANGE CONTROLS AND OTHER LIMITATIONS AFFECTING SECURITY HOLDERS

Other than restrictions affecting those individuals, entities, government bodies, corporations or agencies that are subject to European Union (EU) sanctions for example, regarding Syria, and those sanctions adopted by the government of the UK, and the general EU prohibition to transfer funds to and from for example, North Korea, we are not aware of any other legislative or other legal provision currently in force in the UK, the Netherlands or arising under the Articles restricting remittances to holders of the Company's ordinary shares who are non-residents of the UK, or affecting the import or export of capital.

TAXATION

General

The Company is incorporated in England and Wales and tax-resident in the Netherlands. As a tax resident of the Netherlands, it is generally required by Dutch law to withhold tax at a rate of 15% on dividends on its ordinary shares and ADSs, subject to the provisions of any applicable tax convention or domestic law. Depending on their particular circumstances, non-Dutch tax-resident holders may be entitled to a full or partial refund of Dutch withholding tax. The following sets forth the operation of other provisions on dividends on the Company's various ordinary shares and ADSs to UK and US holders, as well as certain other tax rules pertinent to holders. Holders should consult their own tax adviser if they are uncertain as to the tax treatment of any dividend.

Dividends paid on the dividend access shares

There is no Dutch withholding tax on dividends on B shares or B ADSs, provided that such dividends are paid on the dividend access shares pursuant to the dividend access mechanism (see "Dividend access mechanism for B shares" on page 278). Dividends paid on the dividend access shares are treated as UK-source for tax purposes and there is no UK withholding tax on them.

SHAREHOLDER INFORMATION continued

In 2019, all dividends with respect to B shares and B ADSs were paid on the dividend access shares pursuant to the dividend access mechanism.

Dutch withholding tax

When Dutch withholding tax applies on dividends paid to a US holder (that is, dividends on A shares or A ADSs, or on B shares or B ADSs that are not paid on the dividend access shares pursuant to the dividend access mechanism), the US holder will be subject to Dutch withholding tax at the rate of 15%. A US holder who is entitled to the benefits of the 1992 Double Taxation Convention (the Convention) between the USA and the Netherlands as amended by the protocol signed on March 8, 2004, will be entitled to a reduction in the Dutch withholding tax, either by way of a full or a partial exemption at source or by way of a partial refund or a credit as follows:

- if the US holder is an exempt pension trust as described in article 35 of the Convention, or an exempt organisation as described in article 36 thereof, the US holder will be exempt from Dutch withholding tax; or
- if the US holder is a company that holds directly at least 10% of the voting power in the Company, the US holder will be subject to Dutch withholding tax at a rate not exceeding 5%.

In general, the entire dividend (including any amount withheld) will be dividend income to the US holder and the withholding tax will be treated as a foreign income tax that is eligible for credit against the US holder's income tax liability or a deduction subject to certain limitations. A "US holder" includes, but is not limited to, a citizen or resident of the USA, or a corporation or other entity organised under the laws of the USA or any of its political subdivisions.

When Dutch withholding tax applies on dividends paid to UK tax-resident holders (that is, dividends on A shares or A ADSs, or on B shares or B ADSs that are not paid on the dividend access shares pursuant to the dividend access mechanism), the dividend will typically be subject to withholding tax at a rate of 15%. Such UK tax-resident holder may be entitled to a credit (not repayable) for withholding tax against their UK tax liability. However, certain corporate shareholders are, subject to conditions, exempt from UK tax on dividends. Withholding tax suffered cannot be offset against such exempt dividends. UK tax-resident holders should also be entitled to claim a refund of one-third of the Dutch withholding tax from the Dutch tax authorities in reliance on the tax convention between the Netherlands and the UK. Pension plans meeting certain defined criteria can, however, be entitled to claim a full refund or exemption at source of the dividend tax withheld. Also, UK tax-resident corporate shareholders holding at least a 5% shareholding and meeting other defined criteria are exempted at source from dividend tax.

For holders who are tax-resident in any other country, the availability of a whole or partial exemption or refund of Dutch withholding tax is governed by Dutch tax law and/or the tax convention, if any, between the Netherlands and the country of the holder's residence.

There may be other grounds on which holders who are tax-resident in the UK, the USA or any other country can obtain a full or partial refund of the Dutch withholding tax, depending on their particular circumstances; see "Taxation: General" above.

Dutch capital gains taxation

Capital gains on the sale of shares of a Dutch tax-resident company by a US holder are generally not subject to taxation by the Netherlands unless the US holder has a permanent establishment therein and the capital gain is derived from the sale of shares that are part of the business property of the permanent establishment.

Dutch succession duty and gift taxes

Shares of a Dutch tax-resident company held by an individual who is not a resident or a deemed resident of the Netherlands will generally not be subject to succession duty in the Netherlands on the individual's death.

A gift of shares of a Dutch tax-resident company by an individual who is not a resident or a deemed resident of the Netherlands is generally not subject to Dutch gift tax.

UK stamp duty and stamp duty reserve tax

Sales or transfers of the Company's ordinary shares within a clearance service (such as Euroclear Nederland) or of the Company's ADSs within the ADS depositary receipts system will not give rise to a stamp duty reserve tax ("SDRT") liability and should not in practice require the payment of UK stamp duty.

The transfer of the Company's ordinary shares to a clearance service (such as Euroclear Nederland) or to an issuer of depositary shares (such as ADSs) will generally give rise to a UK stamp duty or SDRT liability at the rate of 1.5% of consideration given or, if none, of the value of the shares. A sale of the Company's ordinary shares that are not held within a clearance service (for example, settled through the UK's CREST system of paperless transfers) will generally be subject to UK stamp duty or SDRT at the rate of 0.5% of the amount of the consideration, normally paid by the purchaser.

CAPITAL GAINS TAX

For the purposes of UK capital gains tax, the market values [A] of the shares of the former public parent companies of the Royal Dutch/Shell Group at the relevant dates were:

		£
	March 31, 1982	July 20, 2005
Royal Dutch Petroleum Company (N.V. Koninklijke Nederlandsche Petroleum Maatschappij) which ceased to exist on December 21, 2005	1.1349	17.6625
The "Shell" Transport and Trading Company, p.l.c. which delisted on July 19, 2005	1.4502	Not applicable

[A] Restated where applicable to reflect all capitalisation issues since the relevant date. This includes the change in the capital structure in 2005, when Royal Dutch Shell plc became the single parent company of Royal Dutch Petroleum Company and of The "Shell" Transport and Trading Company, p.l.c., now The Shell Transport and Trading Company Limited, and one share in Royal Dutch Petroleum Company was exchanged for two Royal Dutch Shell plc A shares and one share in The "Shell" Transport and Trading Company, p.l.c. was exchanged for 0.287333066 Royal Dutch Shell plc B shares.

NON-GAAP MEASURES RECONCILIATIONS

These non-GAAP measures, also known as alternative performance measures, are financial measures other than those defined in International Financial Reporting Standards, which Shell considers provide useful information.

EARNINGS ON A CURRENT COST OF SUPPLIES BASIS

Segment earnings are presented on a current cost of supplies basis (CCS earnings), which is the earnings measure used by the Chief Executive Officer for the purposes of making decisions about allocating resources and assessing performance. On this basis, the purchase price of volumes sold during the period is based on the current cost of supplies during the same period after making allowance for the tax effect. CCS earnings therefore exclude the effect of changes in the oil price on inventory carrying amounts. The current cost of supplies adjustment does not impact Cash flow from operating activities in the "Consolidated Statement of Cash Flows".

Reconciliation of CCS earnings to income for the period

$ million

	2019	2018	2017
Earnings on a current cost of supplies basis (CCS earnings)	15,827	24,364	12,471
Attributable to non-controlling interest	(557)	(531)	(390)
Earnings on a current cost of supplies basis attributable to Royal Dutch Shell plc shareholders	15,270	23,833	12,081
Current cost of supplies adjustment	605	(458)	964
Non-controlling interest	(33)	(23)	(68)
Income attributable to Royal Dutch Shell plc shareholders	15,842	23,352	12,977
Non-controlling interest	590	554	458
Income for the period	16,432	23,906	13,435

CASH CAPITAL EXPENDITURE AND CAPITAL INVESTMENT

Capital investment is a measure used to make decisions about allocating resources and assessing performance. It comprises Capital expenditure, Investments in joint ventures and associates and Investments in equity securities, exploration expense excluding well write-offs, leases recognised in the period and other adjustments.

The definition reflects two changes with effect from January 1, 2019, for simplicity reasons. Firstly, "Investments in equity securities" now includes investments under the Corporate segment and is aligned with the line introduced in the Consolidated Statement of Cash Flows from January 1, 2019. Secondly, the adjustments previously made to bring the Capital investment measure onto an accruals basis no longer apply. Comparative information has been revised.

Cash capital expenditure is introduced with effect from January 1, 2019, to monitor investing activities on a cash basis, excluding items such as lease additions which do not necessarily result in cash outflows in the period. The measure comprises the following lines from the Consolidated Statement of Cash flows: Capital expenditure, Investments in joint ventures and associates and Investments in equity securities. Information for prior periods are stated to enable comparison.

The reconciliation of "Capital expenditure" to "Cash capital expenditure" and "Capital investment" is as follows.

Cash capital expenditure and Capital investment reconciliation

$ million

	2019	2018	2017
Capital expenditure [A]	22,971	23,011	20,845
Investments in joint ventures and associates [A]	743	880	595
Investments in equity securities [A]	205	187	93
Cash capital expenditure	23,919	24,078	21,533
Of which:			
Integrated Gas	4,299	3,819	3,616
Upstream	10,277	12,582	11,670
Downstream	8,926	7,408	6,090
Corporate	418	269	157
Exploration expense, excluding exploration wells written off	1,137	889	1,048
Leases recognised in the period	4,494	452	1,074
Other adjustments	(762)	(541)	–
Capital investment	28,788	24,878	23,655
Of which:			
Integrated Gas	6,706	4,259	3,921
Upstream	11,075	12,785	13,160
Downstream	10,542	7,565	6,418
Corporate	465	269	157

[A] Included within Cash flow from investing activities in the "Consolidated Statement of Cash Flows".

OPERATING EXPENSES

Operating expenses is a measure of Shell's cost management performance, comprising items from the "Consolidated Statement of Income" as follows.

Operating expenses

$ million

	2019	2018	2017
Production and manufacturing expenses	26,438	26,970	26,652
Selling, distribution and administrative expenses	10,493	11,360	10,509
Research and development	962	986	922
Total	37,893	39,316	38,083
Of which			
Integrated Gas	6,667	6,014	5,471
Upstream	12,043	12,157	12,656
Downstream	18,697	20,743	19,583
Corporate	486	402	373

NON-GAAP MEASURES RECONCILIATIONS continued

RETURN ON AVERAGE CAPITAL EMPLOYED

Return on average capital employed (ROACE) measures the efficiency of our utilisation of the capital that we employ. In this calculation, ROACE is defined as income for the period, adjusted for after-tax interest expense, as a percentage of the average capital employed for the period. Capital employed consists of total equity, current debt and non-current debt.

Calculation of return on average capital employed

$ million

	2019	2018	2017
Income for the period	16,432	23,906	13,435
Interest expense after tax	3,024	2,513	2,995
Income before interest expense	19,456	26,419	16,430
Capital employed – opening	295,398	283,477	280,988
Capital employed – closing	286,887	279,358	283,477
Capital employed – average	291,142	281,417	282,233
ROACE	6.7%	9.4%	5.8%

FREE CASH FLOW AND ORGANIC FREE CASH FLOW

Free cash flow is used to evaluate cash available for financing activities, including dividend payments, after investment in maintaining and growing our business.

Organic free cash flow is introduced in 2019, and it is defined as Free cash flow excluding the cash flows from acquisition and divestment activities. It is a measure used by management to evaluate generation of cash flow without these activities. Information for 2018 is stated to enable comparison.

Free cash flow and Organic free cash flow

$ million

	2019	2018	2017
Cash flow from operating activities	42,178	53,085	35,650
Cash flow from investing activities	(15,779)	(13,659)	(8,029)
Free cash flow	26,399	39,426	27,621
Less: Cash inflows related to divestments [A]	7,871	10,465	
Add: Tax paid on divestments	187	482	
Add: Cash outflows related to inorganic capital expenditure [B]	1,400	1,740	
Organic free cash flow	20,116	31,183	

[A] Cash inflows related to divestments includes Proceeds from sale of property, plant and equipment and businesses, Proceeds from sale of joint ventures and associates, and Proceeds from sale of equity securities as reported in the "Consolidated Statement of Cash Flows".

[B] Cash outflows related to inorganic capital expenditure includes portfolio actions which expand Shell's activities through acquisitions and restructuring activities as reported in capital expenditure lines in the "Consolidated Statement of Cash Flows".

SHAREHOLDER DISTRIBUTION

Shareholder distribution is used to evaluate the level of cash distribution to shareholders. It is defined as the sum of Cash dividends paid to Royal Dutch Shell plc shareholders and Repurchases of shares, both of which are reported in the Consolidated Statement of Cash Flows.

Calculation of shareholder distribution

$ million

	2019	2018	2017
Cash dividends paid to Royal Dutch Shell plc shareholders	15,198	15,675	10,877
Repurchases of shares	10,188	3,947	–
Shareholder distribution	25,386	19,622	10,877

DIVESTMENTS

Following the completion of the $30 billion divestment programme for 2016-18, the Divestments measure was discontinued with effect from January 1, 2019.

APPENDICES

APPENDIX 1

SIGNIFICANT SUBSIDIARIES AND OTHER RELATED UNDERTAKINGS (AUDITED)

Significant subsidiaries and other related undertakings at December 31, 2019, are set out below. Shell's percentage of share capital is shown to the nearest whole number. All subsidiaries have been included in the "Consolidated Financial Statements" on pages 190-238, and those held directly by the Company are marked with the footnote [a]. A number of the entities listed are dormant or not yet operational. Entities that are proportionately consolidated are identified by the footnote [b]. Shell-owned shares are ordinary (voting) shares unless identified with one of the following annotations against the company name: [c] Membership interest; [d] Partnership capital; [e] Non-redeemable; [f] Ordinary, Membership interest; [g] Ordinary, Non-redeemable; [h] Ordinary, Partnership capital; [i] Ordinary, Redeemable; [j] Ordinary, Redeemable, Non-redeemable; and [k] Redeemable, Non-redeemable.

Company by country of incorporation	Address of registered office	%
ARGENTINA		
Shell Argentina S.A.	Avenida Pte. Roque Sáenz Pena 788, 5th floor, Buenos Aires, 1383	100
AUSTRALIA		
1st Energy Pty Ltd	Level 4, 459 Little Collins Street, Melbourne, VIC 3000	30
Alliance Automation Pty Ltd	c/o Alands Accountants, Level 1/293 Queen Street, Brisbane, QLD 4000	50
Arrow Energy Holdings Pty Ltd	Level 39, 111 Eagle Street, Brisbane, QLD 4000	50
Austen & Butta Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
BC 789 Holdings Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
BG CPS Pty Limited	Level 30, 275 George Street, Brisbane, QLD 4000	100
BNG (Surat) Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Braemar 3 Holdings Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
CCM Energy Solutions Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
Condamine 1 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Condamine 2 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Condamine 3 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Condamine 4 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Condamine Power Station Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
E.R.M. Oakey Power Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
Energy Locals Pty Ltd	132 Cremorne Street, Richmond, VIC 3121	33
ERM Braemar 3 Power Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Braemar 3 Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Employee Share Plan Administrator Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Energy Solutions Holdings Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Financial Services Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Gas Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Gas WA01 Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Holdings Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Innovation Labs Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Land Holdings Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Neerabup Power Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Neerabup Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Oakey Power Holdings Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Power Developments Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Power Engineering Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Power Generation Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Power International Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Power Investments Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Power Limited	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Power Projects Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Power Retail Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Power Services Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Power Utility Systems Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ERM Wellington 1 Holdings Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
ESCO Pacific Holdings Pty Ltd	Level 4, 13 Cremorne Street, Richmond, VIC 3121	49
Fuelink Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Greensense Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
Lumaled Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
New South Oil Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
NewGen Neerabup Pty Ltd [b]	Level 52, 111 Eagle Street, Brisbane, QLD 4000	50
NewGen Power Neerabup Pty Ltd [b]	Level 52, 111 Eagle Street, Brisbane, QLD 4000	50

Company by country of incorporation	Address of registered office	%
North West Shelf LNG Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Oakey Power Holdings Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
OME Resources Australia Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Out Performers Trading Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
Petroleum Resources (Thailand) Pty. Limited	Level 30, 275 George Street, Brisbane, QLD 4000	100
PowerMetric Metering Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
Provident & Pensions Holdings Proprietary Limited	Shell House, 562 Wellington Street, Perth, WA 6000	100
Pure Energy Resources Pty Limited	Level 30, 275 George Street, Brisbane, QLD 4000	100
QCLNG Operating Company Pty Ltd [i]	Level 30, 275 George Street, Brisbane, QLD 4000	75
QCLNG Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC (B7) Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC (Exploration) Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC (Infrastructure) Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Common Facilities Company Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 2 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 3 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 4 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 5 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 6 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 7 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 8 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Holdings 9 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Midstream Holdings Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Midstream Investments Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Midstream Land Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Midstream Limited Partnership	Level 42, Bourke Place, 600 Bourke Street, Melbourne, VIC 3000	100
QGC Midstream Services Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Northern Forestry Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Pty Limited	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Sales Qld Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Train 1 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Train 1 Tolling Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Train 1 UJV Manager Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Train 2 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Train 2 Tolling No.2 Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Train 2 Tolling Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Train 2 UJV Manager Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Upstream Finance Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Upstream Holdings Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Upstream Investments Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
QGC Upstream Limited Partnership	Level 42, Bourke Place, 600 Bourke Street, Melbourne, VIC 3000	100
Queensland Electricity Investors Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
Queensland Gas Company Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Richmond Valley Solar Thermal Pty Ltd	Level 52, 111 Eagle Street, Brisbane, QLD 4000	100
Roma Petroleum Pty Limited	Level 30, 275 George Street, Brisbane, QLD 4000	100
SASF Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
SGA (Queensland) Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
SGAI Pty Limited	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Australia FLNG Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell Australia Lubricants Production Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell Australia Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell Australia Services Company Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell Custodian Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell Development (PSC19) Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell Development (PSC20) Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell Energy Australia Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Energy Holdings Australia Limited	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell Energy Investments Australia Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100

APPENDIX 1 continued

Company by country of incorporation	Address of registered office	%
AUSTRALIA continued		
Shell Global Solutions Australia Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Shell New Energies Australia Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell QGC Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Shell Tankers Australia Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Solpod Pty Ltd	c/o Jeffrey Zivin, 140 Belmore Road, Balwyn, VIC 3103	24
Sonnen Australia Pty Limited	Lionsgate Business Park, Level 3, Main Administration Building, 180 Philip Highway, Elizabeth South, SA 5112	100
Starzap Pty Ltd	Level 30, 275 George Street, Brisbane, QLD 4000	100
Sunshine 685 Pty Limited	Level 30, 275 George Street, Brisbane, QLD 4000	100
Trident LNG Shipping Services Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Trident Shipping Services Pty Ltd	Shell House, 562 Wellington Street, Perth, WA 6000	100
Walloons Coal Seam Gas Company Pty Limited [i]	Level 30, 275 George Street, Brisbane, QLD 4000	75
AUSTRIA		
Salzburg Fuelling GmbH	Innsbrucker Bundesstrasse 95, Salzburg, 5020	33
Shell Austria Gesellschaft mbH	Tech Gate, Donau-City-Str. 1, Vienna, 1220	100
Shell Brazil Holding GmbH	Tech Gate, Donau-City-Str. 1, Vienna, 1220	100
Shell China Holding GmbH	Schulhof 6/1, Vienna, 1010	100
TBG Tanklager Betriebsgesellschaft m.b.H.	Rettenlackstrasse 3, Salzburg, 5020	50
Transalpine Ölleitung in Österreich GmbH	Kienburg 11, Matrei in Osttirol, 9971	19
BAHAMAS		
Shell E & P Ireland Offshore Inc.	P.O. Box N4805, St. Andrew's Court, Frederick Street Steps, Nassau	100
BARBADOS		
Shell Trinidad and Tobago Resources SRL	One Welches, Welches, St. Thomas, BB22025	100
Shell Western Supply and Trading Limited	GTC Corporate Services Limited, Sassoon House, Shirley Street & Victoria Avenue, Nassau	100
BELGIUM		
Belgian Shell S.A.	Cantersteen 47, Brussels, 1000	100
New Market Belgium S.A.	Cantersteen 47, Brussels, 1000	100
Shell Catalysts & Technologies Belgium N.V.	Pantserschipstraat 331, Gent, 9000	100
The New Motion Belgium BVBA	Regentlaan 37-40, Brussels, 1000	100
BERMUDA		
Egypt LNG Shipping Limited	Clarendon House, 2 Church Street, Hamilton, HM 11	25
Gas Investments & Services Company Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	85
Kuwait Shell Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Pecten Somalia Company Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Qatar Shell GTL Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Sakhalin Energy Investment Company Ltd	Clarendon House, 2 Church Street, Hamilton, HM 11	28
Shell Australia Natural Gas Shipping Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Bermuda (Overseas) Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Deepwater Borneo Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell EP International Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Holdings (Bermuda) Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell International Trading Middle East Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Markets (Middle East) Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Mexico Exploration and Production Investment Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Offshore Central Gabon Ltd	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Oman Trading Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Overseas Holdings (Oman) Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Petroleum (Malaysia) Ltd	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Saudi Arabia (Refining) Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell South Syria Exploration Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Trading (M.E.) Private Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Trust (Bermuda) Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Shell Trust (U.K. Property) Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Solen Insurance Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100
Solen Life Insurance Limited	3rd Floor Continental Building, 25 Church Street, Hamilton, HM 12	100

Company by country of incorporation	Address of registered office	%
BRAZIL		
BG Comercio e Importacao Ltda.	Avenida das Republica do Chile 330, 23° Andar, Torre 2, Centro, Rio de Janeiro, 20031-170	100
BG do Brasil Ltda.	Avenida das Republica do Chile 330, 23° Andar, Torre 2, Sala 2309, Centro, Rio de Janeiro, 20031-170	100
BG Petroleo & Gas Brasil Ltda.	Avenida das Republica do Chile 330, 23° Andar (parte) – Torre 2, Centro, Rio de Janeiro, 20031-170	100
Fusus Comércio e Participações Ltda.	Avenida das Republica do Chile n° 330, Bloco 2, Sala 2001 – Centro, Rio de Janeiro, 20031-170	100
Icolub – Industria de Lubrificantes S.A.	Praia Intendente Bittencourt, 2 (Parte), Ilha do Governador, Rio de Janeiro, 21930-030	100
Marlim Azul Energia S.A.	Avenida Paulista, 1274, 8° andar, Conjunto 23, Sala B, Bela Vista, São Paulo, 01310-100	30
Pecten do Brasil Servicos de Petroleo Ltda.	Av. República do Chile n° 330, Bloco 2, Sala 2301, Centro, Rio de Janeiro, 20031-170	100
Raizen Combustíveis S.A.	Avenida das Almirante Barroso, n° 81, 36° Andar, Sala 36A104, Rio de Janeiro, 20031-004	54
Raizen Energia S.A.	Avenida Brigadeiro Faria Lima, 4100, 11th floor, part V, Itaim Bibi, São Paulo, 04538-132	49
Seapos Ltda.	Av. República do Chile n° 330, Bloco 2, Sala 2401, Centro, Rio de Janeiro, 20031-170	100
Shell Brasil Participações Ltda.	Avenida Brigadeiro Faria Lima, 3311, Conj 81 Sala 02, Itam Bibi, São Paulo, 04538-133	100
Shell Brasil Petroleo Ltda.	Av. República do Chile n° 330, Bloco 2, Salas 2001, 2301, 2401, 2501, 3101, 3201, 3301 e 3401, Centro, Rio de Janeiro, 20031-170	100
Shell Energy Brasil Comercializadora de Energia Ltda.	Avenida Brigadeiro Faria Lima n° 3.311, Conj 81, Sala 01, Itam Bibi, São Paulo, 04538-133	100
Shell Energy do Brasil Ltda.	Avenida Brigadeiro Faria Lima n° 3.311, Conjunto 82, Itaim Bibi, São Paulo, 04538-133	100
BRUNEI		
Brunei LNG Sendirian Berhad	Lumut, Seria, KC2935	25
Brunei Shell Marketing Company Sendirian Berhad	Brunei Shell Petroleum Company, Sendirian Berhad, Seria, KB2933	50
Brunei Shell Petroleum Company Sendirian Berhad	Jalan Utara, Panaga, Seria, KB2933	50
Brunei Shell Tankers Sendirian Berhad	Jalan Utara, Panaga, Seria, KB2933	25
Shell Borneo Sendirian Berhad	c/o BSP Head Office, NDCO Block, Ground Floor, Jalan Utara, Panaga Seria, KB3534	100
BULGARIA		
Shell Bulgaria Ead	48, Sitnyakovo Blvd., Serdika Offices, 8th floor, Sofia, 1505	100
CAMBODIA		
Angkor Resources Company Limited	186C, Street No. 155, N/A – Tuol Tumpung Muoy, Chamkar Mon, Phnom Penh	49
CANADA		
10084751 Canada Limited	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
1745844 Alberta Ltd.	2100, 855 – 2nd Street S.W., Calgary, Alberta, T2P 4J8	50
7026609 Canada Inc.	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
7645929 Canada Limited	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Alberta Products Pipe Line Ltd.	5305 McCall Way N.E., Calgary, Alberta, T2E 7N7	20
Cansolv Technologies Inc.	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Coral Cibola Canada Inc.	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
FP Solutions Corporation	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	33
LNG Canada Development Inc. [b]	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	40
Sable Offshore Energy Inc.	1701 Hollis Street, Suite 1400, Halifax, Nova Scotia, B3J 3M8	33
SCL Pipeline Inc.	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
SFJ Inc.	199 Bay Street, Suite 5300, Commerce Court West, Toronto, Ontario, M5L 1B9	50
Shell Americas Funding (Canada) Limited	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Shell Canada BROS Inc.	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Shell Canada Energy [c]	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Shell Canada Limited	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Shell Canada OP Inc.	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Shell Canada Products	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Shell Canada Resources [c]	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Shell Canada Services Limited	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Shell Catalysts & Technologies Canada Inc.	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Shell Chemicals Canada [c]	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Shell Energy Merchants Canada Inc.	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Shell Energy North America (Canada) Inc.	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Shell Global Solutions Canada Inc.	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Shell Quebec Limitée	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Shell Trading Canada [c]	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Shell Treasury Centre Canada Inc	400 4th Avenue S.W., Calgary, Alberta, T2P 0J4	100
Sun-Canadian Pipe Line Company Limited	830 Highway No. 6 North, Flamborough, Ontario, L0R 2H0	45
Trans-Northern Pipelines Inc.	45 Vogel Road, Suite 310, Richmond Hill, Ontario, L4B 3P6	33
Zeco Systems (Canada) Inc.	295 Hagey Boulevard, Suite 300, Waterloo, Ontario, N2L 6R6	100

APPENDIX 1 continued

Company by country of incorporation	Address of registered office	%
CAYMAN ISLANDS		
Beryl North Sea Limited	Sterling Trust (Cayman) Limited, Whitehall House, 238 North Church Street, P.O. Box 1043, George Town, Grand Cayman, KY1-1102	100
BG Egypt S.A.	5th Floor, Bermuda House, Dr. Roy's Drive, George Town, Grand Cayman, KY1-1102	100
BG Exploration and Production India Limited	Campbells, Floor 4, Willow House, Cricket Square, George Town, Grand Cayman, KY1-9010	100
Gas Resources Limited	Zephyr House, 122 Mary Street, P.O. Box 2570, George Town, Grand Cayman, KY1-1103	100
Schiehallion Oil & Gas Limited	Caledonian Trust (Cayman) Limited, Caledonian House, 69 Dr Roy's Drive P.O. Box 1043, George Town, Grand Cayman, KY1-1102	100
Shell Bolivia Corporation	Zephyr House, 122 Mary Street, P.O. Box 2570, George Town, Grand Cayman, KY1-1103	100
Shell North Sea Holdings Limited	Maples Corporate Services Limited, Ugland House, P.O. Box 309, George Town, Grand Cayman, KY1-1104	100
CHILE		
Shell Chile S.A.	C/O Carey y Cia Abogados, Miraflores 222, Piso 28, Santiago	100
CHINA		
Anhui Shell Energy Company Limited	Room 2519-2522, 25/F, Greenland Center, Cross-area of Susong Rd and Changqin St, South Erhuan, Baohe District, Hefei, Anhui, 230000	100
Beijing Shell Petroleum Company Ltd.	Unit 1101-1104, level 11, Building 1, No. 19 Chaoyang Park Road, Chaoyang District, Beijing, 100125	49
Cansolv Technologies (Beijing) Company Limited	Unit 09, Level 31, No. 16 Building, No. 1 Jian Guo Men Wai Avenue, Chaoyang District, Beijing, 100004	100
Chongqing Doyen Shell Petroleum and Chemical Co. Ltd.	No. 196, Shuang Yuan Street, Beibei Zone, Chongqing, 400700	49
CNOOC and Shell Petrochemicals Company Limited	Dayawan Petrochemical Industrial Park, Huizhou, Guangdong, 516086	50
Fujian Xiangyu and Shell Petroleum Company Limited	Unit 604, 6/F, Building C, No. 3 Yunan Fourth Road, FTPZ Xiamen Sub-zone (Tariff-free Zone), Xiamen, 361000	49
Hangzhou Natural Gas Company Limited	10/F, Meiqi Mansion, No. 30 Tianmushan Road, Hangzhou, Zhejiang, 310007	25
Hubei Shell Energy Company Limited	No. 4, 5, 12/F, Unit A, Oceanwide International Center Office, 187 Yunxia Road, CBD, Jianhan District, Wuhan, 430000	100
Hunan Shell Energy Company Limited	Room 2407-2409, Building 15, Fangmaoyuan (Phase II), No. 1177 Huanhu Road, Yuelu District, Changsha, 410006	100
Infineum (China) Co. Ltd.	No. 1 Dongxin Road, Jiangsu Yangtze River International, Chemical Industry Park, Zhangjiagang, Jiangsu, 215600	50
Jiangsu Shell Energy Company Limited	Room 1001, 10/F, Unit 3, No. 198 Hexi Street, Jianye District, Nanjing, Jiangsu, 210019	100
Shell (Beijing) Real Estate Consulting Ltd.	Unit 01, 32/F, No. 16 Building, No. 1 Courtyard, Jian Guo Men Wai Avenue, Chaoyang District, Beijing, 100004	100
Shell (China) Limited	30/F Unit 01-02, No. 16 Building, No. 1 Courtyard, Jian Guo Men Wai Avenue, Chaoyang District, Beijing, 100004	100
Shell (China) Projects & Technology Limited	Unit 01-08, Level 31, No. 16 Building, No. 1 Jian Guo Men Wai Avenue, Chaoyang District, Beijing, 100004	100
Shell (Shanghai) Petroleum Company Limited	Room 522, The British Road No. 38, China (Shanghai) Pilot Free Trade Zone, Shanghai, 200131	100
Shell (Shanghai) Technology Limited	Building 4, Jin Chuang Building, No. 4560, Jin Ke Road, Pilot Free Trade Zone, Shanghai	100
Shell (Tianjin) Lubricants Company Limited	North to Gang Bei Road and East to Hai Gang Road, Nangang Industrial Zone, Tianjin Economic-Technological Development Area, Tianjin, 300280	100
Shell (Tianjin) Oil and Petrochemical Company Limited	No. 286 Nansan Road, Tianjin Harbour Nanjiang Dev. Zone, Tanggu, Binhai NewDistrict, Tianjin, 300452	100
Shell (Zhejiang) Petroleum Trading Limited	No. 1 Wangjiaba, Xinmiaozhi Village, Puyuan Town, Tongxiang, Jiaxing, Zhejiang, 314502	100
Shell (Zhuhai) Lubricants Company Limited	Nanjin Wan, Gaolan Dao, Gaolan Harbour Economic Zone, Zhuhai, 519050	100
Shell Energy (China) Limited	Room 530, 5th Floor, Building 1, No. 239 Gang'ao Road, China (Shanghai) Free Trade Zone, Shanghai, 200137	100
Shell Management and Consulting Company Limited	8/F, Building 1, No. 818 Shenchang Road, Minhang District, Shanghai, 201106	100
Shell North China Petroleum Group Co., Ltd.	5th Floor, Administrative Commission Building, Wuqing Development Area, No. 18, Fuyuan Road, Wuqing District, Tianjin, 300203	49
Shell Road Solutions (Zhenjiang) Co. Ltd	No. 68 Xianiejia, Dagang, Zhenjiang New District, Zhenjiang, 212132	100
Shell Road Solutions Xinyue (Foshan) Co. Ltd.	Baisha, Hekou, Sanshui District, Foshan, Guangdong, 528133	60
Sinopec and Shell (Jiangsu) Petroleum Marketing Company Limited	No. 100, Xingang Dadao, Nanjing Economic and Technological Development Zone, Nanjing, Jiangsu, 210000	40
Suzhou Liyuan Retail Site Management Co., Ltd.	No. 358 Zhuhui Road, Suzhou, 215000	50
Yanchang and Shell (Guangdong) Petroleum Co., Ltd.	39th Floor as Planning-designed (41st Floor as Self-designated), Leatop Plaza, No. 32 East Zhujiang Road, Zhujiang New Town, Tianhe District, Guangzhou, 510623	49
Yanchang and Shell (Sichuan) Petroleum Company Limited	23F, Yanlord Square, Section 2, Renmin South Road, Chengdu, Sichuan, 610016	45
Yanchang and Shell Petroleum Company Limited	18th Floor, Tower 1, Yongli International Finance Centre, Jinye No. 1 Road, High-tech District, Xi'an, 710075	45
Zhejiang Shell Fuels Company Limited	Room 2103, North Tower, Yefeng Modern Center, No. 161, Shaoxing Road, Xiacheng District, Hangzhou, Zhejiang, 310004	49
Zhejiang Shell Oil and Petrochemical Company Limited	The Port of Zhapu, Jiaxing Municipality, Zhejiang, 314201	100
Zhejiang Transfar and Shell Energy Company Limited	Rm 1503, Building 2, Plaza of ZBA, No. 939 Minhe Road, Ningwei Street, Xiaoshan, Hangzhou, Zhejiang, 311215	49
COLOMBIA		
C.I. Shell Comercializadora Colombia, S.A.S	Calle 90 No. 19 – 41, Oficina 702- Edificio Quantum, Bogotá, 452	100
Shell Colombia S.A.	Calle 90 No. 19 – 41, Oficina 702- Edificio Quantum, Bogotá, 452	100
COOK ISLANDS		
Branstone (International) Limited [i]	Bermuda House, Tutakimoa Road, Rarotonga	100
CÔTE D'IVOIRE		
Cote d'Ivoire GNL	14, Blvd Carde, Imm. Les Heveas, Plateau, Abidjan, BP V 194	13
CYPRUS		
Rosneft-Shell Caspian Ventures Limited	Metochiou str, 37, Agios Andreas, Nicosia, CY-1101	49

Company by country of incorporation	Address of registered office	%
CZECH REPUBLIC		
Shell Czech Republic a.s.	Antala Staška 2027/77, Praha 4, 140 00	100
DENMARK		
A/S Dansk Shell	Egeskovvej 265, Fredericia, 7000	100
DCC & Shell Aviation Denmark A/S	Nærum Hovedgade 8, Naerum, 2850	49
Shell EP Holdingselskab Danmark ApS	Egeskovvej 265, Fredericia, 7000	100
TetraSpar Demonstrator ApS	Bredgade 30, København K, 1260	66
EGYPT		
Alam El Shawish Petroleum Company [b]	127 Abdel Aziz Fahmy St., Heliopolis, P.O. Box 5958, Cairo, 5958	20
Badr Petroleum Company [b]	127 Abdel Aziz Fahmy St., Heliopolis, P.O. Box 5958, Cairo, 5958	50
Burullus Gas Company S.A.E. [b]	28 Road 270, Maadi, Cairo	25
El Behera Natural Gas Liquefaction Company S.A.E.	City of Rashid, El Behera Governorate	36
IDKU Natural Gas Liquefaction Company S.A.E.	City of Rashid, El Behera Governorate	38
North Alam El-Shawish Petroleum Company [b]	127 Abdel Aziz Fahmy St., Heliopolis, P.O. Box 5958, Cairo, 5958	50
North Um Baraka Petroleum Company [b]	127 Abdel Aziz Fahmy St., Heliopolis, P.O. Box 5958, Cairo, 5958	50
Obaiyed Petroleum Company [b]	127 Abdel Aziz Fahmy St., Heliopolis, P.O. Box 5958, Cairo, 5958	50
Rashid Petroleum Company S.A.E. [b]	38 Street No. 270, Maadi, Cairo	40
Shell Egypt Trading	Business View Building, No. 79, 90 Street (South), Fifth Settlement- New Cairo, Cairo, 11835	100
Shell Lubricants Egypt	Business View Building, No. 79, 90 Street (South), Fifth Settlement- New Cairo, Cairo, 11835	100
Sitra Petroleum Company [b]	127 Abdel Aziz Fahmy St., Heliopolis, P.O. Box 5958, Cairo, 5958	50
The Egyptian LNG Company S.A.E.	City of Rashid, El Behera Governorate	36
The Egyptian Operating Company for Natural Gas Liquefaction Projects S.A.E.	City of Rashid, El Behera Governorate	36
Tiba Petroleum Company [b]	127 Abdel Aziz Fahmy St., Heliopolis, P.O. Box 5958, Cairo, 5958	26
West Sitra Petroleum Company [b]	127 Abdel Aziz Fahmy St., Heliopolis, P.O. Box 5958, Cairo, 5958	50
FINLAND		
Shell Aviation Finland Oy	Teknobulevardi 3-5, Vantaa, 01530	100
FRANCE		
Accurasea	10 place de Catalogne, Paris, 75014	100
Airefsol Energies	10 place de Catalogne, Paris, 75014	67
Airefsol Energies 2	10 place de Catalogne, Paris, 75014	67
Airefsol Energies 6	10 place de Catalogne, Paris, 75014	67
Airefsol Energies 8	10 place de Catalogne, Paris, 75014	67
Airefsol Energies 9	10 place de Catalogne, Paris, 75014	67
Avitair SAS	Tour Pacific, 11/13 Cours Valmy – La Défense, Puteaux, 92800	100
Centrale Photovoltaïque Bouches-du-Rhône 1	10 place de Catalogne, Paris, 75014	100
Centrale Photovoltaïque Haute-Vienne	10 place de Catalogne, Paris, 75014	100
Centrale Photovoltaïque Landes 1	10 place de Catalogne, Paris, 75014	100
Centrale Photovoltaïque Var 1	10 place de Catalogne, Paris, 75014	100
Eolfi Offshore France	10 place de Catalogne, Paris, 75014	10
Eolfi SAS	10 place de Catalogne, Paris, 75014	100
Eoliennes du Gentilhomme	10 place de Catalogne, Paris, 75014	100
Ferme Eolienne Flottante de Groix & Belle-Ile	10 place de Catalogne, Paris, 75014	25
Ferme Eolienne Flottante Stenella Rhône	10 place de Catalogne, Paris, 75014	100
Groupement Pétrolier Aviation SNC	Aéroport Roissy Charles de Gaulle, Zone de Frêt 1, 3 Rue des Vignes, Tremblay-en-France, 93290	20
Infineum France	Chemin départemental 54, Berre-L'Etang, 13130	50
Parc Eolien Aisne 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien Charente 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien Corrèze 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien Côtes Armor 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien de la Vrine	10 place de Catalogne, Paris, 75014	100
Parc Eolien Haute-Saône 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien HM1	10 place de Catalogne, Paris, 75014	100
Parc Eolien Jura 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien Marne 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien Oise 1	10 place de Catalogne, Paris, 75014	100
Parc Eolien Oise 2	10 place de Catalogne, Paris, 75014	100
Parc Eolien Somme 1	10 place de Catalogne, Paris, 75014	100

APPENDIX 1 continued

Company by country of incorporation	Address of registered office	%
FRANCE continued		
Parc Eolien Somme 2	10 place de Catalogne, Paris, 75014	100
Parc Eolien Yonne 1	10 place de Catalogne, Paris, 75014	100
Service Aviation Paris SNC	Orly Sud No. 144 – Bat. 438, Orly Aerogares, 94541	33
Shell Retraites SAS	Tour Pacific, 11/13 Cours Valmy – La Défense, Puteaux, 92800	100
Société de Gestion Mobilière et Immobilière SAS	Tour Pacific, 11/13 Cours Valmy – La Défense, Puteaux, 92800	100
Société des Pétroles Shell SAS	Tour Pacific, 11/13 Cours Valmy – La Défense, Puteaux, 92800	100
Ste du Pipeline Sud Européen S.A.	7-9, Rue des Frères Morane, Paris, 75015	21
The New Motion France SAS	92 Avenue Charles de Gaulle, CS 30082, Neuilly sur Seine, 92522	100
GERMANY		
AGES Maut System GmbH & Co. KG	Berghausener Straße 96, Langenfeld, 40764	25
BEB Erdgas und Erdoel GmbH & Co. KG [b]	Riethorst 12, Hannover, 30659	50
BEB Holding GmbH [b]	Caffamacherreihe 5, Hamburg, 20355	50
Carissa Einzelhandel- und Tankstellenservice GmbH & Co. KG	Willinghusener Weg 5 D-E, Oststeinbek, 22113	100
Carissa Verwaltungsgesellschaft mbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
CRI Deutschland GmbH	Am Haupttor, Bau 8322, Leuna, 06237	100
Deutsche Infineum GmbH & Co. KG	Neusser Landstraße 16, Köln, 50735	50
Deutsche Shell GmbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Deutsche Shell Holding GmbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Deutsche Transalpine Oelleitung GmbH	Paul Wassermann Str. 3, Munich, 81829	19
Energeticum Energiesysteme GmbH	St.-Leonhard-Straße 26, Balzhausen, 86483	100
Enersol GmbH	Einsteinstr. 47, Vaihingen an der Enz, 71665	100
Erdoel-Raffinerie Deurag-Nerag GmbH	Riethorst 12, Hannover, 30659	50
euroShell Deutschland GmbH & Co. KG	Suhrenkamp 71 – 77, Hamburg, 22335	100
euroShell Deutschland Verwaltungsgesellschaft mbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
H2 Mobility Deutschland GmbH and Co. KG	EUREF-Campus 10-11, Berlin, 10829	28
HPRDS und SPNV Deutschland Oil GmbH & Co. KG	Suhrenkamp 71 – 77, Hamburg, 22335	100
HPRDS und SPNV Deutschland Verwaltungsges. mbH	Suhrenkamp 71 – 77, Hamburg, 22335	90
Infineum Deutschland Verwaltungsgesellschaft mbH	Neusser Landstraße 16, Köln, 50735	50
Mineraloelraffinerie Oberrhein Verwaltungs GmbH	DEA-Scholven-Str., Karlsruhe, 76187	32
Nord-West Oelleitung GmbH [b]	Zum Oelhafen 207, Wilhelmshaven, 26384	20
Oberrheinische Mineraloelwerke GmbH [b]	DEA-Scholven-Str., Karlsruhe, 76187	42
OLF Deutschland GmbH [b]	WeWork Europapassage, Hermannstraße 13, Hamburg, 20095	50
PCK Raffinerie GmbH [b]	Passower Chaussee 111, Schwedt/Oder, 16303	38
Rheinland Kraftstoff GmbH	Auf dem Schollbruch 24-26, Gelsenkirchen, 45899	100
Rhein-Main-Rohrleitungstransportgesellschaft mbH [b]	Godorfer Hauptstrasse 186, Köln, 50997	63
Shell Catalysts & Technologies Leuna GmbH	Am Haupttor, Bau 8322, Leuna, 06237	100
Shell Deutschland Additive GmbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Shell Deutschland Oil GmbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Shell Energy Deutschland GmbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Shell Erdgas Beteiligungsgesellschaft mbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Shell Erdgas Marketing GmbH & Co. KG	Suhrenkamp 71 – 77, Hamburg, 22335	75
Shell Erdoel und Erdgas Exploration GmbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Shell Exploration and Development Libya GmbH I	Suhrenkamp 71 – 77, Hamburg, 22335	100
Shell Exploration and Production Colombia GmbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Shell Exploration and Production Libya GmbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Shell Exploration et Production du Maroc GmbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Shell Exploration New Ventures One GmbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Shell Exploration und Produktion Deutschland GmbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Shell Global Solutions (Deutschland) GmbH	Hohe-Schaar-Straße 36, Hamburg, 21107	100
Shell Hydrogen Deutschland GmbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Shell Offshore Exploration und Produktion Deutschland GmbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Shell PrivatEnergie GmbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Shell Tunisia Offshore GmbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Shell Verwaltungsgesellschaft für Erdgasbeteiligungen mbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
Sonnen eServices Deutschland GmbH	Am Riedbach 1, Wildpoldsried, 87499	100
Sonnen eServices GmbH	Am Riedbach 1, Wildpoldsried, 87499	100

Company by country of incorporation	Address of registered office	%
Sonnen GmbH	Am Riedbach 1, Wildpoldsried, 87499	100
Sonnen Holding GmbH	Am Riedbach 1, Wildpoldsried, 87499	100
SPNV Deutschland Beteiligungsges. mbH	Suhrenkamp 71 – 77, Hamburg, 22335	100
The New Motion Deutschland GmbH	Wattstraße 11, Berlin, 13355	100
Tiramizoo GmbH	Prannerstr. 2-4, Munich, 80333	21
Toll4Europe GmbH	Französische Straße 33 a-c, Berlin, 10117	15
Wasserbeschaffungsverband Wesseling-Hersel	Bruehler Str. 95, Wesseling, 50389	35
GIBRALTAR		
Shell LNG Gibraltar Limited	57/63 Line Wall Road, P.O. Box 199, Gibraltar	51
GREECE		
Shell & MOH Aviation Fuels A.E.	151 Kifisias Ave., Marousi, Athens, 15124	51
GREENLAND		
Shell Greenland A/S	P.O. Box 510, Issortarfimmut 6, 102, Nuussuaq, 3905	100
GUAM		
Shell Guam Inc.	643 Chalan San Antonio, Suite 100, Tamuning, GU 96911	100
HONG KONG		
AFSC Operations Limited	3 Scenic Road, Chek Lap Kok, Lantau	11
AFSC Refuelling Limited	3 Scenic Road, Chek Lap Kok, Lantau	11
Fulmart Limited	35/F AIA Kowloon Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon	100
Hong Kong Response Limited	Esso Tsing Yi Terminal, Lot 46 Tsing Yi Road, Tsing Yi Island, New Territories	25
Ocean Century Tf Limited [i]	35/F AIA Kowloon Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon	100
Shell Developments (HK) Limited [i]	35/F AIA Kowloon Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon	100
Shell Hong Kong Limited	35/F AIA Kowloon Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon	100
Shell Korea Limited	35/F AIA Kowloon Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon	100
Shell Macau Limited	35/F AIA Kowloon Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon	100
HUNGARY		
Shell Hungary Trading close Company Limited by shares	Bocskai út 134-146., Budapest, 1113	100
INDIA		
BG India Energy Private Limited	3-C World Trade Tower, New Barakhamba Lane, New Delhi, 110001	100
BG India Energy Services Private Limited	3-C World Trade Tower, New Barakhamba Lane, New Delhi, 110001	100
BG India Energy Solutions Private Limited	3-C World Trade Tower, New Barakhamba Lane, New Delhi, 110001	100
BG LNG Regas India Private Limited	3-C World Trade Tower, New Barakhamba Lane, New Delhi, 110001	100
Greenlots Technology India LLP	Platina Tower MG Road, Near Sikandarpur Metro Station, Section, Haryana, Gurugram, 122001	100
Hazira Port Private Limited	101-103 Abhijeet-II, Mithakhali Circle, Ahmedabad 380 006, Gujarat, 380006	100
Pennzoil Quaker State India Limited	Plot No. T-5, MIDC, Taloja Industrial Area, Tal-Panvel, Raigad District, Mumbai, MH 410208	100
Shell Energy India Private Limited	101-103 Abhijeet-II, Mithakhali Circle, Ahmedabad 380 006, Gujarat, 380006	100
Shell Energy Marketing and Trading India Private Limited	2nd floor, Campus 4A, RMZ Millenia Business Park II, 143 Dr MGR Road, Kandhanchavady, Perungudi, Chennai, TN 600096	100
Shell India Markets Private Limited	2nd floor, Campus 4A, RMZ Millenia Business Park II, 143 Dr MGR Road, Kandhanchavady, Perungudi, Chennai, TN 600096	100
Shell MRPL Aviation Fuels and Services Limited	102, Prestige Sigma, Vittal Mallya Road, Bangalore, 560001	50
Shell Pahal Social Welfare Association	7, Bangalore Hardware Park, Devanahalli Industrial Park, Mahadeva-Kodigehalli, Bangalore, 562149	100
Tiki Tar and Shell India Private Limited	Tiki Tar Industries Village Road, Near Bhandup village, Bhandup West Mumbai, Mumbai, MH 400078	50
INDONESIA		
PT Shell LNG Indonesia	Talavera Office Park 22-26th Floor, Jl. Letjen. TB Simatupang Kav. 22-26, Jakarta Selatan, Jakarta, 12430	100
PT. Shell Indonesia	Talavera Office Park 22-26th Floor, Jl. Letjen. TB Simatupang Kav. 22-26, Jakarta Selatan, Jakarta, 12430	100
PT. Shell Manufacturing Indonesia	Talavera Office Park 22-26th Floor, Jl. Letjen. TB Simatupang Kav. 22-26, Jakarta Selatan, Jakarta, 12430	100
IRAQ		
Basrah Gas Company	Khor Al Zubair, Basrah	44
IRELAND		
Asiatic Petroleum Company (Dublin) Limited	1st Floor, Temple Hall, Temple Road, Blackrock, Co. Dublin, A94 K3K0	100
Irish Shell Trust Designated Activity Company	1st Floor, Temple Hall, Temple Road, Blackrock, Co. Dublin, A94 K3K0	100
Shell and Topaz Aviation Ireland Limited	Suite 7 Northwood House, Northwood Business Park, Santry, Dublin, 9	50
ISLE OF MAN		
Petrolon Europe Limited	First Names House, Victoria Road, Douglas, IM2 4DF	100
Petrolon International Limited	First Names House, Victoria Road, Douglas, IM2 4DF	100
Shell Marine Personnel (I.O.M.) Limited	Euromanx House, Freeport, Ballasalla, IM9 2AP	100
Shell Ship Management Limited	Euromanx House, Freeport, Ballasalla, IM9 2AP	100

APPENDIX 1 continued

Company by country of incorporation	Address of registered office	%
ISRAEL		
Ravin AI Ltd.	Derech Aba Hilel 16, Ramat Gan, 5250608	36
ITALY		
Alle S.R.L.	Via Vittor Pisani 16, Milano, 20124	100
Aquila S.p.A.	Via Vittor Pisani 16, Milano, 20124	100
BG Italia Power S.r.l	Via Tortona 25, Milano, 20144	100
Brindisi LNG S.r.l.	Via Tortona 25, Milano, 20144	100
Infineum Italia S.R.L.	Strada di Scorrimento 2, Vado Ligure, Savona, 17047	50
Shell Energy Italia S.R.L.	Via Vittor Pisani 16, Milano, 20124	100
Shell Fleet Solutions Consorzio	Via Susa 40, Torino, 10138	100
Shell International Exploration and Development Italia S.p.A.	Piazza dell'Indipendenza 11/B, Rome, 00185	100
Shell Italia E&P S.p.A.	Piazza dell'Indipendenza 11/B, Rome, 00185	100
Shell Italia Holding S.p.A.	Via Vittor Pisani 16, Milano, 20124	100
Shell Italia Oil Products S.R.L.	Via Vittor Pisani 16, Milano, 20124	100
Societa Italiana per l'Oleodotto Transalpino S.p.A.	Via Muggia #1, San Dorligo della Valle, Trieste, 34147	19
Societa' Oleodotti Meridionali S.p.A.	Via Emilia 1, San Donato Milanese, 20097	30
Sonnen eServices Italia S.R.L.	Via Autostrada 32, Bergamo, 24126	100
Sonnen S.R.L.	Via Autostrada 32, Bergamo, 24126	100
JAPAN		
Brunei Energy Services Company Ltd.	1-8-2 Marunouchi, Chiyoda-ku, Tokyo, 100-0005	25
CO2-free Hydrogen Energy Supply-chain TRA	7F Kokuryu Shiba Koen Building 2-6-15, Shiba Koen, Minato-ku, Tokyo, 105-0011	25
Sakhalin LNG Services Company Ltd.	2-3, Kanda, Awaji-cho, Chiyoda-ku, Tokyo, 101-0063	50
Shell Japan Limited	16F Pacific Century Place, 1-11-1, Marunouchi, Chiyoda-Ku, Tokyo, 100-6216	100
Sonnen Japan Kabushiki Kaisha	16F Pacific Century Place, 1-11-1, Marunouchi, Chiyoda-Ku, Tokyo, 100-6216	100
JERSEY		
Shell Service Station Properties Limited	Queensway House, Hilgrove Street, St. Helier, JE1 1ES	100
LUXEMBOURG		
Denham International Power SCSp [d]	412F, route d'Esch, Luxembourg, L-2086	32
Shell Finance Luxembourg Sarl	7, Rue de l'Industrie, Bertrange, Luxembourg, L-8069	100
Shell Luxembourgeoise Sarl	7, Rue de l'Industrie, Bertrange, Luxembourg, L-8005	100
Shell Treasury Luxembourg Sarl	7, Rue de l'Industrie, Bertrange, Luxembourg, L-8069	100
MACAU		
Shell Macau Petroleum Company Limited	876 Avenida da Amizade, Edificio Marina Gardens, Room 310, 3rd Floor	100
MALAYSIA		
Bonuskad Loyalty Sdn. Bhd. [i]	Level 8, Symphony House, Block D13, Pusat Dagangan Dana 1, Jalan PJU 1A/46, Petaling Jaya/Selangor Darul Ehsan, 47301	33
IOT Management Sdn. Bhd.	Lot 7689 and Lot 7690, Section 64, Kuching Town Land District, Jalan Pending, Kuching, Sarawak, 93450	7
Kebabangan Petroleum Operating Company Sdn. Bhd. [b]	Suite 13.03, 13 Floor, Menara Tan & Tan, 207 Tun Razak, Kuala Lumpur/Federal Territory, 50400	30
P S Pipeline Sendirian Berhad	Level 30, Tower 1, Petronas Twin Towers, KLCC, Kuala Lumpur/Federal Territory, 50088	50
P S Terminal Sendirian Berhad	12th Floor, Menara Symphony, No. 5, Jalan Prof. Khoo Kay Kim, Seksyen 13, Petaling Jaya/Selangor Darul Ehsan, 46200	35
Pertini Vista Sdn. Bhd.	12th Floor, Menara Symphony, No. 5, Jalan Prof. Khoo Kay Kim, Seksyen 13, Petaling Jaya/Selangor Darul Ehsan, 46200	100
Provista Ventures Sdn. Bhd.	12th Floor, Menara Symphony, No. 5, Jalan Prof. Khoo Kay Kim, Seksyen 13, Petaling Jaya/Selangor Darul Ehsan, 46200	100
Sarawak Shell Berhad	12th Floor, Menara Symphony, No. 5, Jalan Prof. Khoo Kay Kim, Seksyen 13, Petaling Jaya/Selangor Darul Ehsan, 46200	100
Shell Business Service Centre Sdn. Bhd.	12th Floor, Menara Symphony, No. 5, Jalan Prof. Khoo Kay Kim, Seksyen 13, Petaling Jaya/Selangor Darul Ehsan, 46200	100
Shell Global Solutions (Malaysia) Sdn. Bhd.	12th Floor, Menara Symphony, No. 5, Jalan Prof. Khoo Kay Kim, Seksyen 13, Petaling Jaya/Selangor Darul Ehsan, 46200	100
Shell Malaysia Trading Sendirian Berhad	12th Floor, Menara Symphony, No. 5, Jalan Prof. Khoo Kay Kim, Seksyen 13, Petaling Jaya/Selangor Darul Ehsan, 46200	100
Shell MDS (Malaysia) Sendirian Berhad	12th Floor, Menara Symphony, No. 5, Jalan Prof. Khoo Kay Kim, Seksyen 13, Petaling Jaya/Selangor Darul Ehsan, 46200	72
Shell New Ventures Malaysia Sdn. Bhd. [i]	12th Floor, Menara Symphony, No. 5, Jalan Prof. Khoo Kay Kim, Seksyen 13, Petaling Jaya/Selangor Darul Ehsan, 46200	100
Shell People Services Asia Sdn. Bhd.	12th Floor, Menara Symphony, No. 5, Jalan Prof. Khoo Kay Kim, Seksyen 13, Petaling Jaya/Selangor Darul Ehsan, 46200	100
Shell Sabah Selatan Sendirian Berhad	12th Floor, Menara Symphony, No. 5, Jalan Prof. Khoo Kay Kim, Seksyen 13, Petaling Jaya/Selangor Darul Ehsan, 46200	100
Shell Timur Sdn. Bhd.	12th Floor, Menara Symphony, No. 5, Jalan Prof. Khoo Kay Kim, Seksyen 13, Petaling Jaya/Selangor Darul Ehsan, 46200	70
Shell Treasury Malaysia (L) Limited	Kensington Gardens, No. U1317, Lot 7616, Jalan Jumidar Buyong, Labuan F.T., 87000	100
Tanjung Manis Oil Terminal Management Sdn. Bhd.	Lot 7689 and Lot 7690, Section 64, Kuching Town Land District, Jalan Pending, Kuching, Sarawak, 93450	14
MAURITIUS		
BG Mauritius LNG Holdings Ltd	6th Floor, Tower A, 1 Cybercity, Ebene, 72201	100
BG Mumbai Holdings Limited	6th Floor, Tower A, 1 Cybercity, Ebene, 72201	100
Pennzoil Products International Company	33 Edith Cavell Street, Port Louis, 11324	100

Company by country of incorporation	Address of registered office	%
MEXICO		
Comercial Importadora S.A. De C.V.	Guillermo González Camarena No. 400, Santa Fe, Ivaro Obregón, Ciudad de México, 1210	50
Concilia Asesores y Servicios, S.A. de C.V.	Guillermo González Camarena No. 400, Santa Fe, Ivaro Obregón, Ciudad de México, 1210	50
Gas Del Litoral, S. de R.L. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	100
Mega Gasolineras SA de CV	Avenida Cerro Gordo del Campestre 201 int 202, Las Quintas, León, Guanajuato, 37125	50
Shell Energy Mexico, S.A. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	100
Shell Exploración y Extracción de México, S.A. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	100
Shell México Gas Natural, S. de R.L. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	100
Shell México, S.A. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	100
Shell Servicios México, S.A. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	100
Shell Solutions Mexico S.A. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	100
Shell Trading México, S. de R.L. de C.V.	Avenida Paseo de las Palmas 340, 1st floor, Colonia Lomas de Chapultepec, Delegación Miguel Hidalgo, Ciudad de México, 11000	100
NETHERLANDS		
Amsterdam Schiphol Pijpleiding Beheer B.V.	Amsterdamseweg 55, 1182 GP Amstelveen, P.O. Box 75650, Luchthaven Schiphol, 1118 ZS	40
Attiki Gas B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
B.R.E. B.V.	Lelystad, Deventer, 7425 SB	100
B.V. Dordtsche Petroleum Maatschappij	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
B.V. Petroleum Assurantie Maatschappij	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
BG Gas Atlantic Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
BG Gas Brazil E&P 12 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
BG Gas Brazil Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
BG Gas Global Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
BG Gas International B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
BG Gas International Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
BG Gas Netherlands Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
BG Gas Sao Paulo Investments B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
BJS Oil Operations B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	80
BJSA Exploration and Production B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Blauwwind II C.V. [d]	Weena 70, Rotterdam, 3012 CM	20
Blauwwind Management II B.V.	Weena 70, Rotterdam, 3012 CM	20
Caspi Meruerty Operating Company B.V. [b]	Muiderstraat 1, Amsterdam, 1011 PZ	40
Chosun Shell B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Cicerone Holding B.V.	Herikerbergweg 238, Amsterdam, 1101 CM	51
Ellba B.V. [b]	Vondelingenweg 601, Vondelingenplaat, Rotterdam, 3196 KK	50
Ellba C.V. [b] [d]	Vondelingenweg 601, Vondelingenplaat, Rotterdam, 3196 KK	50
Euroshell Cards B.V.	Weena 70, Rotterdam, 3012 CM	100
Fitzroy C.V. [d]	Stationsplein 45, Rotterdam, 3013 AK	20
Gasterra B.V.	P.O. Box 477, Groningen, 9700 AL	25
Guara B.V.	Weena 722, Rotterdam, 3014 DA	30
Hkz Lp 18 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Hkz Lp 19 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Hkz Lp 20 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Hkz Lp 21 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Hkz Lp 22 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Iara B.V.	Weena 762, 9e verdieping, kamer A, Rotterdam, 3014 DA	25
Infineum Holdings B.V.	Herikerbergweg 238, Amsterdam, 1101 CM	50
Integral Investments B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Jordan Oil Shale Company B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Karachaganak Petroleum Operating B.V. [b]	Strawinskylaan 1345, Amsterdam, 1077 XX	29
Lapa Oil & Gas B.V.	Weena 762, 9e verdieping, kamer A, Rotterdam, 3014 DA	30
Libra Oil & Gas B.V.	Weena 762, Rotterdam, 3014 DA	20
LNG Shipping Operation Services Netherlands B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Loyalty Management Netherlands B.V.	Polaris Avenue 81, P.O. Box 2047, 2130 GE, Hoofddorp, 2132 JH	40

APPENDIX 1 continued

Company by country of incorporation	Address of registered office	%
NETHERLANDS continued		
Maasvlakte Olie Terminal C.V. [d]	Europaweg 975, Maasvlakte, Rotterdam, 3199 LC	16
Multi Tank Card B.V.	Antareslaan 39, P.O. Box 3068, 2130 KB, Hoofddorp, 2132 JE	30
N.V. Rotterdam-Rijn Pijpleiding Maatschappij [b]	Butaanweg 215, Vondelingplaat, Rotterdam, 3196 KC	56
Nederlandse Aardolie Maatschappij B.V.	Schepersmaat 2, Assen, 9405 TA	50
Netherlands Alng Holding Company B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Noordzeewind B.V.	2e Havenstraat 5b, Ijmuiden, 1976 CE	50
Noordzeewind C.V. [d]	2e Havenstraat 5b, Ijmuiden, 1976 CE	50
North Caspian Operating Company N.V. [b]	Oostduinlaan 2, The Hague, 2596 JM	17
Paqell B.V.	Reactorweg 301, unit 1.3, Utrecht, 3542 AD	50
Raffinaderij Shell Mersin N.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
RESCO B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Salym Petroleum Development N.V. [b]	Carel van Bylandtlaan 30, The Hague, 2596 HR	50
Shell Abu Dhabi B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Additives Holdings (I) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Additives Holdings (II) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Albania Block 4 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell and Vivo Lubricants B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	50
Shell Asset Management Company B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Brazil Holding B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Business Development Central Asia B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Caspian B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Caspian Pipeline Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Chemicals Europe B.V.	Weena 70, Rotterdam, 3012 CM	100
Shell Chemicals Ventures B.V. [k]	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell China B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell China Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Deepwater Tanzania B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Development Iran B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Downstream Services International B.V.	Weena 70, Rotterdam, 3012 CM	100
Shell E and P Offshore Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Egypt N.V. [e]	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Energy Europe B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell EP Holdings (EE&ME) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell EP Middle East Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell EP Oman B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell EP Russia Investments (III) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell EP Russia Investments (V) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell EP Somalia B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell EP Wells Equipment Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Europe New Energies Holding B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration & Production Brunei B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (100) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (101) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (102) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (103) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (104) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (105) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (106) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (107) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (79) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (82) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (84) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (89) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (90) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (91) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (92) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (93) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100

Company by country of incorporation	Address of registered office	%
Shell Exploration and Production (94) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (96) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (99) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (LI) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (LXI) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (LXII) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (LXV) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (LXVI) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (LXXI) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (LXXV) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production (XL) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Investments B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Mauritania (C10) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Mauritania (C19) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Services (RF) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production South Africa B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Ukraine I B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Ukraine Investments (I) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production Ukraine Investments (II) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration and Production West-Siberia B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration Company (RF) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration Company (West) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration Company B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Exploration Venture Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Finance (Netherlands) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Gas & Power Developments B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Gas (LPG) Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Gas B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Gas Iraq B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Gas Nigeria B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Gas Venezuela B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Generating (Holding) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Geothermal B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Global Solutions (Eastern Europe) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Global Solutions International B.V.	Lange Kleiweg 40, Rijswijk, 2288 GK	100
Shell Global Solutions Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Information Technology International B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Integrated Gas Oman B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell International B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell International Exploration and Production B.V.	Carel van Bylandtlaan 16, The Hague, 2596 HR	100
Shell International Finance B.V. [a]	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Internationale Research Maatschappij B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Internet Ventures B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Iraq Petroleum Development B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Iraq Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Kazakhstan B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Kazakhstan Development B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Kuwait Exploration and Production B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell LNG Bunkering B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell LNG Port Spain B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Lubricants Supply Company B.V.	Weena 70, Rotterdam, 3012 CM	100
Shell Manufacturing Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Mozambique B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell MSPO 2 Holding B.V.	Vondelingenweg 601, Vondelingenplaat, Rotterdam, 3196 KK	100
Shell Namibia Upstream B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Nanhai B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100

APPENDIX 1 continued

Company by country of incorporation	Address of registered office	%
NETHERLANDS continued		
Shell Nederland B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Nederland Chemie B.V. [i]	Chemieweg 25, P.O. Box 6060, Moerdijk, 4780 LN	100
Shell Nederland Raffinaderij B.V.	Vondelingenweg 601, Vondelingenplaat, Rotterdam, 3196 KK	100
Shell Nederland Verkoopmaatschappij B.V.	Weena 70, Rotterdam, 3012 CM	100
Shell Netherlands Canada Financing B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell New Energies NL B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Offshore (Personnel) Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Offshore Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell OKLNG Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Olie OG Gas Holding B.V. [k]	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Oman Exploration and Production B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Overseas Investments B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Pensioenbureau Nederland B.V.	Postbus 157, The Hague, 2501 CD	100
Shell Petroleum N.V. [a]	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Philippines Exploration B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Project Development (VIII) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell RDS Holding B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Sakhalin Holdings B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Sakhalin Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Salym Development B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Sao Tome and Principe B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Services Oman B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Shared Services (Asia) B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell TapUp B.V.	Hofplein 20, Rotterdam, 3032 AC	100
Shell Technology Ventures Fund 1 B.V.	Strawinskylaan 3127 8e etage, Amsterdam, 1077 ZX	52
Shell Trademark Management B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Trading Rotterdam B.V.	Weena 70, Rotterdam, 3012 CM	100
Shell Trading Russia B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Upstream Albania B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Upstream Development B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Upstream Indonesia Services B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Upstream Spain B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Upstream Turkey B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Ventures B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Ventures Investments B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Western LNG B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Windenergy Netherlands B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Shell Windenergy NZW I B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
Snijders Olie B.V.	Weena 70, Rotterdam, 3012 CM	100
SolarNow B.V.	Zeelandsestraat 1, Millingen aan de Rijn, 6566 DE	23
Syria Shell Petroleum Development B.V. [j]	Carel van Bylandtlaan 30, The Hague, 2596 HR	65
Tamba B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	50
Tankstation Exploitatie Maatschappij Holding B.V.	Weena 70, Rotterdam, 3012 CM	100
The Green Near Future 5 B.V.	Carel van Bylandtlaan 30, The Hague, 2596 HR	100
The New Motion B.V.	Rigakade 20, Amsterdam, 1013 BC	100
Travis Road Services International B.V.	Dr. Hub van Doorneweg 183, Tilburg, 5026 RD	34
Tupi B.V.	Wilhelminatoren, Wilhelminaplein 14, Rotterdam, 3072	25
W2C GP B.V.	Stationsplein 45, Rotterdam, 3013 AK	20
Waalbrug Exploitatie Maatschappij B.V.	Henri Berssenbruggestraat 9, Deventer, 7425 SB	100
Zeolyst C.V.	Oosterhorn 36, Farmsum, 9936 HD	50
NEW ZEALAND		
Energy Finance NZ Limited	c/o Baker Tilly Staples Rodway Taranaki Limited, 109-113 Powderham Street, P.O. Box 146, New Plymouth, Taranaki, 4340	100
Energy Holdings Offshore Limited	c/o Baker Tilly Staples Rodway Taranaki Limited, 109-113 Powderham Street, P.O. Box 146, New Plymouth, Taranaki, 4340	100
Shell (Petroleum Mining) Company Limited	c/o Baker Tilly Staples Rodway Taranaki Limited, 109-113 Powderham Street, P.O. Box 146, New Plymouth, Taranaki, 4340	100
Shell Energy Asia Limited	c/o Baker Tilly Staples Rodway Taranaki Limited, 109-113 Powderham Street, P.O. Box 146, New Plymouth, Taranaki, 4340	100
Shell Investments NZ Limited	c/o Baker Tilly Staples Rodway Taranaki Limited, 109-113 Powderham Street, P.O. Box 146, New Plymouth, Taranaki, 4340	100
Southern Petroleum No Liability	c/o Baker Tilly Staples Rodway Taranaki Limited, 109-113 Powderham Street, P.O. Box 146, New Plymouth, Taranaki, 4340	100

Company by country of incorporation	Address of registered office	%
NIGERIA		
All on Partnerships for Energy Access Limited by Guarantee	44 Bourdillon Road, Ikoyi, Lagos	100
BG Exploration and Production Nigeria Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
BG Upstream A Nigeria Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Delta Business Development Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Nigeria LNG Limited	Corporate Office, Intels Aba Road Estate, Km16 Aba Expressway, Port Harcourt, 500211	26
NLNG Shipping Management Limited	Corporate Office, Intels Aba Road Estate, Km16 Aba Expressway, Port Harcourt, 500211	20
Shell Exploration and Production Africa Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Business Operations Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Closed Pension Fund Administrator Ltd	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Exploration and Production Company Ltd	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Exploration and Production Echo Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Exploration Properties Alpha Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Exploration Properties Beta Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Exploration Properties Charlie Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Gas Ltd (SNG)	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Infrastructure Development Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Offshore Prospecting Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Oil Products Limited (SNOP)	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Ultra Deep Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Nigeria Upstream Ventures Limited	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	100
Shell Thrift & Loan Fund Trustees Nig Ltd	Freeman House, 21/22 Marina, P.M.B. 2418, Lagos	99
The Shell Petroleum Development Company of Nigeria Limited	Shell Industrial Area, P.O. Box 263, Rivers State, Port Harcourt, 500272	100
NORWAY		
A/S Norske Shell	Tankvegen 1, Tananger, 4056	100
Aviation Fuelling Services Norway AS	Bygg 6, Drammensveien 134, Oslo, 0277	50
Enhanced Well Technologies Group AS	Kongsgårdbakken 1, Stavanger, 4005	35
Gasnor AS	Helganesvegen 59, Avaldsnes, Karmøy, 4262	100
Ormen Lange Eiendom DA	Nyhamna, Aukra, 6480	18
Shell New Energies AS	Karenslyst Allé 2, Oslo, 0278	100
Technology Centre Mongstad DA	Mongstad 71A, Mongstad, 5954	8
Vestprosess DA	Forusbeen 50, Stavanger, 4035	8
OMAN		
Oman LNG LLC	P.O. Box 560, Mina Al Fahal, Muscat, 116	30
Petroleum Development Oman LLC	P.O. Box 81, Mina Al Fahal, Muscat, 113	34
Shell Development Oman LLC	P.O. Box 74, Mina Al Fahal, Muscat, 116	100
Shell Oman Marketing Company SAOG	P.O. Box 38, Mina Al Fahal, Muscat, 116	49
Sohar Solar Qabas (FZC) LLC	P.O. Box 398, Sohar Free Zone, North Al Batinah Governorate, Sohar, 322	100
PAKISTAN		
Pak Arab Pipeline Company Limited	House No. 2-B, Nazimuddin Road, F-8/1, Islamabad, 75400	20
Pakistan Energy Gateway Limited	E110, Khayaban e Jinnah, Lahore Cantonement, Punjab, Cantonement, 54810	33
Shell Energy Pakistan (smc-private) Limited	Shell House, 6 Ch. Khaliquzzaman Road, Karachi, 75530	100
Shell Pakistan Limited	Shell House, 6 Ch. Khaliquzzaman Road, Karachi, 75530	76
PERU		
Shell GNL Peru S.A.C.	Calle Dean Valdivia 111, Oficina 802, San Isidro, Lima, Lima 27	100
Shell Operaciones Peru S.A.C.	Calle Dean Valdivia 111, Oficina 802, San Isidro, Lima, Lima 27	100
PHILIPPINES		
Bonifacio Gas Corporation	2nd Floor, Bonifacio Technology Center, 31st Street corner 2nd Avenue, Bonifacio Global City, Taguig, Metro Manila, 1635	24
Connected Freight Solutions Philippines, Inc.	41st Floor, The Finance Center, 26th Street corner 9th Avenue, Bonifacio Global City, Taguig, Metro Manila, 1635	84
Kamayan Realty Corporation	NDC Bldg., 116 Tordesillas St., Salcedo Village, Makati City, Metro Manila, 1227	22
Manta Energy Inc	1004 East Tower, PSE Centre, Exchange Road, Ortigas Center, Pasig City, 1605	100
Pilipinas Shell Petroleum Corporation	41st Floor, The Finance Center, 26th Street corner 9th Avenue, Bonifacio Global City, Taguig, Metro Manila, 1635	55
Shell Chemicals Philippines, Inc.	41st Floor, The Finance Center, 26th Street corner 9th Avenue, Bonifacio Global City, Taguig, Metro Manila, 1635	100
Shell Gas and Energy Philippines Corporation	41st Floor, The Finance Center, 26th Street corner 9th Avenue, Bonifacio Global City, Taguig, Metro Manila, 1635	100
Shell Gas Trading (Asia Pacific), Inc.	Subic Bay Free Port Zone, Olangapo City, 2200	100
Shell Solar Philippines Corporation	41st Floor, The Finance Center, 26th Street corner 9th Avenue, Bonifacio Global City, Taguig, Metro Manila, 1635	100
Tabangao Realty, Inc.	Unit D 9th Floor Inoza Tower, 40th Street, North Bonifacio, Bonifacio Global City, Taguig, Metro Manila, 1634	40

APPENDIX 1 continued

Company by country of incorporation	Address of registered office	%
POLAND		
Shell Energy Retail Poland Sp. z o.o.	Al. Pokoju 5, Krakow, 31-548	100
Shell Polska Sp. z o.o.	ul. Bitwy Warszawskiej 1920 r. nr 7A, Warsaw, 02-366	100
PORTUGAL		
Shell Madeira Praia Formosa – Instalações, Comércio e Distribuição de Combustíveis S.A	Avenida dos Combatentes da Grande Guerra nº 17, Freguesia de S. Juliao, Setúbal, 2900-329	100
PUERTO RICO		
Station Managers of Puerto Rico, Inc.	P.O. Box 186, Yabucoa, PR 00767-0186	100
QATAR		
Qatar Liquefied Gas Company Limited (4)	P.O. Box 22666, Doha	30
Qatar Shell Research & Technology Centre QSTP-LLC	Qatar Science & Technology Park Tech1, Office 101, P.O. Box 3747, Doha	100
Qatar Shell Service Company W.L.L.	Al Mirqab Tower, West Bay, P.O. Box 3747, Doha	100
RUSSIA		
Khanty-Mansiysk Petroleum Alliance Closed Joint Stock Company [b]	24 A Yakubovicha ul., Saint Petersburg, 190000	50
Limited Liability Company "Shell Neft"	24 Bld D Smolnaya street, Moscow, 125445	100
Limited Liability Company "Shell Neftegaz Development (V)"	Novinsky blvd, 31, Moscow, 123242	100
LLC Shell NefteGaz Development	Novinsky blvd, 31, Moscow, 123242	100
Meretoyahaneftegaz LLC [b] [c]	16 Komsomolskaya street, Apartment 36, Yamalo-Nenetsky Autonomous Region, Nadym, 629733	50
Syriaga Neftegaz Development LLC	Novinsky blvd, 31, Moscow, 123242	100
SAINT KITTS AND NEVIS		
Shell Oil & Gas (Malaysia) LLC	Morning Star Holdings Limited, Main Street, Suite 556, Charlestown, Nevis, West Indies	90
SAINT LUCIA		
BG Atlantic 1 Holdings Limited	Mercury Court, Choc Estate, Castries	100
BG Atlantic 2/3 Holdings Limited	Mercury Court, Choc Estate, Castries	100
BG Atlantic 4 Holdings Limited	Mercury Court, Choc Estate, Castries	100
BG Central Holdings Ltd.	Mercury Court, Choc Estate, Castries	100
BG West Indies No. 2 Limited	Mercury Court, Choc Estate, Castries	100
SAUDI ARABIA		
Al Jomaih and Shell Lubricating Oil Co.Ltd.	P.O. Box 41467, Riyadh, 11521	50
Peninsular Aviation Services Company Limited	P.O. Box 6369, Jeddah, 21442	25
SINGAPORE		
BG Asia Pacific Holdings Pte. Limited	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
BG Asia Pacific Services Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
BG Exploration & Production Myanmar Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
BG Insurance Company (Singapore) Pte Ltd	10 Collyer Quay, #10-01 Ocean Financial Centre, Singapore, 049315	100
BG Myanmar Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
BG Oil Marketing Pte Ltd	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Cleantech Renewable Assets Pte Ltd	25 Church Street, 03-04 Capital Square three, Singapore, 049482	49
Connected Freight Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	84
Ellba Eastern (Pte) Ltd	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Fuelng Pte. Ltd	50 Gul Road, Singapore, 629351	50
Infineum Singapore LLP	31 International Business Park, #04-08, Creative Resource, Singapore, 609921	50
QPI and Shell Petrochemicals (Singapore) Pte Ltd	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	51
Shell Catalysts & Technologies Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Chemicals Seraya Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Eastern Petroleum (Pte) Ltd [i]	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Eastern Trading (Pte) Ltd [i]	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Gas Marketing Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell India Ventures Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Integrated Gas Thailand Pte.Limited	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell International Shipping Services (Pte) Ltd	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Myanmar Energy Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Myanmar Petroleum Pte. Ltd.	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Pulau Moa Pte Ltd	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Seraya Pioneer (Pte) Ltd	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Singapore Trustees (Pte) Ltd	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Shell Tankers (Singapore) Private Limited	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100

Company by country of incorporation	Address of registered office	%
Shell Treasury Centre East (Pte) Ltd	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	100
Singapore Lube Park Pte. Ltd. [b]	160 Tuas South Avenue 5, Singapore, 637364	44
Sirius Well Manufacturing Services Pte. Ltd. [b]	The Metropolis Tower 1, 9 North Buona Vista Drive, #07-01, Singapore, 138588	50
Zeco Systems Pte. Ltd.	1 Commonwealth Lane, #09-30, One Commonwealth, Singapore, 149544	99
SLOVAKIA		
SHELL Slovakia s.r.o.	Einsteinova 23, Bratislava, 851 01	100
SLOVENIA		
Shell Adria d.o.o.	Bravnicarjeva ulica 13, Ljubljana, 1000	100
SOUTH AFRICA		
Bituguard Southern Africa (Pty) Ltd	Twickenham, The Campus, 57 Sloan Street, Epsom Downs, Bryanston, 2021	36
Blendcor (Pty) Ltd. [b]	Honshu Road, Durban, 4001	36
Sekelo Oil Trading (Pty) Limited	1st Floor Oxford Parks, 199 Oxford Road, Dunkeld, Gauteng, 2196	43
Shell & BP South African Petroleum Refineries (Pty) Limited [b]	Reunion, Durban, 4001	36
Shell Downstream South Africa (Pty) Ltd	Twickenham, The Campus, 57 Sloan Street, Epsom Downs, Bryanston, 2021	72
Shell Global Customer Services Centre Cape Town (Pty) Ltd	10 Rua Vasco de Gama, Foreshore, Cape Town, 8000	100
Shell South Africa Energy (Pty) Ltd	Twickenham, The Campus, 57 Sloan Street, Epsom Downs, Bryanston, 2021	100
Shell South Africa Exploration (Pty) Limited	Twickenham, The Campus, 57 Sloan Street, Epsom Downs, Bryanston, 2021	100
Shell South Africa Holdings (Pty) Ltd	Twickenham, The Campus, 57 Sloan Street, Epsom Downs, Bryanston, 2021	100
STISA (Pty) Limited	Suite OE/2, The Nautica, The Waterclub, Beach Road, Granger Bay, Cape Town, 8001	72
SOUTH KOREA		
Hankook Shell Oil Company	No. 250, Sinsun-ro, Nam-gu, Busan, 48561	54
Hyundai and Shell Base Oil Co., Ltd	640-6, Daejuk-ri, Daesan-eup, Seosan-shi, Chungchongnam-do, 356-713	40
SPAIN		
BG Energy Iberian Holdings, S.L.	Paseo de la Castellana, 257-6°, Madrid, 28046	100
Shell & Disa Aviation España, S.L.	Rio Bullaque, 2, Madrid, 28034	50
Shell España, S.A.	Paseo de la Castellana, 257-6°, Madrid, 28046	100
Shell Spain LNG, S.A.U.	Paseo de la Castellana, 257-6°, Madrid, 28046	100
SUDAN		
Shell (Sudan) Petroleum Development Company Limited	Shell House, P.O. Box 320, Khartoum	100
SWEDEN		
A Flygbränslehantering Aktiebolag	P.O. Box 135, Stockholm-Arlanda, 190 46	25
BG International Services AB	Deloitte, P.O. Box 450, Östersund, 831 26	100
Gothenburg Fuelling Company AB	P.O. Box 2154, Gothenburg, 438 14	33
Malmö Fuelling Services AB	Sturup Flygplats, P.O. Box 22, Malmö, 230 32	33
Shell Aviation Sweden AB	Gustavslundsvägen 22, Bromma, 16751	100
Stockholm Fuelling Services AB	P.O. Box 85, Stockholm-Arlanda, 190 45	25
SWITZERLAND		
Saraco SA	Route de Pré-Bois 17, Cointrin, 1216	20
Shell (Switzerland) AG	Baarermatte, Baar, 6340	100
Shell Brands International AG	Baarermatte, Baar, 6340	100
Shell Corporate Services Switzerland AG	Baarermatte, Baar, 6340	100
Shell Finance Switzerland AG	Baarermatte, Baar, 6340	100
Shell Holdings Switzerland AG	Baarermatte, Baar, 6340	100
Shell Lubricants Switzerland AG	Steigerhubelstrasse 8, Bern, 3008	100
Shell Trading Switzerland AG	Baarermatte, Baar, 6340	100
Shell Treasury Company Switzerland AG	Baarermatte, Baar, 6340	100
SOGEP Sociéte Genevoise des Pétroles SA	Route de Vernier 132, Vernier, 1214	34
Solen Versicherungen AG	Baarermatte, Baar, 6340	100
Stazioni Autostradali Bellinzona SA	Autostrada A2 (direzione Gottardo), Hotel Bellinzona Sud, Monte Carasso, 6513	50
UBAG – Unterflurbetankungsanlage Flughafen Zürich AG	Zwüscheteich, Rümlang, 8153	20
SYRIA		
Al Badiah Petroleum Company	Damascus New Sham Western Dummar, Island No. 1 – Property 2299, P.O. Box 7660, Damascus	22
Al Furat Petroleum Company	Damascus New Sham Western Dummar, Island No. 1 – Property 2299, P.O. Box 7660, Damascus	20
TAIWAN		
CPC Shell Lubricants Co. Ltd	No. 2, Tso-Nan Road, Nan-Tze District, P.O. Box 25-30, Kaohsiung, 811	51
Shell Taiwan Limited	International Trade Building, Room 2001, 20th Floor, 333, Keelung Road Section 1, Taipei, 110	100

APPENDIX 1 continued

Company by country of incorporation	Address of registered office	%
TANZANIA		
Fahari Gas Marketing Company Limited	1st Floor Kilwa House, Plot 369, Toure Drive, Oyster Bay, P.O. Box 105833, Dar es Salaam	53
Mzalendo Gas Processing Company Limited	1st Floor Kilwa House, Plot 369, Toure Drive, Oyster Bay, P.O. Box 105833, Dar es Salaam	53
Ruvuma Pipeline Company Limited	1st Floor Kilwa House, Plot 369, Toure Drive, Oyster Bay, P.O. Box 105833, Dar es Salaam	53
Tanzania LNG Limited	1st Floor Kilwa House, Plot 369, Toure Drive, Oyster Bay, P.O. Box 105833, Dar es Salaam	100
THAILAND		
Pattanadhorn Company Limited	10 Soonthornkosa Road, Klongtoey, Bangkok, 10110	42
Sahapanichkijphun Company Limited	10 Soonthornkosa Road, Klongtoey, Bangkok, 10110	42
Shell Global Solutions (Thailand) Limited	10 Soonthornkosa Road, Klongtoey, Bangkok, 10110	48
Shell Global Solutions Holdings (Thailand) Limited	10 Soonthornkosa Road, Klongtoey, Bangkok, 10110	49
Shell Global Solutions Service (Thailand) Company Limited	10 Soonthornkosa Road, Klongtoey, Bangkok, 10110	100
Thai Energy Company Limited	10 Soonthornkosa Road, Klongtoey, Bangkok, 10110	100
Unitas Company Limited	10 Soonthornkosa Road, Klongtoey, Bangkok, 10110	42
TRINIDAD AND TOBAGO		
BG 2/3 Investments Limited	5 Saint Clair Avenue, Saint Clair, Port of Spain	100
Point Fortin LNG Exports Limited	5 Saint Clair Avenue, Saint Clair, Port of Spain	81
Shell Gas Supply Trinidad Limited	5 Saint Clair Avenue, Saint Clair, Port of Spain	100
Shell LNG T&T Ltd	5 Saint Clair Avenue, Saint Clair, Port of Spain	100
Shell Manatee Limited	5 Saint Clair Avenue, Saint Clair, Port of Spain	100
Shell Trinidad Central Block Limited	5 Saint Clair Avenue, Saint Clair, Port of Spain	100
Shell Trinidad Ltd	Shell Energy House, 5 St. Clair Avenue, Port of Spain	100
Shell Trinidad North Coast Limited	5 Saint Clair Avenue, Saint Clair, Port of Spain	100
The International School of Port of Spain Limited	1 International Drive, Westmoorings	25
TRINLING Limited	5 Saint Clair Avenue, Saint Clair, Port of Spain	100
TUNISIA		
Amilcar Petroleum Operations S.A.	Immeuble Mezghenni, Rue du Lac Windermere BP36, Les Berges du Lac, Tunis, 1053	50
Shell Tunisia LPG S.A.	Immeuble Rue du Lac Windermere, Les Berges du Lac, Tunis, 1053	100
Tunisian Processing S.A.	Immeuble Rue du Lac Windermere, Les Berges du Lac, Tunis, 1053	100
TURKEY		
Ambarli Depolama Hizmetleri Ltd. Sti.	Yakuplu Mah. Gencosman Cad. No:7, Beylikduzu, Istanbul, 34524	35
Cekisan Depolama Hizmetleri Ltd. Sti.	Yakuplu Mah. Gencosman Cad. No:3, Beylikduzu, Istanbul, 34524	35
Marmara Depoculuk Hizmetleri A.S.	Sultankoy Mahallesi Maltepe Sokak No:66, Marmara Ereglisi, Tekirdag, 59750	32
Samsun Akaryakit VE Depolama A.S.	Dilovasi Organize Sanayi Bolgesi 1.Kisim, 1004 Sokak No:10, Dilovasi, Kocaeli	35
Shell & Turcas Petrol A.S.	Gulbahar Mah.Salih Tozan Sok., Karamancilar Is Merkezi B Blok No:18, Esentepe, Sisli, Istanbul, 34394	70
Shell Enerji A.S.	Gulbahar Mah.Salih Tozan Sok., Karamancilar Is Merkezi B Blok No:18, Esentepe, Sisli, Istanbul, 34394	100
Shell Petrol A.S.	Gulbahar Mah.Salih Tozan Sok., Karamancilar Is Merkezi B Blok No:18, Esentepe, Sisli, Istanbul, 34394	70
UK		
Alie Investments Limited	Shell Centre, London, SE1 7NA	100
Angkor Shell Limited	Shell Centre, London, SE1 7NA	100
Applied Blockchain Ltd	Level 39, One Canada Square, London, E14 5AB	21
Autogas Limited	Athena House, Athena Drive, Tachbrook Park, Warwick, CV34 6RL	50
BG Central Holdings Limited	Shell Centre, London, SE1 7NA	100
BG Cyprus Limited	Shell Centre, London, SE1 7NA	100
BG Delta Limited	Shell Centre, London, SE1 7NA	100
BG Employee Shares Trustees Limited	Shell Centre, London, SE1 7NA	100
BG Energy Capital Plc	Shell Centre, London, SE1 7NA	100
BG Energy Holdings Limited	Shell Centre, London, SE1 7NA	100
BG Energy Marketing Limited	Shell Centre, London, SE1 7NA	100
BG Equatorial Guinea Limited	Shell Centre, London, SE1 7NA	100
BG Exploration and Production Limited	Shell Centre, London, SE1 7NA	100
BG Gas Services Limited	Shell Centre, London, SE1 7NA	100
BG Gas Supply (UK) Limited	Shell Centre, London, SE1 7NA	100
BG General Holdings Limited	Shell Centre, London, SE1 7NA	100
BG General Partner Limited	50 Lothian Road, Festival Square, Edinburgh, EH3 9WJ	100
BG Global Employee Resources Limited	Shell Centre, London, SE1 7NA	100
BG Great Britain Limited	Shell Centre, London, SE1 7NA	100
BG Group Company Secretaries Limited	Shell Centre, London, SE1 7NA	100
BG Group Employee Benefit Trust Limited	Shell Centre, London, SE1 7NA	100

Company by country of incorporation	Address of registered office	%
BG Group Employee Shares Trustees Limited	Shell Centre, London, SE1 7NA	100
BG Group Limited	Shell Centre, London, SE1 7NA	100
BG Group Pension Trustees Limited	Shell Centre, London, SE1 7NA	100
BG Group Trustees Limited	Shell Centre, London, SE1 7NA	100
BG Intellectual Property Limited	Shell Centre, London, SE1 7NA	100
BG International Limited	Shell Centre, London, SE1 7NA	100
BG Iran Limited	Shell Centre, London, SE1 7NA	100
BG Karachaganak Limited	Shell Centre, London, SE1 7NA	100
BG Karachaganak Trading Limited	Shell Centre, London, SE1 7NA	100
BG Kenya L10A Limited	Shell Centre, London, SE1 7NA	100
BG Kenya L10B Limited	Shell Centre, London, SE1 7NA	100
BG LNG Investments Limited	Shell Centre, London, SE1 7NA	100
BG Mongolia Holdings Limited	Shell Centre, London, SE1 7NA	100
BG Netherlands	Shell Centre, London, SE1 7NA	100
BG Netherlands Financing Unlimited	Shell Centre, London, SE1 7NA	100
BG Norge Exploration Limited	Shell Centre, London, SE1 7NA	100
BG Norge Limited	Shell Centre, London, SE1 7NA	100
BG North Sea Holdings Limited	Shell Centre, London, SE1 7NA	100
BG OKLNG Limited	Shell Centre, London, SE1 7NA	100
BG Overseas Holdings Limited	Shell Centre, London, SE1 7NA	100
BG Overseas Investments Limited	Shell Centre, London, SE1 7NA	100
BG Overseas Limited	Shell Centre, London, SE1 7NA	100
BG Pension Funding Scottish Limited Partnership [l]	50 Lothian Road, Festival Square, Edinburgh, EH3 9WJ	100
BG Rosetta Limited	Shell Centre, London, SE1 7NA	100
BG South East Asia Limited	Shell Centre, London, SE1 7NA	100
BG Subsea Well Project Limited	Shell Centre, London, SE1 7NA	100
BG Tanzania Holdings Limited	Shell Centre, London, SE1 7NA	100
BG Trinidad LNG Limited	Shell Centre, London, SE1 7NA	100
BG UK Holdings Limited	Shell Centre, London, SE1 7NA	100
Brazil Shipping I Limited	Shell Centre, London, SE1 7NA	100
Brazil Shipping II Limited	Shell Centre, London, SE1 7NA	100
British Pipeline Agency Limited	5-7 Alexandra Road, Hemel Hempstead, Hertfordshire, HP2 5BS	50
B-Snug Limited	Shell Centre, London, SE1 7NA	100
CRI Catalyst Company Europe Limited	Shell Centre, London, SE1 7NA	100
Derivatives Trading Americas Limited	Shell Centre, London, SE1 7NA	100
Dragon LNG Group Limited [b]	Main Road, Waterston, Milford Haven, Pembrokeshire, SA73 1DR	50
Eastham Refinery Limited [b]	Shell Centre, London, SE1 7NA	50
Enterprise Oil Limited	Shell Centre, London, SE1 7NA	100
Enterprise Oil Middle East Limited	Shell Centre, London, SE1 7NA	100
Enterprise Oil Norge Limited	Shell Centre, London, SE1 7NA	100
Enterprise Oil Operations Limited	Shell Centre, London, SE1 7NA	100
Enterprise Oil U.K. Limited	Shell Centre, London, SE1 7NA	100
Farepilot Limited	Shell Centre, London, SE1 7NA	100
First Telecommunications Limited	Shell Energy House, Westwood Business Park, Westwood Way, Coventry, CV4 8HS	100
First Utility Limited	Shell Energy House, Westwood Business Park, Westwood Way, Coventry, CV4 8HS	100
Gainrace Limited	Shell Centre, London, SE1 7NA	100
Gatwick Airport Storage and Hydrant Company Limited	Shell Centre, London, SE1 7NA	13
Glossop Limited	Shell Centre, London, SE1 7NA	100
GOGB Limited	Shell Centre, London, SE1 7NA	100
Heathrow Airport Fuel Company Limited	Building 1204, Sandringham Road, Heathrow Airport, Hounslow, Middlesex, TW6 3SH	14
Heathrow Hydrant Operating Company Limited	Building 1204, Sandringham Road, Heathrow Airport, Hounslow, Middlesex, TW6 3SH	10
Hudson Energy Supply UK Limited	3/F Elder House, 586-592 Elder Gate, Milton Keynes, MK9 1LR	100
Impello Limited	Shell Energy House, Westwood Business Park, Westwood Way, Coventry, CV4 8HS	100
International Inland Waterways, Limited	Shell Centre, London, SE1 7NA	100
Karachaganak Project Development Limited [b]	Shell Centre, London, SE1 7NA	38

[l] Established by BG Group plc and the BG Trustee in 2013 as part of funding agreements associated with the BG pension scheme. Under the exemption conferred by Regulation 7 of the Partnerships (Accounts) Regulations 2008, the accounts of this partnership have not been appended to Shell's Consolidated Financial Statements and have not been filed at the Companies House.

APPENDIX 1 continued

Company by country of incorporation	Address of registered office	%
UK continued		
Khmer Shell Limited	Shell Centre, London, SE1 7NA	100
Kite Power Systems Limited	146 New London Road, Chelmsford, Essex, CM2 0AW	34
Limejump Energy Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Intermediate 1 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Ltd	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 1 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 10 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 11 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 12 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 13 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 14 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 15 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 2 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 3 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 4 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 5 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 6 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 7 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 8 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Limejump Virtual 9 Limited	Canterbury Court, Kennington Park, 1-3 Brixton Road, London, SW9 6DE	100
Machine Max Limited	Shell Centre, London, SE1 7NA	56
Manchester Airport Storage and Hydrant Company Limited	50 Broadway, London, SW1H 0BL	25
Maritime Association for Risk Mitigation & Safety Limited	Shell Centre, London, SE1 7NA	100
Methane Services Limited	Shell Centre, London, SE1 7NA	100
Murphy Schiehallion Limited	Shell Centre, London, SE1 7NA	100
Octane Properties Limited	Shell Centre, London, SE1 7NA	100
Private Oil Holdings Oman Limited	Shell Centre, London, SE1 7NA	85
Sabah Shell Petroleum Company Limited	Shell Centre, London, SE1 7NA	100
Saxon Oil Limited	Shell Centre, London, SE1 7NA	100
Saxon Oil Miller Limited	Shell Centre, London, SE1 7NA	100
Schooner Trustees Limited	Shell Centre, London, SE1 7NA	100
SELAP Limited	Shell Centre, London, SE1 7NA	100
SF Investment Management Limited	Shell Centre, London, SE1 7NA	100
Shell Aircraft Limited	Shell Centre, London, SE1 7NA	100
Shell Arabia Car Service Limited	Shell Centre, London, SE1 7NA	100
Shell Aviation Limited	Shell Centre, London, SE1 7NA	100
Shell Business Development Middle East Limited	Shell Centre, London, SE1 7NA	100
Shell Caribbean Investments Limited	Shell Centre, London, SE1 7NA	100
Shell Catalysts & Technologies Limited	Shell Centre, London, SE1 7NA	100
Shell Chemical Company of Eastern Africa Limited	Shell Centre, London, SE1 7NA	100
Shell Chemicals (Hellas) Limited	Shell Centre, London, SE1 7NA	100
Shell Chemicals Limited	Shell Centre, London, SE1 7NA	100
Shell Chemicals Support Services Asia Limited	Shell Centre, London, SE1 7NA	100
Shell Chemicals U.K. Limited	Shell Centre, London, SE1 7NA	100
Shell China Exploration and Production Company Limited	Shell Centre, London, SE1 7NA	100
Shell Clair UK Limited	Shell Centre, London, SE1 7NA	100
Shell Club Corringham Limited	Shell Centre, London, SE1 7NA	100
Shell Company (Hellas) Limited	Shell Centre, London, SE1 7NA	100
Shell Company (Pacific Islands) Limited	Shell Centre, London, SE1 7NA	100
Shell Corporate Director Limited	Shell Centre, London, SE1 7NA	100
Shell Corporate Secretary Limited	Shell Centre, London, SE1 7NA	100
Shell Direct (U.K.) Limited	Shell Centre, London, SE1 7NA	100
Shell Distributor (Holdings) Limited	Shell Centre, London, SE1 7NA	100
Shell Employee Benefits Trustee Limited	Shell Centre, London, SE1 7NA	100
Shell Energy Europe Limited	Shell Centre, London, SE1 7NA	100

Company by country of incorporation	Address of registered office	%
Shell Energy Investments Limited	Shell Centre, London, SE1 7NA	100
Shell Energy Retail Limited	Shell Energy House, Westwood Business Park, Westwood Way, Coventry, CV4 8HS	100
Shell Energy Supply UK LTD.	Shell Centre, London, SE1 7NA	100
Shell EP Offshore Ventures Limited	Shell Centre, London, SE1 7NA	100
Shell Exploration and Production Tanzania Limited	Shell Centre, London, SE1 7NA	100
Shell Finance GB Limited	Shell Centre, London, SE1 7NA	100
Shell Gas Holdings (Malaysia) Limited	Shell Centre, London, SE1 7NA	100
Shell Gas Marketing U.K Limited	Shell Centre, London, SE1 7NA	100
Shell Global LNG Limited	Shell Centre, London, SE1 7NA	100
Shell Hasdrubal Limited	Shell Centre, London, SE1 7NA	100
Shell Holdings (U.K.) Limited	Shell Centre, London, SE1 7NA	100
Shell Information Technology International Limited	Shell Centre, London, SE1 7NA	100
Shell International Gas Limited	Shell Centre, London, SE1 7NA	100
Shell International Limited	Shell Centre, London, SE1 7NA	100
Shell International Petroleum Company Limited	Shell Centre, London, SE1 7NA	100
Shell International Trading and Shipping Company Limited	Shell Centre, London, SE1 7NA	100
Shell Malaysia Limited	Shell Centre, London, SE1 7NA	100
Shell Marine Products Limited	Shell Centre, London, SE1 7NA	100
Shell New Energies UK Ltd	Shell Centre, London, SE1 7NA	100
Shell Overseas Holdings Limited	Shell Centre, London, SE1 7NA	100
Shell Overseas Services Limited	Shell Centre, London, SE1 7NA	100
Shell Pension Reserve Company (SIPF) Limited	Shell Centre, London, SE1 7NA	100
Shell Pension Reserve Company (SOCPF) Limited	Shell Centre, London, SE1 7NA	100
Shell Pension Reserve Company (UK) Limited	Shell Centre, London, SE1 7NA	100
Shell Pensions Trust Limited	Shell Centre, London, SE1 7NA	100
Shell Property Company Limited	Shell Centre, London, SE1 7NA	100
Shell QGC Holdings Limited [i]	Shell Centre, London, SE1 7NA	100
Shell QGC Midstream 1 Limited [i]	Shell Centre, London, SE1 7NA	100
Shell QGC Midstream 2 Limited	Shell Centre, London, SE1 7NA	100
Shell QGC Upstream 1 Limited	Shell Centre, London, SE1 7NA	100
Shell QGC Upstream 2 Limited	Shell Centre, London, SE1 7NA	100
Shell Research Limited	Shell Centre, London, SE1 7NA	100
Shell Response Limited	Shell Centre, London, SE1 7NA	100
Shell Shared Service Centre – Glasgow Limited	Shell Centre, London, SE1 7NA	100
Shell South Asia LNG Limited	Shell Centre, London, SE1 7NA	100
Shell Supplementary Pension Plan Trustees Limited	Shell Centre, London, SE1 7NA	100
Shell Tankers (U.K.) Limited	Shell Centre, London, SE1 7NA	100
Shell Trading International Limited	Shell Centre, London, SE1 7NA	100
Shell Treasury Centre Limited	Shell Centre, London, SE1 7NA	100
Shell Treasury Dollar Company Limited	Shell Centre, London, SE1 7NA	100
Shell Treasury Euro Company Limited	Shell Centre, London, SE1 7NA	100
Shell Treasury UK Limited	Shell Centre, London, SE1 7NA	100
Shell Trinidad 5(A) Limited	Shell Centre, London, SE1 7NA	100
Shell Trinidad and Tobago Limited	Shell Centre, London, SE1 7NA	100
Shell Trinidad Block E Limited	Shell Centre, London, SE1 7NA	100
Shell Trustee Solutions Limited	1 Altens Farm Road, Nigg, Aberdeen, AB12 3FY	100
Shell Tunisia Upstream Limited	Shell Centre, London, SE1 7NA	100
Shell U.K. Limited	Shell Centre, London, SE1 7NA	100
Shell U.K. North Atlantic Limited	Shell Centre, London, SE1 7NA	100
Shell U.K. Oil Products Limited	Shell Centre, London, SE1 7NA	100
Shell Upstream Overseas Services (I) Limited	Shell Centre, London, SE1 7NA	100
Shell Ventures New Zealand Limited	Shell Centre, London, SE1 7NA	100
Shell Ventures U.K. Limited	Shell Centre, London, SE1 7NA	100
Shell-Mex and B.P. Limited	Shell Centre, London, SE1 7NA	60
Stansted Fuelling Company Limited	Exxonmobil House, Ermyn Way, Leatherhead, KT22 8UX	14
Steama Company Limited	Pannone Corporate Llp, 378-380 Deansgate, Castlefield, Manchester, M3 4LY	35

APPENDIX 1 continued

Company by country of incorporation	Address of registered office	%
UK continued		
STT (Das Beneficiary) Limited [a]	Shell Centre, London, SE1 7NA	100
Synthetic Chemicals (Northern) Limited	Shell Centre, London, SE1 7NA	100
Telegraph Service Stations Limited	Shell Centre, London, SE1 7NA	100
The Anglo-Saxon Petroleum Company Limited	Shell Centre, London, SE1 7NA	100
The Asiatic Petroleum Company Limited	Shell Centre, London, SE1 7NA	100
The Consolidated Petroleum Company Limited	Shell Centre, London, SE1 7NA	50
The Mexican Eagle Oil Company Limited	Shell Centre, London, SE1 7NA	100
The New Motion EVSE Limited	4th Floor, Davidson Building, 5 Southampton Street, London, WC2E 7HA	100
The Shell Company (W.I.) Limited	Shell Centre, London, SE1 7NA	100
The Shell Company of Hong Kong Limited	Shell Centre, London, SE1 7NA	100
The Shell Company of India Limited	Shell Centre, London, SE1 7NA	100
The Shell Company of Nigeria Limited	Shell Centre, London, SE1 7NA	100
The Shell Company of Thailand Limited	Shell Centre, London, SE1 7NA	100
The Shell Company of The Philippines Limited	Shell Centre, London, SE1 7NA	75
The Shell Company of Turkey Limited	Shell Centre, London, SE1 7NA	100
The Shell Company of West Africa Limited	Shell Centre, London, SE1 7NA	100
The Shell Marketing Company of Borneo Limited	Shell Centre, London, SE1 7NA	100
The Shell Petroleum Company Limited	Shell Centre, London, SE1 7NA	100
The Shell Transport and Trading Company Limited	Shell Centre, London, SE1 7NA	100
Thermocomfort Limited	Shell Centre, London, SE1 7NA	100
UK Shell Pension Plan Trust Limited	Shell Centre, London, SE1 7NA	100
United Kingdom Oil Pipelines Limited [b]	5-7 Alexandra Road, Hemel Hempstead, Hertfordshire, HP2 5BS	48
Walton-Gatwick Pipeline Company Limited [b]	5-7 Alexandra Road, Hemel Hempstead, Hertfordshire, HP2 5BS	52
West London Pipeline and Storage Limited [b]	5-7 Alexandra Road, Hemel Hempstead, Hertfordshire, HP2 5BS	38
Wonderbill Limited	Shell Centre, London, SE1 7NA	100
Woodlea Limited	Shell Centre, London, SE1 7NA	100
UKRAINE		
Shell Ukraine Exploration and Production I LLC	4 Mykoly Grinchenka street, Kiev, 03038	100
UNITED ARAB EMIRATES		
Abu Dhabi Gas Industries Limited (GASCO)	P.O. Box 665, Abu Dhabi	15
Emdad Aviation Fuel Storage FZCO	Emdad Aviation Fuel Storage FZCO, P.O. Box 261781, Jebel Ali, Dubai	33
Sharjah Fuelling Services Company Ltd.	P.O. Box 4225, Sharjah, 4225	49
URUGUAY		
BG (Uruguay) S.A.	La Cumparsita, 1373 4th Floor, Montevideo, 11200	100
Dinarel S.A.	La Cumparsita, 1373 4th Floor, Montevideo, 11200	50
Gasoducto Cruz del Sur S.A.	La Cumparsita, 1373 4th Floor, Montevideo, 11200	40
USA		
Aera Energy LLC [b]	10000 Ming Avenue, Bakersfield, CA 93311	52
Aera Energy Services Company	10000 Ming Avenue, Bakersfield, CA 93311	50
Airbiquity Inc.	1191 2nd Avenue, Suite 1900, Seattle, WA 98101	26
Amberjack Pipeline Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	30
Asset Management and Power Services LLC	2441 High Timbers Drive, Suite 220, The Woodlands, TX 77380	50
Atlantic 1 Holdings LLC [c]	RL & F Service Corp, 920 N King St Floor 2, New Castle, Wilmington, DE 19801	46
Atlantic 2/3 Holdings LLC [c]	RL & F Service Corp, 920 N King St Floor 2, New Castle, Wilmington, DE 19801	58
Atlantic 4 Holdings LLC [c]	RL & F Service Corp, 920 N King St Floor 2, New Castle, Wilmington, DE 19801	1
Atlantic Shores Offshore Wind, LLC [c]	Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	50
Au Energy, LLC	41805 Albrae Street, Fremont, CA 94538	50
Baconton Power LLC [c]	1499 38th Boulevard N.W., Cairo, GA 31728	35
Bengal Pipeline Company LLC	Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	28
BG Brasilia, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
BG Energy Finance, Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
BG Energy Merchants, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
BG Gulf Coast LNG, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
BG LNG Services, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
BG LNG Trading, LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
BG North America, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100

Company by country of incorporation	Address of registered office	%
BG US Production Company, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
BG US Services, Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Bluware Headwave Ventures Inc.	16285 Park Ten Place, Suit 300, Houston, TX 77084	20
Brazil Crude Services, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Brazos Wind Ventures, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Caesar Oil Pipeline Company, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	15
Colbea Enterprises, LLC	2050 Plainfield Pike, Cranston, RI 02921	50
Colonial Pipeline Company	Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	8
Concha Chemical Pipeline LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Crestwood Permian Basin LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	24
CRI Sales and Services Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
CRI Zeolites Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Cumulus Digital Systems, Inc.	Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	44
Deer Park Refining Limited Partnership [b] [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	50
Distributed Generation Solutions LLC	2441 High Timbers Drive, Suite 220, The Woodlands, TX 77380	33
EcoSmart Solution LLC	Corporation Service Company, 215 Little Falls Drive, Wilmington, DE 19808	35
Ellwood Land Holdings, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Endymion Oil Pipeline Company, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	5
Enterprise Oil North America Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
EPP LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
Equilon Enterprises LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Explorer Pipeline Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	19
Gaviota Terminal Company [d]	150 N. Dairy Ashford, Houston, TX 77079	20
GI Endurant LLC [b]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	58
GI Energy Storage LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
GlassPoint Solar Inc.	47669 Fremont Blvd., Fremont, CA 94538	39
Husk Power Systems, Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	30
Infineum USA Inc.	1900 East Linden Avenue, Linden, NJ 07036	50
Infineum USA L.P. [h]	Corporation Service Company, 2711 Centerville Road, Suite 400, Wilmington, DE 19808	50
J & J Lubrication, LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
Jiffy Lube International, Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Lake Charles Exports, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	80
Laurentide E&P, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Lazlyng Real Estate Company, LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
LOCAP LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	20
LOOP LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	46
Maple Power Holdings LLC	Bechtel Enterprises, 12011 Sunset Hills Road, Reston, VA 20190	68
Mars Oil Pipeline Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	34
Mattox Pipeline Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	79
Mayflower Wind Energy LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	50
MP2 Energy LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
MP2 Energy NE LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
MP2 Energy NY LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
MP2 Energy Retail Holdings LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
MP2 Energy Texas LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
MP2 Generation LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
MP2 Mesquite Creek Wind LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
Mpower2 LLC [c]	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
Noble Assurance Company	C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201	100
Odyssey Pipeline L.L.C. [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	34
Oryx Caspian Pipeline, L.L.C. [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pacwest Energy, LLC.	3450 E. Commercial Ct., Meridian, ID 83642	50
Pecten Arabian Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pecten Brazil Exploration Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pecten Midstream LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	48
Pecten Orient Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pecten Orient Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100

APPENDIX 1 continued

Company by country of incorporation	Address of registered office	%
USA continued		
Pecten Producing Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pecten Trading Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pecten Victoria Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pecten Yemen Masila Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pennzoil-Quaker State Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pennzoil-Quaker State International Corporation	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Pennzoil-Quaker State Nominee Company	The Corporation Trust Company of Nevada, 311 South Division Street, Carson City, NV 89703	100
Peru LNG Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	20
Poseidon Oil Pipeline Company, LLC	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	17
Power Limited Partnership [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Premium Velocity Auto LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Proteus Oil Pipeline Company, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	5
Quaker State Investment Corporation	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
RDK Ventures, LLC	4080 West Jonathan Moore Pike, Columbus, IN 47201	50
RK Caspian Shipping Company, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
S T Exchange, Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Salamander Solutions Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	28
San Pablo Bay Pipeline Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Sand Dollar Pipeline LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	48
SCOGI GP [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell (US) Gas & Power M&T Holdings, Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell California Pipeline Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Catalysts & Technologies Americas LP [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Catalysts & Technologies Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Catalysts & Technologies Holdings Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Catalysts & Technologies LP [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Catalysts & Technologies US LP [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Catalysts Ventures Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Chemical Appalachia LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Chemical LP [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Chemicals Arabia L.L.C. [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Communications, Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Deepwater Royalties Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Downstream Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Energy Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Energy Holding GP LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Energy North America (US), L.P. [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Energy Resources Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell EP Holdings Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Expatriate Employment US Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Exploration & Production Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Exploration Company Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Frontier Oil & Gas Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Gas Gathering Corp. #2	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Global Solutions (US) Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell GOM Pipeline Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Gulf of Mexico Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Information Technology International Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell International Exploration and Production Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Lake Charles Operations, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Leasing Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Marine Products (US) Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Midstream LP Holdings LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Midstream Operating LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	48
Shell Midstream Partners GP LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100

Company by country of incorporation	Address of registered office	%
Shell Midstream Partners, L.P. [h]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	48
Shell NA Gas & Power Holding Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell NA LNG LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell New Energies US LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell North America Gas & Power Services Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Offshore and Chemical Investments Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Offshore Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Offshore Response Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Oil Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Oil Company Investments Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Oil Products Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Onshore Ventures Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Petroleum Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Pipeline Company LP [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Pipeline GP LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Rail Operations Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Retail and Convenience Operations LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell RSC Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Thailand E&P Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Trademark Management Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Trading (US) Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Trading North America Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Trading Risk Management, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Trading Services Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Transportation Holdings LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Treasury Center (West) Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell US E&P Investments LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell US Gas & Power LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell US Hosting Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell US LNG, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell Ventures LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell WindEnergy Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Shell WindEnergy Services Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Ship Shoal Pipeline Company [d]	150 N. Dairy Ashford, Houston, TX 77079	43
Silicon Ranch Corporation	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	43
SOI Finance Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Sonnen Inc.	2711 Centerville Road, Suite 400, New Castle County, Wilmington, DE 19808	100
SOPC Holdings East LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
SOPC Holdings West LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
SOPC Southeast Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
SWEPI LP [d]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Tejas Coral GP, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Tejas Coral Holding, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Tejas Power Generation, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Texas Petroleum Group LLC	11111 Wilcrest Green, Suite 100, Houston, TX 77042	50
Texas-New Mexico Pipe Line Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
The Valley Camp Coal Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Three Wind Holdings, LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	50
TMR Company	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Tri Star Energy LLC	1740 Ed Temple Blvd, Nashville, TN 37208	33
Triton Diagnostics Inc.	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Triton Terminaling LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	100
Triton West LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	48
True North Energy LLC	10346 Brecksville Rd, Brecksville, OH 44141	50
URSA Oil Pipeline Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	45

APPENDIX 1 continued

Company by country of incorporation	Address of registered office	%
USA continued		
West Shore Pipe Line Company	Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	19
Zeco Holdings, Inc.	1013 Centre Road, County of New Castle, Delaware, Wilmington, DE 19805	100
Zeco Systems, Inc.	1013 Centre Road, County of New Castle, Delaware, Wilmington, DE 19805	100
Zeolyst International	3333 Hwy 6 South, Houston, TX 77082	50
Zydeco Pipeline Company LLC [c]	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801	52
VENEZUELA		
Shell Venezuela Productos, C.A.	Av. Orinoco, Edificio Centro Empresarial Premium, Piso 2, Oficina 2-B, Urbanización Las Mercedes, Caracas, Distrito Capital, 1060	100
Shell Venezuela, S.A.	Av. Orinoco, Edificio Centro Empresarial Premium, Piso 2, Oficinas 2-A y 2-B, Urbanización Las Mercedes, Caracas, Distrito Capital, 1060	100
Sucre Gas, S.A.	Avenida Leonardo Da Vinci, Edificio PDV Servicios, Caracas, Distrito Capital	30
VIETNAM		
Shell Vietnam Ltd	Go Dau Industrial Zone, Phuoc Thai Commune, Long Thanh District, Dong Nai Province	100
ZIMBABWE		
Central African Petroleum Refineries (Private) Limited	Block 1, Tendeseka Office Park, CNR Samora Machel Avenue, Renfrew Road, Harare	21

NOTES

NOTES

FINANCIAL CALENDAR IN 2020

The Annual General Meeting will be held on May 19, 2020.

	2019 Fourth quarter [A]	2020 First quarter [B]	2020 Second quarter [B]	2020 Third quarter [B]
Results announcements	January 30	April 30	July 30	October 29
Interim dividend timetable				
Announcement date	January 30 [C]	April 30	July 30	October 29
Ex-dividend date [D]	February 13	May 14	August 13	November 12
Record date	February 14	May 15	August 14	November 13
Closing of currency election date [E]	February 28	June 2	August 28	November 27
Pounds sterling and euro equivalents announcement date	March 9	June 8	September 8	December 3
Payment date	March 23	June 22	September 21	December 16

[A] In respect of the financial year ended December 31, 2019.
[B] In respect of the financial year ended December 31, 2020.
[C] The Directors do not propose to recommend any further distribution in respect of 2019.
[D] The New York Stock Exchange (NYSE), with effect from September 5, 2017, reduced the standard settlement cycle in accordance with the SEC amendments to Exchange Act Rule 15c6-1(a). Under these rules, regular settlement will occur on a T+2 basis for trades occurring on or after the SEC's implementation date of September 5, 2017. As a result RDS A ADSs and RDS B ADSs traded on the NYSE markets will now settle in line with RDS A shares and RDS B shares traded on European markets, who moved to a T+2 settlement basis for trades in 2014, resulting in the same ex-dividend date for RDS A shares, RDS B shares, RDS A ADSs and RDS B ADSs. Record dates will not change. The timings of these are detailed above.
[E] A different currency election date may apply to shareholders holding shares in a securities account with a bank or financial institution ultimately through Euroclear Nederland. This may also apply to other shareholders who do not hold their shares either directly on the Register of Members or in the corporate sponsored nominee arrangement. Shareholders can contact their broker, financial intermediary, bank or financial institution for the election deadline that applies.

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Shell Centre
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United Kingdom

Registered in England and Wales
Company number 4366849
Registered with the Dutch Trade Register
under number 34179503

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