



Performing While transforming

Performing while transforming

By delivering the *energy* the world needs today...

... and executing our *strategy* to become an integrated energy company.

As we transform bp, we remain committed to delivering for our customers, partners, suppliers, employees, society and investors. And the cities and countries we work with.

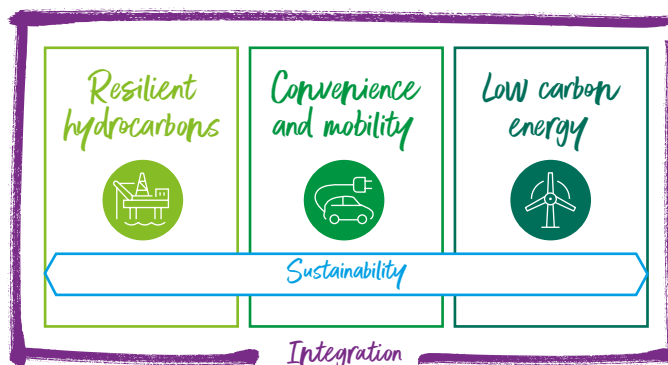
We are focused on performing while transforming to:

- Grow value and returns.
- Deliver compelling distributions.
- Invest in the energy transition and drive down emissions.

In 2021 we made strong strategic progress in our transformation to an integrated energy company:

- Focusing and high-grading our hydrocarbons business.
- Growing our convenience and mobility businesses.
- Building with discipline a low carbon energy business.

Our strategy



More information

Progress against our strategy, page [16](#)

Sustainability, page [51](#)

Integration, page [14](#)

We deliver energy products and services to our customers around the world, and we plan to do so increasingly in ways that we believe will help drive the transition to a lower carbon future.

We have operations in Europe, North and South America, Australasia, Asia and Africa.

Our quick read

provides a concise summary of the annual report, highlighting strategy, performance and sustainability information.



bp.com/annualreport

Our reporting centre

brings together our key reports, including our sustainability report, Net zero ambition report and the bp energy outlook.



bp.com/reportingcentre

Glossary

Words and terms marked with ★ are defined in the glossary.



See page [377](#)

Task Force on Climate-Related Financial Disclosures (TCFD)

Information that supports TCFD Recommendations and Recommended Disclosures in relation to Metrics & Targets is indicated with ①.

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In numbers

As at 31 December 2021

Our scale

65,900

employees
(2020 63,600)

>65

countries of operation
(2020 >70)

2.2

million barrels of oil equivalent per day –
upstream★ production excluding Rosneft
(2020 2.4mmboe/d)

20,500

retail sites★
(2020 20,300)

13,100

electric vehicle charge points★
(2020 10,100)

Our strategy

2,150

strategic convenience sites★
(2020 1,900)

4.4GW

developed renewables to FID★
(2020 3.3GW)

\$6.82/boe

upstream unit cost production★
(2020 \$6.39/boe)

Safety and sustainability

62

tier 1 and 2 process safety events★
(2020 70)

1.6

million tonnes of CO₂ equivalent – sustainable
greenhouse gas emissions reductions★
(2020 1.0/MtCO₂e)

Our performance

\$7.6bn

profit for the year attributable
to bp shareholders
(2020 loss \$(20.3)bn)

\$12.8bn

underlying replacement cost (RC) profit★
(2020 loss \$(5.7)bn)

94.0%

bp-operated hydrocarbon plant availability★
(2020 94.0%)

94.8%

bp-operated refining availability★
(2020 96.0%)

Key

● Strategic metric, see page 16

● Key performance indicator, see page 24

➔ Group performance, page 37

Financial reporting segments

Our new financial reporting model came into place on 1 January 2021. This is our first year reporting under this segmental structure^a.



Gas & low carbon energy^b

Comprises our gas and low carbon businesses. Our gas business includes regions with upstream activities that predominantly produce natural gas, integrated gas and power, and gas and power trading. Our low carbon business includes solar, offshore and onshore wind, hydrogen and CCS and our share in bp Bunge Bioenergia.

\$2.1bn

RC profit before interest and tax
(2020 loss \$(7.1)bn)

➔ See page [41](#)

\$7.5bn

Underlying RC profit before interest and tax★
(2020 \$0.7bn)



Oil production & operations^b

Comprises regions with upstream activities that predominantly produce crude oil, including bpx energy.

\$10.5bn

RC profit before interest and tax
(2020 loss \$(14.6)bn)

➔ See page [44](#)

\$10.3bn

Underlying RC profit before interest and tax★
(2020 loss \$(5.9)bn)



Customers & products

Comprises customer-focused businesses, spanning convenience and mobility, which includes convenience and retail fuels, EV charging, as well as *Castrol*, aviation and B2B and midstream. It also includes our oil products businesses, refining & trading.

\$2.2bn

RC profit before interest and tax
(2020 \$3.4bn)

➔ See page [46](#)

\$3.3bn

Underlying RC profit before interest and tax★
(2020 \$3.1bn)

Rosneft

Includes equity-accounted earnings from our investment in Rosneft.

As a result of bp's nominated directors stepping down from the Rosneft board, bp has determined that as of 27 February 2022, the group no longer has significant influence over Rosneft taking into account the criteria set out in IAS 28 Investments in associates★ and joint ventures★, bp will therefore no longer equity account for its interest in Rosneft as of that date, treating the investment prospectively as a financial asset measured at fair value within 'other investments' until the shareholding is derecognized.

The discontinuation of equity accounting combined with the market impact on Russian assets that has arisen following the military action in Ukraine will have a material effect on the group's first quarter 2022 interim financial statements including on the carrying amount of bp's investment in Rosneft, which at 31 December 2021 stood at approximately \$14 billion. In addition, foreign exchange losses and other cumulative charges to other comprehensive income will be taken to the income statement. At 31 December 2021, these amounts stood at approximately \$11 billion.

The change in accounting treatment also means that bp will no longer recognize a share in Rosneft's net income, production and reserves from 27 February 2022. For the period from 1 January 2022 to 27 February 2022, any net income from Rosneft will be classified as an adjusting item. The group will cease to report Rosneft as a separate segment in the group's financial reporting for 2022.

\$2.4bn

RC profit before interest and tax
(2020 loss \$(0.1)bn)

➔ See page [48](#)

\$2.7bn

Underlying RC profit before interest and tax★
(2020 \$0.1bn)

Other businesses & corporate

Comprises innovation & engineering, bp ventures, Launchpad, regions, cities & solutions; and our corporate activities and functions.

\$(2.8)bn

RC loss before interest and tax
(2020 loss \$(0.6)bn)

➔ See page [50](#)

\$(1.4)bn

Underlying RC loss before interest and tax★
(2020 loss \$(0.9)bn)

➔ For a description of our organizational model see page [12](#)

- a At 31 December 2020, the group's reportable segments were Upstream, Downstream and Rosneft. From the first quarter of 2021, the group's reportable segments were gas & low carbon energy, oil production & operations, customers & products and Rosneft. Comparative information for 2020 has been restated to reflect the changes in reportable segments.
- b The AGT and Middle East regions have been further subdivided by asset to allow reporting in either gas & low carbon energy or oil production & operations as appropriate.

Progressing With purpose

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Throughout the transition, our goal will be to maintain the high performance and steady progress we have shown since our transformation journey began in 2020. //

Helge Lund
Chair

4.8%

annual dividend yield ★ ordinary share
(2020 7.9%)

\$4.3bn

total dividends distributed to bp shareholders
(2020 \$6.4bn)

\$4.15bn

buybacks announced from 2021
surplus cash flow ★

Dear fellow shareholders,

In uncertain times, one of bp's primary roles is to maintain the safe, secure supply of the energy on which societies depend. The importance of that role has rarely been clearer than in recent weeks – a period marked by worldwide energy shortages, record prices and volatility. The causes are complex, but they include the disruptive legacy of the pandemic and Russia's act of aggression against Ukraine.

At the same time as maintaining secure supplies, bp must pursue its emissions targets and aims, while continuing to increase its supply of energy from low carbon sources.

I believe bp's strategy gets the balance right. But recent events have demonstrated why, alongside pursuing its strategy, bp must have the agility necessary to make adjustments. Following Russia's attack on Ukraine, the bp board undertook a thorough review of bp's involvement with Rosneft in Russia. After careful consideration, the board concluded that bp's continuing involvement would be inconsistent with our business and strategy. As we said at the time, the board believes that these decisions are in the best long-term interests of all our shareholders.

Importantly, our decision to end bp's involvement with Rosneft in Russia did not mean that any changes to our strategy, financial frame or shareholder distributions guidance were required. We remain confident that the impact of this decision can be accommodated within the plans we have laid out and refined over the past two years.

Meanwhile, global action on climate remains vitally important. Despite progress at last year's COP26 in Glasgow, the world remains on an unsustainable path and has yet to move decisively towards a net zero society. Doing so will require building a global energy system capable of delivering affordable, secure and increasingly clean energy, and with energy demand and supply moving in tandem. Building such a system will require collaboration, within the right policy framework, between business, government, academia and civil society.

Achieving all of that will be complex. But that complexity is precisely why purposeful companies need to get involved. Climate change can be addressed more forcefully if the world is able to draw upon high-performing businesses' capacity to innovate, allocate capital, scale technology and drive efficiency.

Strategic progress – performing while transforming

As we have said before, the energy transition will be a multi-decade process. It is unlikely always to proceed smoothly and may involve periods of turbulence for reasons that are outside of bp's control. But throughout the transition, our goal will be to maintain the high performance and steady progress we have shown since our transformation journey began in 2020.

Indeed, in 2021 that progress allowed the company to further reduce debt, increase its dividend, and begin share buybacks – all in accordance with a considered financial frame. Most important of all is that safety performance improves, and bp's safety record is showing improvements. We continue the constant pursuit of our goal of no accidents, no harm to people, no damage to the environment.

Confidence in bp's team

Every one of bp's people deserves credit for the achievements of 2021, especially given the disruption imposed by the pandemic. On behalf of the board, I offer them all my sincere thanks.

The confidence I have in bp's people extends fully to its leadership. For what is still a relatively new team, it has achieved a lot – steadily leading bp through a period of volatility and change. I particularly thank Bernard for his commitment to bp and for his leadership.

Adjusted aims

Confident in bp's strategy, performance and people, the board concluded in February 2022 that bp should accelerate its net zero ambition. I hope that these changes – set out in detail on page 51 – demonstrate that in a fast-moving, complex environment, bp is evolving in a responsive, dynamic way. And I am pleased that bp intends to provide shareholders with the opportunity of an advisory vote on its net zero ambition at its 2022 AGM.

Purposeful engagement

Even ahead of that opportunity, we are pleased that shareholders increasingly express their support for the transition that bp is making – recognizing that the company is able to meet both the risks and the opportunities that the energy transition presents.

In fact, the board's engagement across all of bp's stakeholders is deeper and more extensive than ever before, whether through drop-in sessions with bp teams, consultation with governments, or meetings with shareholders.

During these conversations, we often hear suggestions for how we can improve. I am always grateful for those suggestions; after all, bp began this transformation journey after listening to friends and critics who told us that bp needed to change. I am glad we listened. We will continue to do so as your constructive criticism makes bp better.

My thanks

In our complex world, bp's guiding light remains its purpose – reimagining energy for people and our planet. To succeed, we must continue to win and grow the trust of our stakeholders, including our shareholders.

I am deeply grateful to everyone who has stood by bp – and equally grateful to the many new shareholders who have joined us on the journey. The past two years have shown that it won't always be easy, but I am confident that, with your support, bp will continue performing while transforming. The energy transition has already given bp a huge opportunity. Now, we are on our way. Thank you for your support.



Helge Lund

Chair
18 March 2022



Performing While transforming

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bp's finances are strong and resilient. We are making substantial progress on our strategy to pivot from an international oil company to an integrated energy company. //

Bernard Looney

Chief executive officer

\$7.6bn

profit attributable to bp shareholders

(2020 loss \$(20.3)bn)

2020:

Direction ✓

We set out a new direction: a new purpose, ambition, strategy, financial frame, sustainability frame, and a new leadership team.

2021:

Change ✓

This year was about change and the largest restructuring in our history – so that we are organized to deliver.

2022 and beyond:

Deliver

And now it's about delivery. The safe, efficient and disciplined delivery of the plans we have laid out.

Performing while transforming →



Dear shareholders,

The desperate situation in Ukraine is dominating our thoughts at bp as I write to you. Our hearts go out to everyone affected, especially the people of Ukraine and in the wider region.

As Helge sets out in his letter, we already announced we will exit our involvement with Rosneft in Russia. Our ongoing priority continues to be our employees and their families in Russia. Additionally we are supporting the humanitarian efforts in the region – for example, leveraging our businesses in neighbouring countries, leveraging our global employees' desire to help, as well as donations to charities.

Like Helge, I am absolutely convinced that the decisions we have taken are in the best long-term interests of shareholders – and consistent with who we are as a company.

Strengthening and improving

Against that backdrop – bp's finances are strong and resilient. We are making substantial progress on our strategy to pivot from an international oil company to an integrated energy company. To repeat words that you may have heard me use before, we are performing while transforming – delivering for you today while preparing bp for tomorrow.

The bedrock, as always, has been safe and reliable operations, day-in, day-out. Overall, we saw improvements in safety during 2021 across several areas. Tragically though, we lost a colleague in a fatal accident at our Castellón refinery in Spain, and a cyclist in the UK died in an accident with one of our contractors' road tankers. We will remain constantly focused on eliminating accidents, particularly those that take or change lives – nothing is more important.

With this foundation we are building a track record of delivery. We met our target of \$2.5 billion of cash cost★ savings (compared with 2019), reduced our net debt★ by over \$8 billion, and grew returns (ROACE)★ to 13.3%. Our operating cash flow★ for the year was \$23.6 billion and our underlying RC profit★ was \$12.8 billion.

This performance enabled the board, in line with our disciplined financial frame, to make a number of decisions in relation to distributions. First, an increase of 4% to the dividend in the second quarter. Second, to return \$4.15 billion to you through share buybacks from 2021 surplus cash flow★. And third, an expectation that we can deliver buybacks of around \$4 billion a year and will have the capacity to increase the dividend per ordinary share by 4% each year through to 2025

– based on our current forecasts at an oil price of around \$60 and subject to the board's discretion.

Progressing our strategy

I want to pay tribute to the bp team, not just for the strong performance delivered in 2021, but also the strong progress they have achieved across each of the three pillars of our strategy: resilient hydrocarbons, convenience and mobility, and low carbon energy.

- Resilient hydrocarbons – we started up seven major projects★ in the year. These are part of a programme of 35 projects initiated in 2016, completed on schedule and, on average, around 15% under budget. We will continue to high-grade our portfolio with four more start-ups planned in 2022.
- Convenience and mobility – we have grown margin share from convenience and electrification★ from 25% to 29% since 2019 – demonstrating the strength of our customer offers; and we increased the number of EV charge points★ to over 13,000, installing 115 charging points a week at the end of 2021. We now aim to grow our EV charge points to more than 100,000 globally by 2030, up from our previous aim of 70,000.
- Low carbon energy – our renewables pipeline★ quadrupled to over 23GW since the start of 2020, and now includes three offshore wind projects in two of the world's best regions. We have also built a portfolio of options in hydrogen.

You will find more information on our strategic progress throughout this report, including how our trading and shipping and regions, cities and solutions teams are helping to knit together integrated energy solutions for our customers.

Integration in action

Nowhere better illustrates the potential of an integrated energy company than our home market of the UK, where in the next few years we anticipate spending £2 for every £1 of profit we make. We plan to continue to invest in the North Sea, to produce much-needed oil and gas while lowering emissions through efficiencies, working to eliminate routine flaring and electrification of our operations. We're building a new renewables business with large-scale offshore wind projects in the Irish Sea and off the coast of Scotland. As these businesses grow, they can not only power millions of homes but also our growing network of electric vehicle chargers – an increasingly important part of our retail network, where customers come to fuel their vehicles as well as enjoy the growing number of M&S convenience stores on our forecourts.

And looking further ahead, we are leading the industrial regeneration of the north-east of England. Here we have with plans for a gas-fired power station connected with a carbon capture and storage system, which will safely lock away the vast majority of the CO₂ emissions. And at the same time – we are laying the foundations for a world-class hydrogen sector for the UK.

Opportunity and resilience

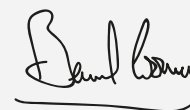
Given the inherent uncertainties in a decades-long energy transition, we developed bp's strategy for both responsiveness and resilience – responsiveness to opportunities and resilience to volatility.

In terms of opportunity – we see great potential for our company in five transition growth engines – bioenergy, convenience, electric vehicle charging, renewables and hydrogen. In each of these areas, our skills, networks, assets and brand give us real competitive advantage. There are all in growth sectors where the potential for returns is strong.

In terms of uncertainty, our strategy is designed to accommodate a range of scenarios for the energy transition. This also gives us confidence that it is resilient to the heightened volatility in energy markets arising from the conflict in Ukraine. Exiting from bp's shareholding in Rosneft will result in some material non-cash charges in our financial results for the first quarter of 2022. Importantly, this does not mean any changes to our strategy or our financial frame, as detailed elsewhere in this report.

In 2020 we set a new direction for the company, with our new purpose, ambition and strategy. That is now done. In 2021 we reorganized the company from top to bottom through the most wide-ranging restructuring in bp's history. That is also done. We are now focused on one thing and one thing only – the safe delivery of our strategy. Delivering for you, our shareholders, today. Delivering the energy the world needs, today. All while transforming bp for tomorrow.

Thank you for your continued support for and belief in bp – especially through these unprecedented times of challenge and change.



Bernard Looney

Chief executive officer
18 March 2022

a Nearest equivalent GAAP measure is finance debt. See Financial statement – Note 26 for more information.

b Nearest equivalent GAAP measures of the numerator and denominator are profit or loss for the year attributable to bp shareholders (\$7.6 billion) and total equity (\$90.4 billion) respectively.

c Nearest equivalent GAAP measures of the numerator and denominator are replacement cost profit before interest and tax for the customers & products segment. A reconciliation to GAAP information is provided on page 354.

Global context

Energy markets are fundamentally shifting towards low carbon. This is creating challenges and opportunities for our industry and influencing the way we operate. We monitor global trends closely, exploring and tracking the changes shaping our future.

Macroeconomic outlook March 2022

The energy markets are being impacted by the military action in Ukraine, which is adding significant upside pressure to prices. There remains, at this point in time, uncertainty, but price volatility is likely. On the macroeconomic side this is likely to have significant economic and financial consequences for the region and potentially globally.

6.0%

year-on-year increase in global oil
consumption in 2021

4.7%

estimated increase in global gas
demand in 2021^a

Global economy

After a contraction of 3.5% in 2020, global real GDP has rebounded and reached its pre-pandemic peak (of the fourth quarter of 2019) in the second quarter of 2021.

The global economy grew by an estimated 5.9% in 2021, its strongest post-recession pace in 80 years. However, the recovery was uneven amid unequal COVID-19 vaccine access and differences in policy support across the globe.

Growth in developed economies was 5.0% in 2021, driven by a strong recovery in the US, and GDP in emerging markets grew by 6.5%, driven by China.^b

Oil

The oil market continued its rebalancing process in 2021. Oil demand rebounded with **global oil consumption^c** increasing by 5.5mmb/d to 96.4mmb/d for the year (+6.0%) on the back of the economic recovery, supported by the increasing vaccination roll-out and gradual lifting of public health measures.

On the supply side, continued active supply management by OPEC+ countries also helped accelerate the rebalancing process, with global oil production^d increasing by 1.5mmb/d to 95.3mmb/d.

Dated Brent^e prices averaged \$70.91/bbl in 2021 – a 69% increase from 2020 levels^d.

Prices rose consistently during 2021, reaching a peak of \$86/bbl in late October on the back of a positive macroeconomic outlook, which supported a strong rebound in oil demand. Other factors such as supply disruptions and OPEC+ supply restraint added further upside pressure on prices.

Urals prices in north-west Europe (Rotterdam) averaged \$68.65/bbl in 2021, up from \$41.71/bbl in 2020^e.

Natural gas

The global economic recovery supported natural gas demand in 2021, and prices in all three key gas regions rebounded strongly. A series of compounding factors helped to push prices up, with record, unprecedented pricing levels seen in many regions.

Henry Hub prices increased to \$3.9/mmBtu in 2021 from \$2/mmBtu in 2020^f.

US LNG exports increased, driving demand for feedgas into LNG. Capital discipline constraints restrained gas production growth, and coal retirements limited gas-to-coal switching in the power sector, together reducing the gas market's flexibility to respond to higher prices.

The **UK National Balancing Point^g** hub price also rose significantly from 25 pence per therm (\$3.2/mmBtu) in 2020, up to 116 pence per therm (\$15.8/mmBtu) in 2021^g, due to exceptionally tight market conditions. An extended heating season in the first half of the year drove storage stocks well below historical average levels. Through the summer, strong competition for LNG supply as well as constraints from Russian pipeline gas supplies tightened the market and prevented stocks from being replenished. Thus, the winter heating season started with stocks at historical lows and prices increased to record levels to reflect significant market risk. Elevated coal and carbon prices further supported European gas prices in 2021.

Asian LNG spot prices increased from \$4.39/mmBtu in 2020 to \$18.6/mmBtu in 2021 amid a very tight LNG market, with prices rising to \$56/mmBtu at their highest point^h. China was the principal driver of LNG demand growth, as the country overtook Japan as the world's largest LNG importer. Strong LNG demand in South America, multiple LNG supply outages, and tight LNG shipping market conditions at times, compounded the market's tightness to drive higher prices.

Refining marker margin

We track the refining margin environment using a global refining marker margin (RMM)ⁱ.

Refining margins showed a gradual recovery towards pre-COVID historical levels averaging \$13.2/bbl in 2021, significantly above the 2020 level (\$6.8/bblⁱⁱ), but still below the 2015-19 average (\$14.1/bbl).

Higher US margins are a result of strong demand rebound and higher renewable identification number (RIN) prices, which have more than doubled since last year.

RINs represent environmental compliance costs and have increased due to a delay in the US EPA proposing the 2021 renewable volume obligation (RVO), together with various other market-and regulatory-related reasons.

Power and renewables

Increasing commodity prices and shipping rates, driven by the return to pre-COVID economic growth and supply chain constraints, meant an increase in the capital cost for wind and solar projects in 2021, halting a multi-year trend of cost reduction.

In Europe, high natural gas prices caused electricity prices to reach record highs, leading to societal and political pressure in some countries for a reform of electricity pricing to ensure the affordability of the energy transition.

Hydrogen and carbon capture and storage (CCS)

Global momentum behind hydrogen's role in decarbonizing hard-to-abate sectors is accelerating, notably in industry and heavy transport. Several more countries have now published hydrogen strategies and, increasingly, this is being followed by announcements of policy support.

The pipeline of announced projects has continued to scale rapidly, with cumulative clean hydrogen production capacity in 2030 projected to be 11Mtpa, with over \$100 billion of direct investment^k. Despite this surge, however, there remains a significant shortfall versus projected demand in many Paris-consistent scenarios.

Momentum is also growing for CCS, in part driven by governments providing additional incentives. Interest in CCS has been bolstered by the need to abate process emissions from heavy industries such as cement and steel manufacture, together with a growing recognition of the need for negative emissions to meet Paris climate goals.

Continuing impact of COVID-19

At the time of writing, the world is still experiencing the effects of COVID-19. We continue to take steps to protect and support our employees through the pandemic.

We are taking precautions in our operations and offices and providing enhanced support and guidance to employees, with a focus on safety, health and hygiene, homeworking and mental health.

We continue to take decisions on working practices and return to office-based working with caution and in compliance with local and national guidelines and regulations.

a IEA *Gas Market Report* Q1 2022.
b IMF *World Economic Outlook*, January 2022 update.
c IEA *Oil Market Report*, January 2022.
d Refinitiv Data Service (Dated Brent spot price).
e Refinitiv Data Service (Urals CIF Rotterdam).
f Refinitiv Data Service (Henry Hub cash price).
g Refinitiv Data Service (National Balancing Point Day Ahead price).
h Refinitiv Data Service (JMK spot price).

i The RMM may not be representative of the margin achieved by bp in any period because of bp's particular refinery configurations and crude and product slates. In addition, the RMM does not include estimates of energy or other variable costs.
j This number is updated from 6.7/bbl as stated in the 2020 *Annual Report and Form 20-F* to reflect the 2021 RMM, which has been updated to reflect changes in bp's portfolio, and the update of crude reference for the Mediterranean region.
k Hydrogen Council.

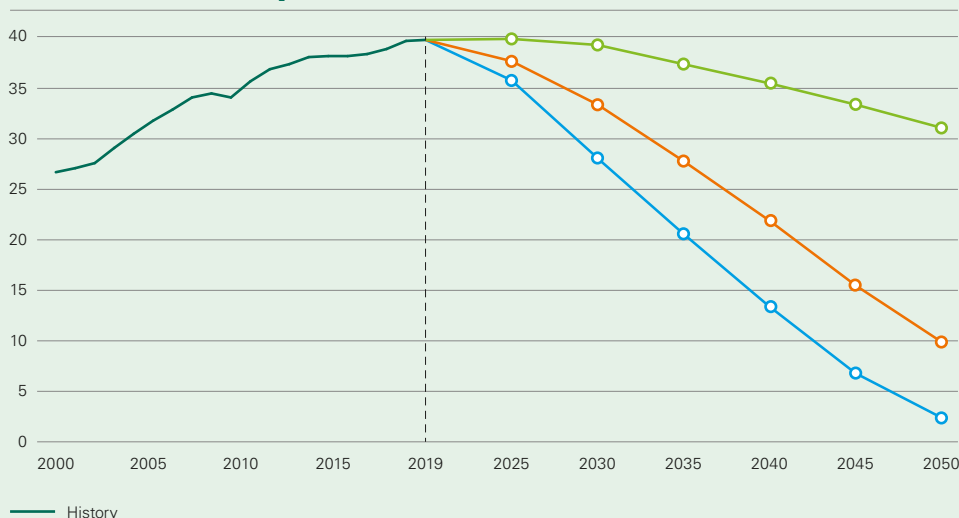
Energy outlook

The *bp Energy Outlook 2022* considers scenarios that explore possible pathways the energy transition may take out to 2050^a.

The uncertainty associated with the energy transition is substantial, and these scenarios are not predictions of what is likely to happen or what bp would like to see happen. Rather they explore the possible implications of different judgements and assumptions concerning the nature of the energy transition.

Three scenarios to explore the energy transition to 2050

Carbon emissions Gt of CO₂e^c



New Momentum —○—

This new scenario is the result of work carried out inside bp to review the pace of the energy transition. It acknowledges that the level of ambition from government and corporates has increased since the *bp Energy Outlook 2020*; however it is constrained by the slow pace of transition in some sectors. This scenario is not considered to be consistent with Paris and results in a reduction in global energy emissions of only 20% by 2050 versus 2019.

Net Zero —○—

In which global energy systems emissions fall by 95% by 2050 versus 2019, in line with a 1.5°C pathway. Changes in societal actions and behaviours are a key driver in this scenario.

Accelerated —○—

One of many possible scenarios that can be considered consistent with Paris, in line with a well-below 2°C pathway^b. In this scenario emissions from energy use and most industrial processes fall by around 75% by 2050 versus 2019, with a fall of approximately 90% in the developed world and around 65% in the emerging world.

Global energy demand across the scenarios

Although the three energy outlook scenarios differ in many respects, some trends are common across them and across the wide range of other analyses and information we refer to, such as the International Energy Agency (IEA)'s *World Energy Outlook* and S&P Global's *Energy and Climate Scenarios*:

- Global energy demand continues to grow, at least for a period, driven by increasing prosperity and living standards in the emerging world.
- The share of fossil fuels in global primary energy falls from around 80% in 2019 to between 60% and 20% by 2050 in the three scenarios.
- The rapid growth in renewables is supported by the increasing role of electricity in total final energy consumption in the three scenarios.

 [bp.com/energyoutlook](https://www.bp.com/energyoutlook)

^a The scenarios included in the *bp Energy Outlook 2022* were prepared before the outbreak of the military action in Ukraine and do not include any analysis of its possible implications for economic growth and global energy markets.

^b For more information on Paris-consistent pathways, see page 30.

^c Carbon emissions include CO₂ emissions from energy use, industrial processes, natural gas flaring and methane emissions from energy production.

Scenarios for strategic decision making

We have been using scenarios at bp to inform strategy, manage risk and improve decision-making for many years.

The scenarios we used to inform our ambition and strategy, which we set out in 2020, were based on a collaborative approach between our economists, strategists and our senior management team and board.

Some scenarios start from today and project forward over a timeframe in which the current structure of the energy system helps to inform the pace and nature of the transition path. Other scenarios start in the future, breaking free from the inherent inertia in the energy system (and potentially our thinking), and look back to the present from that new perspective.

In thinking about appropriate scenarios to inform our strategy, we used both approaches.

The scenarios chosen to explore the range of uncertainty surrounding the future of the global energy system span a broad range of energy transition paths. They consider the possible implications of different judgements and assumptions and so help to design a strategy which is resilient to the wide range of uncertainty we face.

By considering various time horizons, we can identify key milestones or signposts which might emerge over the next five, 10 or 30 years and inform our view of the key sources of uncertainty affecting the global energy system.

We actively monitor for changes in the external environment, and refresh or review our scenarios as needed in response to these signals, as we have done with our New Momentum scenario.

How we create scenarios

We quantify a range of scenarios in the *bp Energy Outlook 2022* using our global energy modelling system. This comprises a suite of models developed over the past 10 years to help us understand supply and demand dynamics of the global energy system as well as production in intermediate sectors.

The modelling framework uses historical data based on the *bp Statistical Review of World Energy*, the IEA and a range of other data sets.

Each scenario is determined by a set of key assumptions including population and economic growth, pace of technological change, resource constraints and government policies. These are informed by expert views from external organizations including United Nations, Oxford Economics, Rystad Energy and a proprietary integrated assessment model.

Prices are used to balance supply and demand. The modelling techniques used vary by sector and include a combination of econometric modelling, least-cost optimization, adoption curves and consumer choice modelling.

For the *bp Energy Outlook 2022*, the outputs have been expanded to capture 16 regions and 15 end-use sectors; in addition process emissions from key industrial sectors are included, for the first time.

In developing the scenarios, we benchmark our views against scenarios from external organizations including the IEA's *World Energy Outlook*, the Intergovernmental Panel on Climate Change (IPCC), and S&P Global's *Energy and Climate Scenarios*.


How scenarios inform our strategy

The use of scenarios described in the *bp Energy Outlook 2022* and from other organizations aids our understanding of the energy transition and the global energy system. This helps us to think about different outcomes and how they might impact our strategy.

The use of a broad range of scenarios to inform our strategy supports our efforts to make it robust and resilient to the range of uncertainty we face. Given that, we believe that it is neither useful nor sensible to try to identify one scenario as being more or less likely than another.

How we use scenarios in resilience analysis

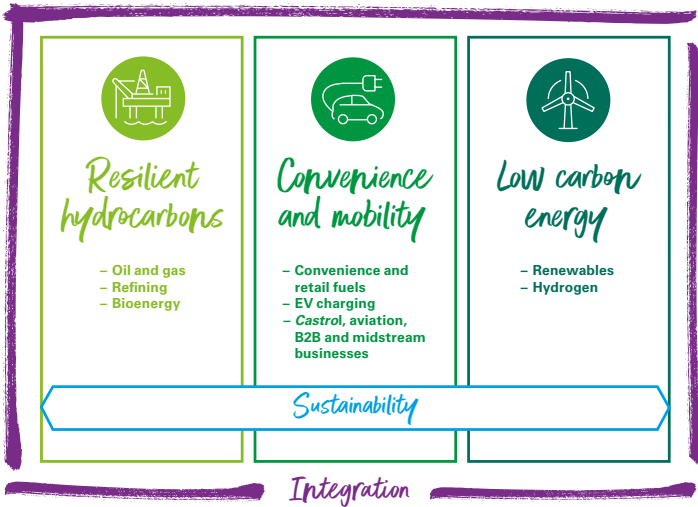
For the purposes of testing the resilience of our strategy to the range of uncertainty in the energy transition we have used scenarios drawn from the soon-to-be published World Business Council for Sustainable Development (WBCSD) 'Climate Scenario Analysis Reference Approach for Companies in the Energy System'. By using standard variables from this Scenario Catalogue we believe it will help enable comparability and consistency.

 For more on our resilience analysis and the outcome of that work, see [page 55](#)

Delivering energy solutions to customers around the world

Our strategy

An integrated energy company delivering solutions for customers.



Resilient hydrocarbons

We are driving returns, high-grading our portfolio and lowering our emissions, through three focus areas: oil and gas, refining and bioenergy. As the world seeks lower carbon fuels, we see opportunities to leverage our portfolio of assets and customer base – with bioenergy as one of our transition growth engines.

Convenience and mobility

We aim to double adjusted EBITDA★ by 2030^a, while sustaining ROACE★ of 15-20%^a, all through a focus on customers. We expect this growth to be driven by our differentiated convenience and fuels offers, selective growth markets expansion, acceleration of our EV charging ambition, as well as our *Castrol*, aviation, B2B and midstream businesses. Convenience and EV charging are two of our transition growth engines.

Low carbon energy

We are building scale with capital discipline and returns focus. We plan to create integrated low carbon energy hubs, enabled by two of our transition growth engines, renewables and hydrogen.

Sustainability: embedded across our strategic focus areas is our sustainability frame, which sets out our aims for getting to net zero, improving people's lives and caring for our planet, see page 51.

Integration: binding this all together is integration. Harnessing our collective capabilities as the energy system transitions, to help more and more customers get the clean, reliable and affordable energy they want – and in doing so – creating value for our shareholders, see pages 14-15.

➔ Progress against our strategy, page 16

a At bp planning assumptions including that annual capital expenditure★ through to 2030 and number of customer touchpoints★, retail sites★, strategic convenience sites★ and EV charge points★ increase in line with bp's targets and aims.

Our purpose

Reimagining energy

Our resources and relationships

Some of the tangible and intangible assets that support how we generate and preserve value for our stakeholders, as at 31 December 2021.

Energy sector experience

>110 years

experience in the world of energy

Incumbent capability

>10,000

engineers

70 years

annual publication of the *bp Statistical Review of World Energy*

~2,000

digital experts

➔ Global context, page 8

➔ Sustainability, page 51

Our business groups

Our three business groups are supported by four integrators to facilitate collaboration and unlock value: innovation & engineering; regions, cities & solutions; strategy, sustainability & ventures; and trading & shipping. And four teams serve as enablers of business delivery: communications & advocacy; finance; legal; and people & culture.

Reconciling strategic focus areas to our reporting segments^a

	Oil production & operations	Customers & products	Gas & low carbon energy ^b
Resilient hydrocarbons 	Oil production	Refining and products Bioenergy ^c	Gas production Gas marketing and trading
Convenience and mobility 		Convenience Fuels EV charging <i>Castrol</i> , aviation, B2B/midstream	
Low carbon energy^b 			Renewables Hydrogen

Denotes transition growth engine, see page 16.

a bp reporting segments also included Rosneft and other businesses & corporate in 2021.

b Includes bp Bunge Bioenergia.

c Biogas is reported in the gas & low carbon energy reporting segment.

for people and our planet

Partnerships

3

city or region partnerships
since 2020

>250

co-investors through bp ventures

 Integration, page [14](#)

Research & development

\$266m

invested in research
and development

~5,000

granted and pending patent
applications held by bp and
its subsidiaries

Energy resources

16,954mmboe

proved hydrocarbon reserves
for the group^a

^a On a combined basis of subsidiaries and equity-accounted entities, see page 254. Includes 9,013mmboe – bp's share of Rosneft and Russia joint ventures, see page 348.

4.4GW

developed renewables to FID★

 Gas & low carbon on page [41](#)

Financial

\$12.8bn

capital expenditure★

\$23.6bn

operating cash flow★

 Group performance, page [37](#)

Production & operations

Operating our hydrocarbon business, from which we produce the hydrocarbon energy and products the world needs – safely and efficiently.

Creating value through

- Finding and developing hydrocarbon resources, with selective exploration mostly focused near our existing hubs.
- Operating oil and gas production assets, including bpx energy.
- Operating refineries, terminals and pipelines.
- Deploying technical capability across hydrocarbons and low carbon businesses.

Alignment with our strategy



Customers & products

Focusing on customers as the driving force for innovating new business models and service platforms to deliver the convenience, mobility and energy products and services of the future.

Creating value through

- Differentiated convenience and fuel offers at our retail sites, including snacks, ready meals and coffee.
- Our EV charging businesses.
- Our *Castrol* lubricants and e-fluids brand sold through numerous channels.
- Our aviation fuelling business.
- Our B2B and midstream businesses.
- Refining & trading – our oil products businesses.
- Optimizing across integrated fuels value chain.

Alignment with our strategy



Gas & low carbon energy

Creating low carbon energy solutions. Integrating our existing natural gas capabilities with significant growth in low and zero carbon businesses and markets, including wind, solar, hydrogen and carbon capture and storage (CCS).

Creating value through

- Integrated gas and LNG businesses.
- Onshore and offshore wind.
- Our 50% stake in Lightsource bp.
- Biopower and biofuels through bp's 50% stake in bp Bunge Bioenergia.
- US biogas.
- Hydrogen and CCS.

Alignment with our strategy



What makes us different

We believe we have the scale and expertise to navigate complex markets and manage increasingly integrated energy systems

Integration

Integrating energy systems

Harnessing our collective capabilities as the energy system transitions, helping more customers get the energy they want and creating value for our shareholders.

Working to decarbonize the aviation sector

We are working with airlines and airports to support the decarbonization of the aviation sector and our aim to be a net zero company by 2050 or sooner:

- Sustainable aviation fuel (SAF) is expected to play a critical part in decarbonizing this sector and we are working at pace to promote SAF availability, accessibility and affordability.
- We have an established position in SAF and aim to be a sector leader, with 20% marketing share by 2030.
- As an integrated energy company, our global capabilities, expertise and experience positions us well to help our partners and our customers move at a faster pace on the energy transition journey.
- We aim to increase our biofuels production three-fold at three of our refineries through bio co-processing, and invest in five major biofuels projects including three adjacent to existing refineries and the conversion of up to two bio-refineries by 2030.

Progress in 2021

- Received accreditation from the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) for the production of SAF at our Castellón refinery, the first refinery in the world to receive this status.
- Formed a strategic partnership with Qantas to work on opportunities to decarbonize the aviation sector and agreed to supply SAF to the airline from 2022 for selected flights from London to Australia departing from London's Heathrow Airport.

Stakeholders impacted:



Partnering with countries, cities and industries

By leveraging relationships and building new partnerships we aim to provide integrated energy and mobility solutions to help cities and industries reduce carbon emissions while creating exciting business opportunities.

Developing low carbon, CCS-enabled hydrogen in the UK

We're developing plans for a blue hydrogen★ production facility in Teesside, aiming for 1GW of blue hydrogen production by 2030 and supporting development of the region as the UK's first hydrogen transport hub – H2Teesside.

H2Teesside aims to help surrounding industries decarbonize their existing operations by switching fuel from natural gas to low carbon hydrogen, enabling their manufacturing facilities to produce low carbon products as society progresses towards a net zero future.

The development is expected to:

- Capture and send for storage up to 2MtCO₂ per year.
- Help lead a low carbon transformation, supporting jobs, regeneration and the revitalization of the surrounding area.

H2Teesside and HyGreen Teesside – a new large-scale green hydrogen★ production facility project planned by bp – together have the potential to deliver 30% of the UK's 2030 target for low carbon hydrogen production.

bp has signed a memorandum of understanding with seven potential customers – with existing or planned Teesside operations – for hydrogen produced by the project.

- A final investment decision is due in early 2024, with potential to begin production in 2027 or earlier.

Stakeholders impacted:



Driving digital innovation

We innovate with a strong focus on digital to drive operational efficiencies, empower our workforce and engage better with our customers. This includes building new businesses through bp ventures and Launchpad.

Innovation across the business

Growing digital expertise in India

Our new digital hub in Pune, India is designed to create, grow and deliver a range of digital solutions to help transform bp's core operations, extend its customer interfaces and support new and emerging business models.

Located within bp's major global business services operations centre, the hub has an initial headcount of around 100 digital engineering, data, information security and design specialists.

- We aim to build an accessible talent ecosystem of digital expertise with cross-disciplinary, agile teams that will scale up and evolve over time.
- We will use the hub to partner and collaborate with other leading institutions, and to support start-ups and strategic organizations.
- The hub will support the digitization of bp's businesses and help deliver new energy and mobility solutions.

Enhancing safety with automated technology in the North Sea

The first onshore remote piloting of a remotely operated vehicle (ROV) in the UK was successfully conducted at the bp-operated Clair Ridge platform west of Shetland in 2021. The project was also the first cross-border implementation and the first operational implementation for bp.

- Onshore piloting of ROVs improves the efficiency and safety of operations by removing people from the work site.
- The work was carried out by Oceaneering's Onshore Remote Operations Centre in Norway, where the team observed drilling operations at our Clair Ridge platform.

Stakeholders impacted:

C E I P



Delivering value for stakeholders

We are committed to delivering long-term value for stakeholders.

Customers C

Including end-use consumers, B2B customers and distributors.

>12m

customer touchpoints★ per day

Customers & products, page 46

Government and regulators G

In the countries where we have activities or plans to operate.

\$5.4bn

corporate income tax and production tax paid

Sustainability, page 51 and bp.com/tax

Partners and suppliers P

Includes relationships with academia, industry, cities and suppliers.

\$122.2bn

sourcing goods and services from ~40,000 suppliers

Employees E

Our 65,900 people worldwide.

64%

employee engagement – 'Pulse' survey score

Key performance indicators, page 24

Investors and shareholders I

Includes our institutional and retail investors.

\$4.3bn

total dividends distributed to shareholders

Society S

The people, businesses and environment in the communities where we work.

~\$51m

supporting additional initiatives to benefit the communities where we operate^a

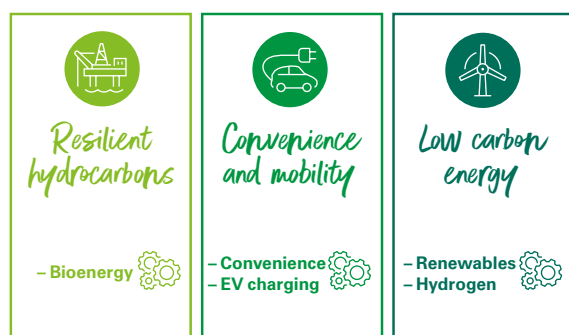
Sustainability, page 51

^a includes bp Foundation spend.

Our strategic focus areas

Progress against our strategy

Transition growth businesses



In February 2022 we announced our aim to increase the proportion of capital expenditure★ in transition growth businesses to more than 40% by 2025 and to around 50% by 2030. These businesses are in high-growth sectors and are underpinned by five transition growth engines:

Bioenergy, including biofuels, biogas and sustainable aviation fuel: we anticipate investing in five major biofuels projects, including the conversion of up to two refineries, and investment in three standalone bio-plants. And we plan to grow biogas production and marketing.

Convenience: we aim to grow convenience gross margin★ at around 7% per annum, supported by the expansion of our strategic convenience network to around 3,500 sites by 2030.

Electric vehicle charging: we are accelerating our EV charging ambition across key growth markets, through a focus on 'on-the-go' charging and fleets, and aim to grow our network to more than 100,000 EV charge points by 2030.

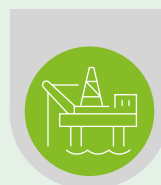
Renewables: we aim to build a leadership position in offshore wind and accelerate our solar growth through Lightsource bp and bp's US solar pipeline.

Hydrogen: we aim to capture a 10% share in core markets by 2030. As hydrogen markets develop, we aim to create a portfolio of globally advantaged supply hubs. We aim to leverage bp's existing refinery demand to build regional supply positions.

Strategic focus areas

Resilient hydrocarbons

High-grading our portfolio, lowering our emissions and driving returns.

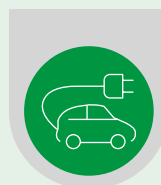


Metrics

Upstream★ unit production costs★	>
Upstream production ^b	>
bp-operated hydrocarbon plant reliability★	>
Refining throughput	>
bp-operated refining availability★	>
Bioenergy production★	>
LNG portfolio★	>

Convenience and mobility 1

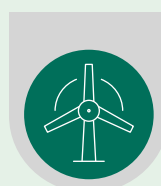
Doubling adjusted EBITDA^a★, sustaining returns, focused on customers.



Customer touchpoints★	>
Strategic convenience sites ^c ★	>
Retail sites in growth markets ^c ★	>
Castrol sales and other operating revenues★	>
Electric vehicle charge points ^c ★	>
Margin share from convenience and electrification ^d ★	>

Low carbon energy 1

Building scale with capital discipline and returns focus.



Developed renewables to final investment decision★	>
Traded electricity★	>

➡ For examples of progress against our strategy in 2021, see pages [18](#), [22](#) and [28](#)

2021	2025 target	2030 aim
\$6.82/boe 2020 \$6.39/boe	~\$6/boe	~\$6/boe
2.2mmboe/d 2020 2.4mmboe/d	~2mmboe/d	~1.5mmboe/d
94% 2020 94%	96%	>96%
1.6mmb/d 2020 1.6mmb/d	<1.5mmb/d	~1.2mmb/d
94.8% 2020 96%	96%	>96%
26Kb/d 2020 30Kb/d	50Kb/d	>100Kb/d
18Mtpa 2020 20Mtpa	25Mtpa	30Mtpa

>12 million 2020 >11 million	>15 million	>20 million
2,150 2020 1,900	~3,000	~3,500
2,700 2020 2,700	~5,000	>6,000
\$6.8bn 2020 \$5.4bn	~\$7.5bn	>\$8bn
13,100 2020 10,100	>40,000	>100,000
29.1% 2020 27.6%	~35%	~50%

4.4GW 2020 3.3GW	20GW	50GW
202TWh 2020 214TWh	350TWh	500TWh

a At bp planning assumptions including that annual capital expenditure through to 2030 and number of customer touchpoints, retail sites★, strategic convenience sites and EV charge points increase in line with bp's targets and aims.

b Relative to 2019, we expect our hydrocarbon production to be around 40% lower by 2030 reflecting active management and high-grading of the portfolio, including divestment of non-core assets.

c Reported to the nearest 100.

d The nearest GAAP measures of the numerator and denominator are RC profit before interest and tax for customers & products. A reconciliation to GAAP information is provided on page 354.

e Discovered by our Russian joint venture Yermak Neftegaz LLC. On 27 February 2022 bp announced that it will exit its other businesses with Rosneft in Russia.

Performing while transforming

- Started up **seven major projects★** achieving our 2016 target of 900mboe/d of new major project production by 2021, and around 15% under budget:
 - Raven in Egypt's West Nile Delta
 - KG D6 Satellite Cluster in India (see page 29)
 - Platina and Zinia Phase 2 in Angola
 - Matapal in Trinidad
 - Thunder Horse South Expansion Phase 2 and Manuel in the US Gulf of Mexico (see page 19).
- Made three **hydrocarbon discoveries**: Puma West (oil) in the US Gulf of Mexico, Verknekbinskiy (gas) in Russia* and Shafag Asiman (gas) in the Azerbaijan-Georgia-Turkey region.
- Announced plans to **invest around \$270 million** to improve efficiency, reduce emissions and grow renewable diesel production at our US Cherry Point refinery, see page 19.
- Completed the sales** of our 25% participating interest in the Shallow Water Absheron Peninsula exploration project in the Caspian Sea to LUKOIL, and a 20% stake in Oman's Block 61 to PTTEP.
- bp and Shenzhen Gas signed a **natural gas supply agreement** to provide gas to customers in China starting in 2023.
- Delivered **record convenience gross margin** in 2021, supported by more than 200 strategic convenience sites.
- Took full ownership of the **Thorntons business**, positioning bp to be a leading convenience operator in the Midwest US, see page 19.
- In 2022, bp and **Marks & Spencer** agreed to extend their convenience partnership for bp's UK retail forecourts until at least 2030, see page 23.
- Jio-bp, our fuels and mobility joint venture in India with Reliance, **opened their first 'mobility station'**, providing a fully integrated customer offer.
- Added ~3,000 EV charge points**, with nearly half of our network now either rapid or ultra-fast charging★.
- Acquired charging provider **AMPLY Power** in the US, accelerating bp's entry into one of the fastest growing fleet charging markets in the world.
- Strategic **investment in Digital Charging Solutions** with Mercedes-Benz and BMW, a leading developer of digital charging software for automotive manufacturers and fleet operators, see page 23.
- Extended our **Castrol** branded service and maintenance offers globally – we now have 28,000 independent branded workshops.
- Increased margin share** from convenience and electrification to 29.1%.
- Signed 10-year LNG supply agreement starting in 2023 for Singapore with Pavilion Energy, and delivered our **first carbon offset LNG cargo** to CPC Corporation in Taiwan.
- Announced our 'Morgan' and 'Mona' **UK offshore wind projects** in the Irish Sea (see page 23), and were awarded a lease option off the east coast of Scotland to develop a wind project 'Morven', both with EnBW.
- Acquired 9GW of **solar development projects** from US solar developer 7X Energy, see page 19.
- Joined forces with NYK Line to collaborate on **future fuels and transportation solutions** to help industrial sectors, including shipping, decarbonize.
- East Coast Cluster, a collaboration between Northern Endurance Partnership, Net Zero Teesside – both led by bp – and Zero Carbon Humber, selected by the UK government as one of the UK's first two **carbon capture, use and storage projects**.
- Formed a joint venture with Aberdeen City Council to develop, build and operate a scalable, **green hydrogen★ production hub** in Scotland.

Our strategy in action

Strengthening our US presence





1

Strong performance in the Gulf of Mexico

In 2021 we started up two major projects★ in the US Gulf of Mexico, where we plan to grow our oil and gas production to around 400mboe/d net by the mid-2020s.

- **Thunder Horse South Expansion Phase 2:** consists of two subsea drill centres operated by 10-inch dual flow lines with the opportunity for simultaneous mobile offshore drilling unit operations.
- **Manuel:** includes a new subsea production system for two new wells tied in to the Na Kika platform.

These projects are two of seven major project start-ups in 2021 globally, adding 900mboe/d of new production net to bp from new major projects, since 2016.

Continued growth

We achieved a significant milestone for the Mad Dog 2 development with Argos – a new semi-submersible floating production platform – now in position ahead of planned start-up in 2022.



This has been a pivotal year for our Gulf of Mexico business as we continue to start up new projects. Bringing high-margin, resilient barrels online in basins we know best is central to bp's strategy. //

Starlee Sykes

SVP

Gulf of Mexico and Canada

Generating economic value in Louisiana

>340

employees in the state of Louisiana

>5,200

total jobs supported

>\$61m

spend with >70 suppliers in 2020^a

Key

- Resilient hydrocarbons
- Convenience and mobility
- Low carbon energy



For more on our strategic focus areas, see page [16](#)

^a 2021 data unavailable at time of publication.



2

Driving down flaring at bpx energy

We are on track to achieve our aim of zero routine flaring in our bpx energy US onshore operations by 2025. When we began operating these assets in 2019, flaring intensity was over 16%; today it is less than 1%, a 95% reduction.



3



4

Taking full ownership of Thorntons retail business

The deal marks bp's re-entry into fully owned and operated stores in the US and positions bp to be a leading convenience operator in the US Midwest.

Acquired AMPLY Power

Our acquisition of charging provider AMPLY Power has accelerated our entry into the US – one of the fastest growing fleet charging markets in the world.



5

Investing around \$270 million in three projects at Cherry Point refinery

These projects are aimed at improving the refinery's efficiency, reducing its CO₂ emissions and increasing its renewable diesel production capability. They are expected to create more than 300 local jobs over the next three years.



6

Purchasing 9GW of solar development projects from 7X Energy

The projects span 12 states and are expected to have the capacity to generate enough clean energy to power around 1.7 million US homes once developed. The acquisition is a significant step towards bp's target of having developed renewables to final investment decision★ of 20GW by 2025 and aim to increase this to 50GW by 2030.

Our financial frame and investor proposition

Operating within a *resilient* and *disciplined* financial frame

We are performing while transforming by delivering returns for shareholders today as we transform bp for tomorrow.

Continued discipline in executing the financial frame

<i>Resilient dividend</i>	<i>Strong investment grade credit rating</i>	<i>Disciplined investment allocation</i>	<i>Share buybacks</i>
5.46¢ per ordinary share for 4Q21	40% 2022 surplus cash flow★	\$14-15bn 2022 capital expenditure★ 2023-2025: \$14-16bn	60% 2022 surplus cash flow ^{ab}
Capacity for annual increase of the dividend per ordinary share of ~4% through 2025 at ~\$60/bbl	Intend to allocate 40% 2022 surplus cash flow to further strengthen the balance sheet	\$5-7bn per year Low carbon energy and convenience & mobility	\$9-10bn per year Resilient hydrocarbons
#1	#2	#3 #4	#5

a Subject to maintaining a strong investment grade credit rating.

b In addition, executed a \$500 million buyback programme during 1Q22 to offset expected full-year dilution from vesting of awards under employee share schemes in 2022.

A hierarchy of priorities

To deliver our strategy, we must continue to operate within a resilient and disciplined financial frame.

Our financial frame comprises a hierarchy of priorities governing how we intend to allocate the cash flow that we generate to strengthen our finances, grow distributions to shareholders and invest to create value through our strategic transformation.

Following its announcement that bp is exiting its interest in Rosneft, it has removed Rosneft dividend payments from its financial frame. However, bp remains confident in the flexibility and resilience of its financial frame, underpinned by an average 2021-25 cash balance point of around \$40 per barrel. This includes reaffirming the guidance regarding its financial frame out to 2025 that was given with its 2021 full-year results in February 2022.

#1 Resilient dividend

A resilient dividend is our first priority within our financial frame. Reflecting the underlying performance of the business, an improving outlook for the environment, confidence in our balance sheet and commencement of the share buyback programme, the board announced a 4% increase in the second quarter 2021 dividend to 5.46 cents per ordinary share. This increase is accommodated within a 2021-25 average cash balance point★ of around \$40 per barrel Brent, \$11 per barrel RMM★ and \$3 per mmBtu Henry Hub (all 2020 \$ real).

Based on our current forecasts, at around \$60 per barrel Brent and subject to the board's discretion each quarter, we expect to have capacity for an annual increase in the dividend per ordinary share of around 4%, through 2025.

#2 Strong investment grade credit rating

For the full year 2021 we reduced finance debt by \$11.5 billion and net debt★ by \$8.3 billion. During the first quarter of 2021 we reached our target of reducing net debt to below \$35 billion around one year earlier than expected, with net debt reaching \$30.6 billion at year end.

We intend to allocate 40% of 2022 surplus cash flow to further strengthen the balance sheet.

Disciplined investment allocation

We are focused on the disciplined allocation of capital to deliver on our strategic objectives. In 2021 capital expenditure was \$12.8 billion. We expect capital expenditure to be in a range of \$14-15 billion in 2022 and \$14-16 billion per annum between 2023-25.

Investment is allocated across our businesses based on a set of criteria that balances strategic alignment, stringent hurdle rates, volatility, integration value, sustainability and risk.

#3 Investing to grow convenience & mobility and low carbon energy

Within our \$14-16 billion range for capital expenditure, we plan to allocate \$5-7 billion a year through 2025 into convenience & mobility and low carbon energy.

In low carbon energy we are focused on building scale with capital discipline and a focus on returns. In renewable power we will look for opportunities that we believe can meet an internal rate of return hurdle of 8-10% levered.

And as we invest in convenience & mobility, we aim to sustain ROACE★ at 15-20% to 2030^a.

#4 Investing to drive returns in resilient hydrocarbons

We plan to invest around \$9 billion in 2022 and \$9-10 billion per year from 2023 to 2025 into our upstream oil and gas, and refining and bioenergy businesses.

As we invest, we have stringent hurdle rates for final investment decisions:

- A payback of less than 10 years for investments in upstream oil and refining.

- A payback of less than 15 years for upstream gas.

This focused and disciplined capital frame together with a deep hopper of attractive investment opportunities in oil and gas is expected to maximize returns.

#5 Share buybacks

We are committed to returning at least 60% of surplus cash flow through share buybacks, subject to maintaining a strong investment grade credit rating.

In considering the quantum of share buybacks and in setting the dividend per ordinary share each quarter, the board will take account of factors including the cumulative level of, and outlook for, surplus cash flow, the cash balance point and the maintenance of a strong investment grade credit rating.

For 2021 we announced share buybacks of \$4.15 billion from surplus cash flow.

For 2022, and subject to maintaining a strong investment grade credit rating, we are committed to using 60% of surplus cash flow for share buybacks.

On average, based on our current forecasts, at around \$60 per barrel Brent and subject to the board's discretion each quarter, we expect to be able to deliver buybacks of around \$4.0 billion per annum through 2025.

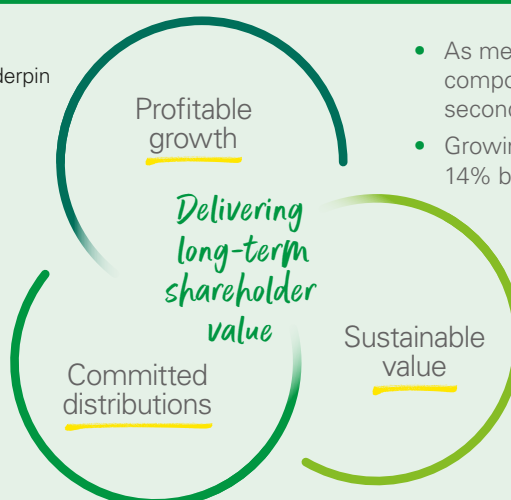
In addition to the commitment to share buybacks from surplus cash flow, we intend to offset the expected dilution from vesting of awards under employee share schemes through share buybacks. During the second quarter of 2021 we executed a \$500-million share buyback to offset the expected dilution from the 2021 vesting of awards under employee share schemes. And during the first quarter of 2022 we executed a \$500-million share buyback to offset the expected dilution from the 2022 vesting of awards under employee share schemes.

^a At bp planning assumptions including that annual capital expenditure★ through to 2030 and number of customer touchpoints★, retail sites★, strategic convenience sites★ and EV charge points★ increase in line with bp's targets and aims.

Our investor proposition

Our strategy and financial frame together underpin our investor proposition of delivering long-term value for shareholders through:

- A resilient dividend.
- The commitment to return at least 60% of surplus cash flow★ through share buybacks, subject to maintaining a strong investment grade credit rating.



- As measured by adjusted EBIDA per share compound annual growth rate★ between the second half 2019/first half 2020 and 2025.
- Growing ROACE★ to between 12% and 14% by 2025^a.

- Expecting to increase the proportion of group capital employed★ within transition to over 20% in 2025.
- Aiming for net zero by 2050 or sooner for Scopes 1, 2 and 3.

^a \$50-60/bbl (2020 \$ real) and bp planning assumptions.
^b Excludes goodwill and cash and cash equivalents.

2022 guidance

	2021 actual	2022 guidance
Upstream★ reported and underlying production excluding Rosneft	2.2mmbbl/d	Expected to be broadly flat
Total capital expenditure★	\$12.8bn	\$14-15bn
Depreciation, depletion and amortization	\$14.8bn	Similar level to 2021
Divestments and other proceeds	\$7.6bn	\$2-3bn
Gulf of Mexico oil spill payments ^a (pre-tax)	\$1.5bn	~\$1.4bn
Other businesses and corporate underlying annual charge	\$1.4bn	\$1.2-1.4bn
Underlying effective tax rate★	32% ^b	Expected to be around 40% ^c

^a See Financial statements – Note 21 for more information on payables related to the Gulf of Mexico oil spill.

^b Nearest equivalent GAAP measure: effective tax rate (44%).

^c Updated from prior guidance of around 35% to reflect the exclusion of Rosneft from bp's underlying result effective 1 January 2022.

Our strategy in action

Growth in Europe





1

Growing our charging network

We are accelerating our electric vehicle (EV) charging ambition across key growth markets, through a focus on 'on-the-go' charging and fleets. Partnerships are a key part of our approach, enabling better and faster utilization of our network. In 2021, we took significant steps towards our aim to grow our EV charge points★ to more than 100,000 globally by 2030.

- Joined forces with Mercedes-Benz and BMW to help accelerate electrification through the Digital Charging Solutions (DCS) partnership. DCS aims to connect drivers with a growing network of EV charge points across Europe, while providing a seamless charging experience.
- Opened EV-only charging hubs in Europe, including the UK's first fleet-dedicated rapid EV charging hub in London. The new rapid charging★ hubs aim to deliver charging at scale, in locations where fleet and business vehicles need it most.
- Rolled out more than 500 ultra-fast charge points at retail sites★ in Germany under our Aral Pulse brand.

// Fast, reliable charging infrastructure in convenient locations is essential to give business and fleet customers the confidence to make the switch to electric. Globally, nearly half of our network is now rapid or ultra-fast charging★, driving higher utilization and margins. //

Richard Bartlett
SVP, future mobility & solutions

>9,300

EV charge points in Europe

8,250

retail sites in Europe

Global target to deliver

~50% margin share

from convenience and electrification★ by 2030

Key

- Resilient hydrocarbons
- Convenience and mobility
- Low carbon energy

➔ For more on our strategic focus areas, see page [16](#)



2

Building the largest green hydrogen plant in northwest Europe

We are partnering with HyCC and the Port of Rotterdam on H2-Fifty, a project to build a 250MW green hydrogen★ plant at bp's Rotterdam refinery in the Netherlands. The plant is scheduled for completion in 2025 and would use offshore wind power to produce 40,000 tonnes of green hydrogen a year, replacing the current grey hydrogen at the Port of Rotterdam refinery.



3

Extending our relationship with M&S Food

bp and Marks & Spencer agreed to extend their convenience partnership for bp's UK retail forecourts until at least 2030, aiming to build on the success of our 16-year collaboration. The agreement combines bp's expertise in forecourt retail with one of the UK's leading food retailers. We plan to work together to evolve our offer to customers as their behaviours change over the coming decade.



4

Entering the UK offshore power sector

bp and Energie Baden-Württemberg (EnBW) were awarded two offshore wind leases in the Irish Sea – Morgan and Mona – as well as a lease option off the east coast of Scotland, to be known as Morven. The projects are expected to have 3GW and 2.9GW total potential generating capacity respectively, marking further progress towards bp's aim to rapidly build a world-class offshore wind energy business.



5

Rapidly expanding solar across Europe

Lightsource bp, in which we have a 50% share, acquired an 845MW solar portfolio in Spain from Iberia Solar in 2021, as well as powering up its 247 megawatt peak (MWp) flagship solar project Vendimia in Zaragoza, Spain. Lightsource bp now has a total of 2.9GW of projects in development or under construction in Spain. The business also made new market entries into Greece and Poland in 2021, strengthening its position in Europe.

Measuring our progress

We assess the performance of the group across a wide range of measures and indicators that are consistent with our strategy and investor proposition.

Our key performance indicators (KPIs) provide a balanced set of metrics that give emphasis to both financial and non-financial measures. These help the board and leadership team assess bp's performance. Our leadership team uses these measures to evaluate operating performance and make financial, strategic and operating decisions.

Changes to KPIs

Our greenhouse gas (GHG) emissions KPI now comprises Scope 1 and Scope 2 data included in our aim 1 – net zero operations on an operational control basis. We have retired our previous GHG KPI, which was on an equity share basis, as this is not aligned with our aim 1. We still track and report this data, see page 51.

➔ For more on our aims see page [51](#)

Remuneration

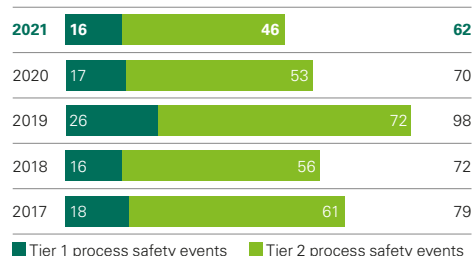
To help align the focus of our board and executive management with the interests of our shareholders, certain measures are used for executive remuneration. ●

➔ Directors' remuneration report see page [116](#)

Safety

Tier 1 and 2 process safety events^a ●

We track tier 1 and tier 2 events and report the aggregated outcome. Tier 1 events are losses of primary containment from a process of greatest consequence, or causing harm to a member of the workforce, damage to equipment from a fire or explosion, a community impact or exceeding defined quantities. Tier 2 events are those of lesser consequence.

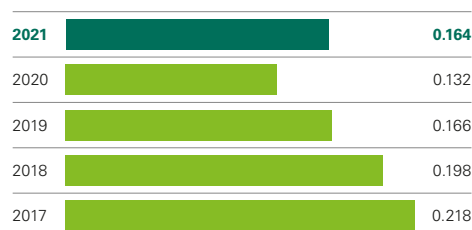


2021 performance

The generally reducing trend in tier 1 and 2 process safety events continued into 2021. We had fewer tier 1 and tier 2 process safety events (PSEs) in 2021 compared with 2020. Our combined tier 1 and 2 PSEs have reduced year on year for 10 years, excluding 2019.

Reported recordable injury frequency^a

Reported recordable injury frequency (RIF) measures the number of reported work-related employee and contractor incidents that result in a fatality or injury per 200,000 hours worked.



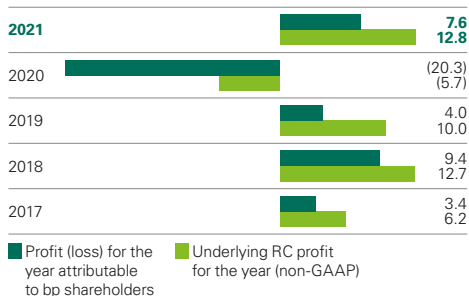
2021 performance

Our RIF increased by over 20% compared with 2020, where the unique impact that the COVID-19 pandemic had on personal safety in 2020 was reflected in a lower RIF for that year. RIF has slightly improved compared to 2019 and we have seen a decrease in RIF of 25% over the past five years.

Financial

Underlying replacement cost (RC) profit (\$ billion)

Underlying RC profit[★] (non-GAAP) is a useful measure for investors because it is one of the profitability measures bp management uses to assess performance. It assists management in understanding the underlying trends in operational performance on a comparable year-on-year basis. It reflects the replacement cost of inventories sold in the period and is arrived at by excluding inventory holding gains and losses, [★] net impact of adjusting items^b and related taxation from profit or loss attributable to bp shareholders.

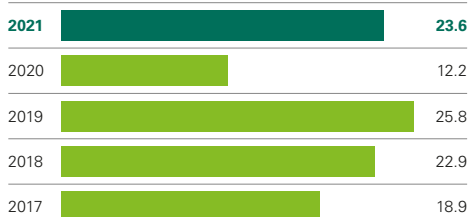


2021 performance

Underlying RC profit improved as a result of higher oil and gas prices, refining margins and stronger trading results. Profit for the year attributable to bp shareholders included net adverse impact of adjusting items primarily relating to adverse fair value accounting effect[★]. See Group performance on page 37 and Adjusting items on page 339 for more information.

Operating cash flow (\$ billion)

Operating cash flow is net cash flow provided by operating activities, as reported in the group cash flow statement. Operating activities are the principal revenue-generating activities of the group and other activities that are not investing or financing activities.

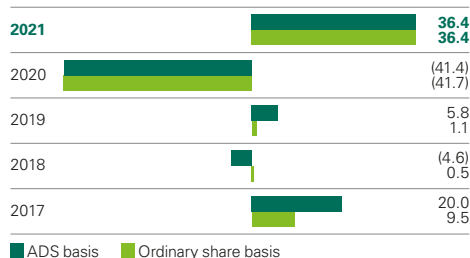


2021 performance

Operating cash flow was higher than in 2020, reflecting higher oil and gas realizations and higher refining margins partly offset by higher tax payments.

Total shareholder return (%)

Total shareholder return (TSR) represents the change in value of a bp shareholding over a calendar year. It assumes that dividends are reinvested to purchase additional shares at the closing price on the ex-dividend date.

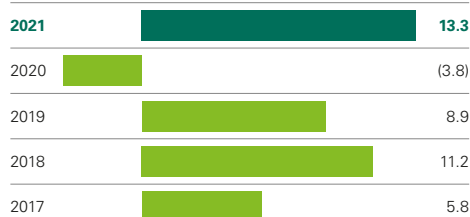


2021 performance

Improvement in TSR reflects an increase in the share price in 2021.

Return on average capital employed (%)

Return on average capital employed[★] (non-GAAP) gives an indication of a company's capital efficiency, dividing the underlying RC profit after adding back non-controlling interest and interest expense net of tax by the average of the beginning and ending balances of total equity plus finance debt, excluding cash and cash equivalents and goodwill as presented on the group balance sheet over the periods presented (see page 387).



2021 performance

The increase reflects improved profit due to higher oil and gas prices, refining margins and stronger trading results.

Key

● Used for the 2020 remuneration policy

● Strategy metrics

① TCFD Recommendations and Recommended Disclosure

a This represents reported incidents occurring within bp's operational HSSE reporting boundary. That boundary includes bp's own operated facilities and certain other locations or situations.

b Prior to 2021 adjusting items were reported under two different headings – non-operating items and fair value accounting effects.

Key performance indicators continued

Sustainable operations

Refining availability (%) ●

bp-operated refining availability represents Solomon Associates' operational availability for bp-operated refineries. The measure shows the percentage of the year that a unit is available for processing after subtracting the annualized time lost due to turnaround activity and all planned mechanical, process and regulatory downtime.

Refining availability is an important indicator of the operational performance of our downstream businesses.

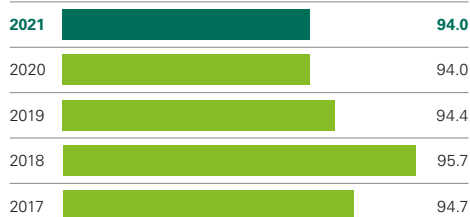


2021 performance

Refining availability reduced slightly in 2021, due to a higher level of maintenance activity.

Hydrocarbon plant reliability (%) ●

bp-operated hydrocarbon plant reliability is calculated taking 100% less the ratio of total unplanned plant deferrals divided by installed production capacity, excluding non-operated assets and bpx energy. Unplanned plant deferrals are associated with the topside plant and, where applicable, the subsea equipment (excluding wells and reservoir). Unplanned plant deferrals include breakdowns, which does not include Gulf of Mexico weather-related downtime.



2021 performance

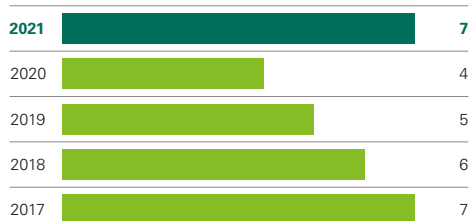
Operations were robust in 2021 with plant reliability remaining at 94%.

Major project delivery

We monitor the progress of our major projects to gauge whether we are delivering our core pipeline of projects under construction on time.

Projects take many years to complete, requiring differing amounts of resource, so a smooth or increasing trend should not be anticipated.

Major projects are defined as those with a bp net investment of at least \$250 million, or considered to be of strategic importance to bp, or of a high degree of complexity.



2021 performance

Started up seven major projects, achieving our 2016 target to achieve 900mboe/d of new major project production by 2021, and around 15% under budget.

Upstream★ unit production costs (\$/boe) ●

The upstream unit production cost is calculated as production cost divided by units of production. Production cost does not include ad valorem and severance taxes. Units of production are barrels for liquids and thousands of cubic feet for gas. Amounts disclosed are for bp subsidiaries only and do not include bp's share of equity-accounted entities.



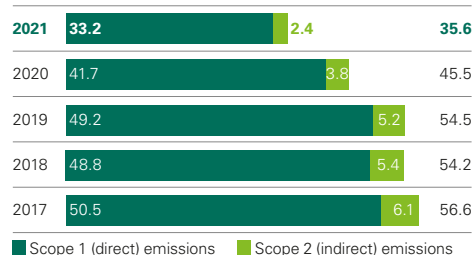
2021 performance

Unit production costs increased slightly in 2021, but remained below their five-year average.

Non-financial

Greenhouse gas emissions^c – operational control (MtCO₂e) T

We report Scope 1 and Scope 2 greenhouse gas (GHG) emissions material to our business on a carbon dioxide-equivalent basis. This KPI comprises Scope 1 (from running the assets within our operational control boundary) and Scope 2 (associated with producing the electricity, heating and cooling that is bought in to run those operations) data covered by aim 1 (to be net zero across our operations by 2050 or sooner). It comprises 100% of Scope 1 and 2 emissions for activities within bp's operational control boundary.



2021 performance

Scope 1 (direct) emissions, covered by aim 1, were 33.2MtCO₂e in 2021, a decrease of 20% from 41.7MtCO₂e in 2020. This decrease is due to divestments, delivery of sustainable emissions reductions (SERs) and other permanent operational changes. Scope 2 (indirect) emissions were 2.4MtCO₂e in 2021, a decrease of 37% from 3.8MtCO₂e in 2020. This decrease resulted from lower carbon power agreements, including at our Gelsenkirchen refinery and chemical facility, and the divestment of the petrochemicals business at the end of 2020.

Methane intensity (%) T

We define methane intensity as the amount of methane emissions from our upstream oil and gas operations as a percentage of the gas that goes to market from those operations. This applies to methane emissions within our operational control boundary, where we have the highest degree of control. Methane emissions from non-producing activities, such as exploration drilling, are excluded. The 2021 methane intensity is calculated using existing methodology and, while it reflects progress in reducing methane emissions, it will not directly correlate with progress towards delivering the 2025 target under aim 4.

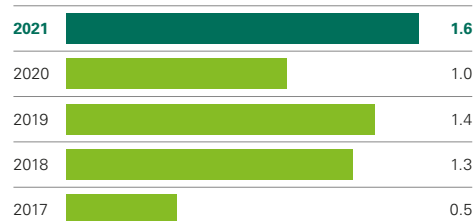


2021 performance

Our methane intensity in 2021^d was 0.07%, an improvement from 0.12% in 2020. Methane emissions from upstream operations, used to calculate our intensity, decreased to around 43.0kt, from 71.6kt in 2020. This continues a declining trend in absolute upstream methane emissions since 2016.

Sustainable GHG emissions reductions (MtCO₂e) ● T

This measure includes actions taken by our businesses to improve energy efficiency and reduce methane emissions and flaring – all leading to ongoing, quantifiable GHG reductions. These refer to the GHG emissions on an operational control basis, which comprise 100% of emissions from activities that are operated by bp and would have occurred had we not made the change - i.e. they could be absolute in nature or underlying. Since 2019, progress against this target is used as a factor in determining bonuses for approximately 22,000 eligible employees*, including executives.



2021 performance

We delivered 1.6Mte of SERs from reduction projects including reductions in Scope 2 emissions through new lower carbon power agreements at Gelsenkirchen refinery, waste heat recovery modifications in our Azerbaijan, Georgia, Turkey (AGT) region and reductions through green completions and well-testing without flaring in Oman.

Employee engagement

We conduct an annual employee survey to understand and monitor levels of employee engagement and identify areas for improvement.

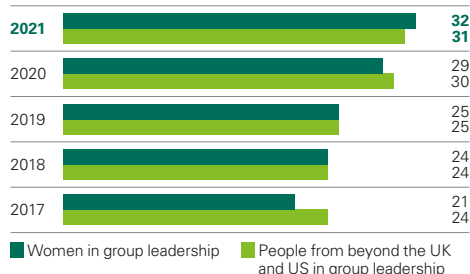


2021 performance

We introduced a new overall engagement metric in 2021, which scored 64%. Scores prior to 2021 are not directly comparable. Building on what we have heard, we are now focusing action planning on four key areas to strengthen engagement: connecting with purpose and strategy, employees' future excitement at work, career development, and inclusion.

Diversity and inclusion^f

Each year we report the percentage of women and individuals from countries other than the UK and the US among bp's group leaders.



2021 performance

The percentage of women in group leadership and the percentage of people from beyond the UK and US in group leadership increased. As a global business we are committed to increasing the diversity of our workforce and leadership.

Key

● Used for the 2020 remuneration policy

● Strategy metrics

T TCFD Recommendations and Recommended Disclosure

- c Total (100%) Scope 1 (direct) GHG emissions from source activities operated by bp or otherwise within bp's operational control boundary. bp's reported GHG emissions include CH₄ and CO₂. Other GHGs are not included as they are not material to our operations.
- d The 2021 methane intensity is calculated using existing methodology and, while it reflects progress in reducing methane emissions, it will not directly correlate with progress towards delivering the 2025 target under aim 4.
- e This figure was approximately 37,000 in February 2020. It has been updated to reflect the number of employees eligible for a cash bonus in 2021.
- f Relates to bp employees.

Our strategy in action

Developing our presence in Asia-Pacific





1

Creating an integrated gas value chain in China

In 2021 we started directly supplying customers in China with gas from liquefied natural gas (LNG) imported by bp, completing our first fully integrated gas value chain into the country.

The chain directly connects upstream resources, transportation and trading with downstream gas customers.

The first cargo of gas was delivered under bp's new terminal usage agreement at the Guangdong Dapeng LNG Company Limited (GDLNG) import terminal in Guangdong Province.

This milestone builds on gas supply agreements we signed with ENN Group and Foran Energy in 2020. For each, we have agreed to supply 300,000 tonnes per year of pipeline gas, re-gasified from LNG, for two years from 2021.

Increasing the availability of natural gas to customers across China supports the country's aim to transition from coal to gas as well as our own aim to grow our integrated gas portfolio, including equity, LNG and merchant gas.



With our world-class technologies, marketing and trading capabilities, we have developed an innovative, diversified and flexible integrated business model enabling us to both provide more LNG to the region and increase our access to downstream gas markets. //

Federica Berra
SVP, integrated gas and power

30%

bp's interest in GDLNG

~22%

of China's total LNG imports
accounted for by GDLNG

Key

- Resilient hydrocarbons
- Convenience and mobility
- Low carbon energy



For more on our strategic focus areas, see page [16](#)



2

Reimagining convenience and mobility in India

Jio-bp, our fuels and mobility joint venture with Reliance Industries Limited (RIL), has opened its first 'mobility station', providing a fully integrated customer offer. This includes: high-quality fuels, EV charge points, tailored convenience offers – including our *Wild Bean Cafe*, and *Castrol* products and services. We expect the existing network of 1,400 Reliance fuel stations to be rebranded to Jio-bp over the coming months.



3

Starting up a new deepwater gas field in India

bp and RIL started production from the Satellite Cluster gas field in block KG D6 (operated by RIL) off the east coast of India in 2021. The Satellite Cluster is the second of three deepwater gas developments in the block to come onstream, which together are expected to produce around 1 billion cubic feet a day of natural gas by 2023, meeting up to 15% of India's gas demand.



4

EV charging goes carbon neutral in China

bp-xiaoju – an EV charging joint venture between bp and DiDi – now provides all customers using its network of charging sites across China with carbon neutral charging. The offer was built around China's new national standard for carbon neutrality, and offsets the lifecycle carbon emissions from the power purchased by customers.



5

Powering bp service stations with 100% renewable energy

Lightsource bp's West Wyalong solar farm is set to supply renewable energy to 88 bp retail sites★ across New South Wales, Australia through a power purchase agreement with Snowy Hydro. The sites are expected to be powered by 100% renewables from January 2023, marking another step towards our net zero ambition.

Pursuing a *strategy* that is consistent with the Paris goals

What we mean by Paris-consistent

As a reminder, the CA100+ 2019 resolution★ requires us to disclose the strategy that the board considers in good faith to be consistent with the Paris goals.

When we refer to ‘consistency with Paris’ we consider this to mean consistency with the world meeting the goals set out in Articles 2.1(a) and 4.1 of the Paris Agreement on Climate Change★. The Glasgow Climate Pact agreed by the Parties at COP26 in November 2021 reaffirmed the temperature goal set out in Article 2 of the Paris Agreement.

We believe the world is on an unsustainable path – the carbon budget is running out – and needs to reach net zero greenhouse gas emissions.

We believe there are a range of global pathways to achieve the Paris goals, with differing implications for regions, industries and sectors, so business strategies need to be flexible and resilient to this uncertainty.

bp’s strategy is informed by all these considerations. It is designed to create long-term value for shareholders, while enabling delivery of our net zero ambition – to become a net zero company by 2050 or sooner, and to help the world get to net zero. It is designed to be resilient to the uncertainty of the energy transition across many different potential pathways, including various Paris-consistent pathways.

In the 2020 *bp Annual Report and Form 20-F* we set out, based on three key principles, why the board considers our strategy to be consistent with the Paris goals.

Here we set out, on the same three grounds, why the board continues to consider this to be the case, and why our progress over the last year has reinforced our confidence in this belief.

1. Informed by Paris-consistent energy transition scenarios

We use scenarios described in the *bp Energy Outlook* and from other organizations to inform our core beliefs about the energy transition.

We believe that it is neither useful nor sensible to try to identify one scenario as being more or less likely than another, and therefore considering a broad range of scenarios from multiple sources to develop and test our strategic thinking helps to increase our confidence in the robustness and resilience of our strategy to the range of uncertainty we face.

We are confident that our approach is science-based. We see the Intergovernmental Panel on Climate Change (IPCC) as the most authoritative source of information on the evolving science of climate change and we use it and other sources to inform our strategy. The IPCC highlights that there are a range of global pathways by which the world can meet the Paris goals, with differing implications for regions, industry sectors and sources of energy.

In the last year...

The *bp Energy Outlook 2022* has been updated to reflect the significant developments in the pace and nature of the energy transition. It includes two Paris-consistent scenarios that we use to inform the company’s strategy, specifically the Accelerated and Net Zero scenarios.

➡ See *Energy Outlook*, page 10 and [bp.com/energyoutlook](https://www.bp.com/energyoutlook)

2. Strategic resilience

We believe our strategy positions bp for success and resilience in a Paris-consistent world – a world that is progressing on one of the many global trajectories considered to be Paris consistent, and ultimately meets the Paris goals.

In setting the strategy, the board and management referred to a range of scenarios including those set out in the *bp Energy Outlook 2022*.

The strategy diversifies bp’s portfolio and business interests, reducing the risk that challenges facing a single business area might adversely affect bp’s strategic resilience. In addition, within the inevitable constraints associated with factors such as long-term capital investments, contractual commitments and organizational capabilities at any given time, part of the company’s ability to maintain its strategic resilience rests on the governance by which the strategy can be kept under review as necessary in light of new information and changes in circumstances.

In our climate-related financial disclosures on page 55 we describe how we have conducted a scenario analysis to test our view of the resilience of our strategy to different climate-related scenarios, including those that are classified by the World Business Council for Sustainable Development (WBCSD) to be consistent with well below 2°C and 1.5°C outcomes.

As we explain on page 61, for the purposes of the scenario analysis, the resilience of our strategy to climate-related transition risks and opportunities was considered through three lenses – our ability to continue to (i) deliver shareholder value, (ii) maintain a strong balance sheet and (iii) invest in the energy transition under a range of possible transition pathways, including those that are Paris-consistent. The scenario analysis and resilience test were designed to identify the most relevant transition risk variables for each in-scope business area, and the most extreme range in 2030 for each of those variables across all of the scenarios included in the WBCSD Catalogue as of January 2022.

Oil price was the only such variable we considered to have the potential to adversely affect the resilience of our strategy in the timeframe of the analysis. We therefore conducted a quantified test of the resilience of our strategy against the most extreme downside of that range for the oil price from 2023-2030.

While the results of any such analysis must be treated with caution – because each is necessarily dependent on many assumptions and methodological choices, and each has its own limitations – overall, this resilience test reinforced our confidence in the resilience of our strategy to a wide range of ways in which the energy system could evolve throughout this decade, including in scenarios consistent with limiting temperature rise to 1.5°C.

The analysis also reinforced our recognition that in a sustained very low oil price environment mitigating actions may be necessary, while highlighting that there is no clear-cut correspondence between oil price and the temperature goal with which a scenario is associated. Notably, while the lowest oil price was associated with a 1.5°C scenario, in four of the six 1.5°C scenarios we used – and in four of the six 2°C scenarios used – the oil price in 2030 was found to be higher than bp’s own oil price planning assumption for 2030.

In the last year...

For the purposes of the scenario analysis exercise referred to above, we used scenarios from the soon-to-be published WBCSD ‘Climate Scenario Analysis Reference Approach for Companies in the Energy System’, developed at the request of, and with support from, the Task Force on Climate-related Financial Disclosures (TCFD). Our chief economist participated in this work.

The WBCSD Scenario Catalogue comprises three 'Climate Scenario Reference Families': 'Paris Ambitious 1.5°C', 'Paris-Aligned Well-Below 2°C' and 'Current Policies/BAU'.

We have drawn on the Scenario Catalogue to test the resilience of our strategy and understand the potential implications of a range of possible energy transition scenarios for a potential future bp portfolio mix. Our approach to this scenario analysis, and the outputs from it, are discussed in detail in our TCFD Strategy disclosures.

 See Climate-related financial disclosures, page 55

3. Contributes to net zero

We believe that our strategy enables bp to make a positive contribution to the world achieving net zero GHG emissions and meeting the Paris temperature goals – outcomes which we believe to be in the best interests of bp as well as beneficial to society generally. We see huge opportunity in the energy transition – the transformation of the energy system that we believe to be a necessary feature of the world's efforts to meet the Paris goals.

There are many different ways in which a company at the heart of the energy sector can make a meaningful contribution to the world getting to net zero. These include: policy advocacy and seeking to use the company's influence with trade associations who also conduct climate-related policy advocacy, low carbon collaboration and support for others, such as cities and companies, in their own

decarbonization efforts, and investments in low carbon and technology development. bp seeks to advance these areas through our aims in support of our net zero ambition, including aims 6-10 which are focused on activities which can help the world get to net zero, see page 51.

And as we pursue our strategy, our diversification and the growth of our low carbon businesses may also contribute to helping the world get to net zero. For example, in markets where we plan to scale our electric vehicle (EV) charging networks, this may contribute to reducing the 'range anxiety' which is one factor holding people back from purchasing electric vehicles.

Some ways of contributing are more readily measured by quantitative metrics than others – but all can be important, whether or not they translate into GHG reductions for the company.

To illustrate this, in terms of low carbon investment, by 2030 we aim to increase our amount of developed renewables to final investment decision to 50GW, as part of our increased capital expenditure on low carbon businesses.

This aim supports the Paris goals by increasing the low carbon options available to energy consumers. However, it does not reduce our Scope 1, 2 or 3 emissions. And it may not result in a decrease in the overall intensity of bp's marketed products, because that is dependent on the extent to which we – rather than another party such as a buyer of the developed project – market the resulting renewable power, which

is a commercial consideration. Where we do not sell that power, our development of the renewables is effectively 'invisible' in terms of our GHG metrics.

Under aim 6 we aim to more actively advocate for policies that support net zero, including carbon pricing. Helping policymakers to design and put in place low carbon policies can help deliver our strategy and capitalize on the huge opportunities associated with achieving the Paris goals.

Well-designed low carbon policies can advance the decarbonization of a whole economy – something potentially of far greater impact than anything a single company can achieve through its own portfolio.

In the last year...

Our progress against our strategy and growing confidence in business opportunities associated with net zero value chains meant that in February 2022 we were able to announce some changes to our net zero aims 1 and 3 as part of an update on our strategic progress. For more information see page 51. This creates a package of net zero carbon aims across our operations, production and sales. These announcements also reinforce our belief that our strategy enables us to make a positive contribution to meeting the Paris goals.

We have also actively advocated for policy to support net zero, for some examples of this work, see page 52.

Responding to increased shareholder interest on Paris consistency

In 2019 the board recommended that shareholders support a special resolution requisitioned by Climate Action 100+ (CA100+) on climate change disclosures. The CA100+ resolution passed with more than 99% of the vote. This is the third year we have included responses throughout the annual report. We have adopted a similar approach to that taken in the *bp Annual Report and Form 20-F 2020*.

The CA100+ resolution, which includes safeguards such as protections for commercially confidential and competitively sensitive information, is on page 377. Key terms related to this resolution response are indicated with ★ and defined in the glossary on page 377. These should be reviewed with the following information.

Element of the CA100+ resolution	Related content	Where
Strategy that the board considers in good faith to be consistent with the Paris goals.	Our strategy and business model Pursuing a strategy that is consistent with the Paris goals	12 30
How bp evaluates each new material capex investment★ for consistency with the Paris goals and other outcomes relevant to bp strategy.	Our investment process	32
Disclosure of bp's principal metrics and relevant targets or goals over the short, medium and long term, consistent with the Paris goals.	Key performance indicators Sustainability: net zero targets and aims See 'TCFD metrics and targets' for an overview	24 51 66
Anticipated levels of investment in: (i) Oil and gas resources and reserves. (ii) Other energy sources and technologies.	Financial frame: disciplined investment allocation Investment in non-oil and gas	20 33
bp's targets to promote operational GHG reductions.	Sustainability: net zero targets and aims (in table)	51
Estimated carbon intensity of bp's energy products and progress over time.	Sustainability: aim 3	52
Any linkage between above targets and executive pay remuneration.	Directors' remuneration report 2021 annual bonus outcome 2020 remuneration policy on page	116 122 137

Our investment process

Our investment process

How we use price assumptions

Our price assumptions are determined for use in our investment appraisal processes. They are also used to inform decisions about internal planning and the value-in-use impairment testing of assets for financial reporting.

The role of price assumptions

As part of our strategy development, we review our portfolio and capital development plans. This work informs our view of the price environment and its balanced investment criteria. Together these create a framework that seeks to ensure investments align with our strategy and add shareholder value.

We attach increasing weight to the possibility that the pace of transition to a lower carbon economy and energy system could accelerate. While we increased our price assumption for Brent oil out to 2030 in the second quarter of 2021 to reflect near-term supply constraints, we also revised down our long-term Brent oil price assumptions to 2050.

Over the next few years we expect to see continued periods of market volatility as demand recovers against a backdrop of reduced levels of investment. However the role of long-term price assumptions is to look through this near-term volatility and help us to confirm the resilience we expect of our future projects to the longer-term trends affecting our industry.

In the second quarter of 2021 our investment appraisal long-term price assumptions were reviewed. For Brent oil and Henry Hub gas, they average around \$56/bbl and \$2.9/mmBtu (2020 \$ real) respectively, from 2022 to 2050, and we consider these long-term price assumptions to be in line with a range of transition paths consistent with the Paris goals. However, they do not correspond to any specific Paris-consistent scenario.

Where applicable, we also continue to use carbon prices rising to \$100/tCO₂e in 2030 and \$250/tCO₂e by 2050 (2020 \$ real) for operational greenhouse gas (GHG) emissions in certain investment cases, as explained on page 34.

Key investment appraisal assumptions ¹

2020 \$ real

	2022	2025	2030	2040	2050
Brent oil (\$/bbl)	60	60	60	55	45
Henry Hub gas (\$/mmBtu)	3.00	3.00	3.00	3.00	2.75
Refining marker margin ^a ★	11	12	12	10	10

Carbon price (US\$/tCO₂e) ¹

2020 \$ real

	2022	2025	2030	2040	2050
	50	50	100	200	250

Impairment testing

Our best estimate of future prices for use in value-in-use impairment testing continues to be based on the annual review of investment appraisal price assumptions, with quarterly review of near-term prices to confirm that the assumptions appropriately reflect any changes to expectations due to short-term market trends.

As a result of the revision made in the second quarter of 2021 to oil and gas price assumptions used for investment appraisal, we also revised the price assumptions we use in value-in-use impairment testing. Other than the 2022

Brent and Henry Hub price assumptions, which are \$70/bbl and \$4.00/mmBtu (both 2020 \$ real) respectively, for value-in-use impairment testing, these two price sets remain aligned, except that potential future emissions costs that could be borne by bp are included in investment appraisals as bp costs, generally without assuming incremental revenue, in order to incentivize engineering solutions to mitigate carbon emissions on projects.

➡ For the treatment of emission cost assumptions in value-in-use impairment testing, see Financial statements – [Note 1](#)

Investment process price assumptions

All investments are evaluated against our long-term price assumptions across a range of alternative prices (central, upper and lower) for oil, natural gas and refining margins. In addition, all investment cases with anticipated annual GHG emissions (bp net basis) from operations above 20,000 tonnes of CO₂ equivalent must estimate those anticipated GHG emissions and include an associated carbon price in the investment economics.

All price assumptions place some weight on scenarios in which the transition to a low carbon energy system is sufficiently rapid to meet the goals of the Paris Agreement, as well as scenarios in which the transition is not, or may not be, sufficiently rapid. They also place some weight on a range of other factors, which can drive prices, and which are not related to the Paris goals.

These price ranges do not link to specific scenarios or outcomes, but instead try to capture the range of different possibilities surrounding the future path of the global energy system. The nature of the uncertainty means that these price ranges inevitably reflect considerable judgement. The ranges are reviewed and updated on an annual basis as our understanding and judgement about the energy transition evolves.

In addition to consideration of a range of price assumptions, investment cases are asked to assess the impact of alternative assumptions covering a range of other variables related to the economics of the investment, such as cost, resource, policy changes and schedule, to highlight the robustness of investment cases to a range of other factors.

^a The disclosed RMM assumption in this table excludes carbon pricing impacts and assumes a normalized cost of renewable identification numbers (RINs).

Investment in non-oil and gas

Our aim 5 is to increase the proportion of investment we make into our non-oil and gas activities. Over time, as investment goes up in low and no carbon, we see it going down in oil and gas.

As we continue towards our net zero ambition, we target increasing our low carbon investment★ to \$3-4 billion per year in 2025, and aim to increase it to at least \$5 billion per year in 2030.

In 2021, our investment in low carbon★ increased from around \$750 million in 2020 to nearly \$2.2 billion, the majority of which is related to investments in offshore wind, electric vehicle charging and solar.

Offshore wind: we completed the formation of a 50:50 strategic US offshore wind partnership with Equinor to jointly develop up to 4.4GW of capacity in two major lease areas off the US east coast through projects Empire Wind and Beacon. In the UK, bp and 50:50 partner EnBW were jointly selected as the preferred bidder for two 60-year leases in the UK's first offshore wind leasing round in a decade, see page 23.

Solar: Lightsource bp is further accelerating growth, now targeting up to 25GW of capacity by 2025 and has agreed to exclusively develop a 9GW solar pipeline for bp, following our 2021 acquisition of 7X Energy, see page 19.

Convenience & mobility: we have increased investment in our EV charging business compared to 2020. This aligns with our aim to accelerate our EV charging ambition across key growth markets and to grow our network of around 13,100 charge points today, to more than 100,000 by 2030. In 2021, we acquired AMPLY Power, an EV charging and energy management provider for fleets in the US, accelerating our entry into one of the fastest growing fleet charging markets in the world. In Europe, we entered a strategic partnership with Mercedes-Benz and BMW with an investment in Digital Charging Solutions, a leading developer of digital charging software for automotive manufacturers and fleet operators, connecting EV drivers across Europe to our network of charge points.

Hydrogen is another key area where we expect significant future scale-up through our announced H2 Teesside (see page 14), Lingen and Oman projects, which are part of our high-graded hopper.

As announced in February 2022, going forward we expect to increase the proportion of capital expenditure invested in transition growth businesses to more than 40% of total spend by 2025 rising to around 50% by 2030.

This is underpinned by five transition growth engines: bioenergy, convenience, EV charging, renewables and hydrogen see page 16.

★ See glossary on page 377

Investment governance and evaluating consistency with the Paris goals

Governance framework

bp's investments fall within a governance framework. This seeks to ensure investments align with our strategy, fall within our prevailing financial frame, and add shareholder value. It also means that investments can be assessed consistently and against a range of outcomes relevant to our strategy, including a range of environmental and sustainability criteria.

Investments follow an integrated stage-gate process designed to enable our businesses to choose and develop the most attractive investment cases. A balanced set of investment criteria is used, see page 34. This allows for the comparison and prioritization of investments across an increasingly diverse range of business models.

The governance framework also specifies that proposed investments are tested against the relevant assumptions, including carbon prices for projected operational emissions where applicable, and are subject to assurance by functions independent of the business before a final investment decision (FID) is taken.

The role of the board

The board assesses capital allocation across the bp portfolio, including the level and mix of capital expenditures and divestments, strategic acquisitions, distribution choices and deleverage.

The board reviews and approves capital investments that are more than \$3 billion for investments in resilient hydrocarbons projects, more than \$1 billion for investments in all non-oil and gas investments and, in addition, any significant inorganic acquisition that is exceptional or unique in nature.

Resource commitment meeting

For capital investments above defined financial thresholds for organic or inorganic spend, investment approval is conducted through the executive-level resource commitment meeting (RCM), which is chaired by the chief executive officer.

The RCM reviews the merits of each investment case against a balanced set of criteria and considers any key issues raised in the assurance process.

The CA100+ resolution★ requires bp to disclose how we evaluate the consistency of new material capex investments★ with (i) the Paris goals and (ii) a range of other outcomes relevant to bp's strategy.

bp's evaluation of consistency of such investments with the Paris goals was undertaken by the RCM for new material capex investments sanctioned in 2021, see page 36.

bp's evaluation of an investment's consistency with 'a range of other relevant outcomes' is achieved by considering its merits against bp's balanced investment criteria, described on page 34.

bp board

Reviews and approves investment cases more than \$3 billion for resilient hydrocarbons, more than \$1 billion for all transition or low carbon investments★ and any significant inorganic acquisition that is exceptional or unique in nature.

Resource commitment meeting

Forum for approval of investments related to existing and new lines of business above \$250 million organic and \$25 million inorganic, or which exceed the relevant EVP financial authority, and any project considered strategically important such as a new market entry.

Investment allocation committees

EVP-level forums to review investment cases within a business group as per individual EVP financial authority (up to \$250 million organic, \$25 million inorganic capital investment).

Business unit investment governance meetings

SVP-level forums which review investment cases within a business group, enabler or integrator up to the individual SVP financial authority.

Cross-group meetings and forums

Meetings and forums to allow cross-group discussions and integration. Includes country forums, regional energy plan forum, the production & operations carbon table and digital forum. The forums do not hold decision rights, but inform and underpin the decision-making process delivering integration opportunities across bp.

Our investment process continued

Balanced investment criteria

All group-wide investment cases must set out their investment merits and are considered against a set of balanced investment criteria.

This standardized approach is intended to create a level playing field for decision-making and allows portfolio-wide comparisons of investment cases. Further, the decision to endorse an investment based on the information provided represents bp's evaluation that the investment is consistent with what the 2019 CA100+ resolution★ refers to as "a range of other outcomes relevant to bp's strategy".

In 2021 the standardized approach for investment cases was reviewed to place more prominence on how the investment cases fit with our sustainability aims.

The intent is to facilitate the discussion of an investment case's consistency with the Paris goals, any significant sustainability issues that have been identified, and any impact on or contribution to our aims 1 to 3, in the context of the strategic rationale for the investment case. This helps to maintain the consistency of our investment framework with our strategy.

When taking investment decisions, decision makers in bp are expected to consider the six investment criteria outlined below, although their decisions may also take other factors into account as appropriate.

➔ **Strategy and business model,**
see page [12](#)

Our net zero aims, see page [51](#)

Six investment criteria ⓘ



Strategic alignment

For all investment cases, we consider whether the investment supports delivery of our strategy to become an integrated energy company and our net zero aims. We also assess if the investment case involves distinctive capability that bp has, or intends to develop, and whether it adds to an existing 'scale' business within the portfolio or could help us create one.

Safety and risks

For all investment cases, we provide an assessment of the key risks unique to the investment which have a significantly higher probability than usual or have a significantly greater impact (relative to the size of the project) were they to occur. Safety risk management at bp is underpinned by our operating management system★, which is designed to sustainably deliver safe, reliable and compliant bp operations.

Sustainability

For all investment cases, we consider how any proposed business opportunity is connected to the energy transition and societal needs and the environment. This approach is underpinned by our sustainability frame and purpose. Investment cases above defined thresholds for anticipated annual GHG emissions from operations must estimate those anticipated emissions and factor carbon pricing for those emissions into the investment economics.

Investment economics

For all investment cases, we consider investment economics against a range of relevant measures, including internal rate of return, net present value, discounted payback, and profitability index, using relevant commodity prices, margins and carbon prices, see page 32.

Investments are considered against differentiated hurdle rates at different price assumptions.

1. For our resilient hydrocarbons portfolio, a payback of less than 10 years for upstream oil and refining and 15 years for upstream gas; together with an internal rate of return hurdle of 15-20%.
2. For our convenience and mobility business, we seek a portfolio-level return in excess of 15%.
3. For renewables, which typically receive debt financing, we seek levered internal rates of return of 8-10%.

Each investment's expected internal rate of return in our lower-price case is also considered against a cost of capital hurdle rate.

Volatility and rateability

Our investment economics metrics also consider the degree of uncertainty of the cash flows when considering investment cases. For example, some cases have more certainty of future costs and revenue projections. Variations in net present values for the key variables in an investment case are quantified by sensitivity analysis to give a range of potential outcomes against our key investment hurdles.

Optionality and integration

Our assessments seek out integration along value chains. For example, we can integrate our US crude production with demand for refined products in Australia, Europe or China. We also look for integration across multiple products and services and multiple geographies and customers. For example, we explore ways to couple renewable power supply from wind and solar with gas-fired generation and investments in green hydrogen★ to address intermittency, which can offer customers more reliable electricity.

We are also investing in technology companies with offerings designed to optimize energy use – these have the potential to leverage our trading activity and complement our own customer offers. Our investments from our natural climate solutions portfolio can offer credits to help offset carbon emissions associated with products offered to some of our customers.

Paris consistency evaluation process

Our new material capex investments★ are intended to support the delivery of bp's strategy.

Investments in scope for evaluation are defined as:

New: investment in a new project or extension of an existing project/asset or share of an entity that is new to bp or a substantial increase in bp's share.

Material: more than \$250 million capex investment.

When evaluating the consistency of our 2021 new material capex investments with the

Paris goals, a focus of the evaluation was on their competitiveness and financial robustness as the prices of different forms of energy and products adjust in response to the changing market environment.

For new material capex investment decisions, the evaluation used our central price assumptions, key elements of which are set out on page 32. Starting in the third quarter we also evaluated investments using our lower-price case.

The evaluation also used our carbon price assumptions when relevant, applied to the anticipated operational greenhouse gas emissions

associated with the investment, for the period to 2050. These include a price of \$100/tCO₂ in 2030 which rises to \$250/tCO₂ in 2050 (2020 \$ real).

In addition to the quantitative evaluations described below, the RCM may also evaluate new material capex investments against the six balanced investment criteria (see page 34) using qualitative assessments.

Quantitative evaluations ⓘ

We considered quantitative guide levels to inform the evaluation of each investment's consistency with the goals of the Paris Agreement.

As we stated in the *bp Annual Report and Form 20-F 2020*, we continue to develop our approach. As a result, in the third quarter of 2021, we added a guide level for investment economics related to our lower-price case – that an investment's expected internal rate of return (IRR) exceeds the expected cost of capital even under our lower-price case. We have also lowered our operational carbon intensity guide in line with our decreasing portfolio average.

As our approach matures with experience, we may continue to adjust or supplement our methodology. There may be instances when new material capex investments are evaluated as consistent with the Paris goals despite either or both of these guide levels not being met.

Investment economics

We calculate economic indicators using our central and lower-price cases, and applying our carbon price assumptions to relevant operational GHG emissions. See page 32 for our key oil and natural gas price assumptions, which – as noted above – are in line with a range of scenarios consistent with the Paris goals. We then compare the economic indicators to the relevant economic hurdles, see page 34. We would typically target a minimum threshold of greater than 1.0x the relevant IRR guide levels, and less than 1.0x any relevant payback guide level.

Sustainability

Where appropriate, we measure the operational carbon intensity★ of the investment relative to that of the 2021 portfolio average for the segment or the related business activity (upstream and refining). We would normally target a ratio of less than 100%, meaning that the investment is expected to reduce the average operational carbon intensity of that portfolio. The potential impact of new material capex investments on bp's net zero aims is a further consideration.

Our investment process continued

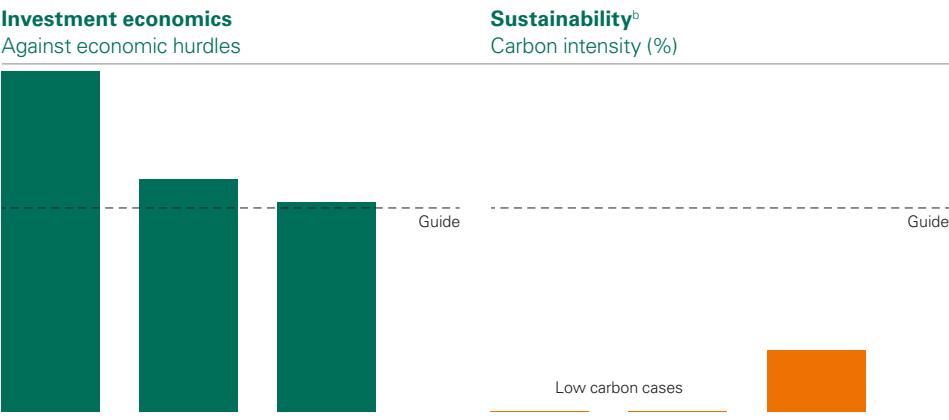
Evaluation outcome

In 2021 three new material capex investments were approved. All three of these investments were evaluated as being consistent with the Paris goals. Two out of the three new material capex investments were offshore wind projects in our low carbon portfolio.

Evaluation of investment performance against each of the quantitative guide levels^a

All three investments met the relevant ‘central-price case’ IRR hurdle guide level as shown on the chart and are either low carbon investments★ (and therefore not evaluated against operational carbon intensity) or met the carbon intensity guide level.

For this reason, the two in-scope low carbon investments are not presented in the carbon intensity evaluation.



a The 2021 investments have been compared to relevant guides (as applicable to the evaluation of each investment) and are presented here in order of the ratio to the relevant central-price case IRR guide level. As a result, the evaluations against the two types of quantitative benchmark do not necessarily follow the same order.

b For two of the investments, the carbon intensity was not calculated due to the nature of these investments. The projected carbon intensity of low carbon and electric vehicle businesses is not considered necessary to quantify for these purposes as the relevant operational emissions are not expected to be significant.

Decisions taken in 2021

In 2021 three new material capex investment★ decisions (more than \$250 million) were evaluated for Paris consistency.

ScotWind offshore wind

bp and Energie Baden-Württemberg AG (EnBW) have been awarded a lease option off the east coast of Scotland to develop a major offshore wind project called Morven. The location allows the partners to develop a fixed-bottom offshore wind project with a total generating capacity of around 2.9GW, sufficient to power more than three million homes. We also aim to accelerate Scotland’s energy transition and create a new global offshore wind operations and maintenance centre of excellence in Aberdeen. bp has a 50% interest in this investment.

Irish Sea offshore wind

bp and EnBW entered the UK’s offshore wind power sector, forming a 50:50 joint venture to jointly develop and operate two projects (Morgan and Mona) in the Irish Sea that we expect to offer a combined potential generating capacity of 3GW, sufficient to power the equivalent of approximately 3.4 million UK households with clean electricity.

Mento gas development in Trinidad & Tobago

bp and field operator EOG have approved gas development at the Mento project in Trinidad & Tobago. bp has a 50% working interest share of this investment.

Performing while transforming



// During 2021 we established a track-record of delivery against our financial frame with four quarters of strong underlying financial performance. We raised our dividend, substantially reduced debt, invested with discipline, announced \$4.15 billion of share buybacks and drove returns. Looking ahead, our priorities for capital allocation are unchanged and we remain committed to the continued execution of this plan. //

Murray Auchincloss
Chief financial officer

\$7.6bn

profit attributable to bp shareholders
(2020 loss \$(20.3)bn)

\$12.8bn

underlying replacement cost (RC) profit★
(2020 loss \$(5.7)bn)

\$23.6bn

operating cash flow★
(2020 \$12.2bn)

Financial and operating performance

	\$ million except per share		
	2021	2020	2019
Sales and other operating revenues ^a	157,739	105,944	159,307
Profit (loss) before interest and tax	18,082	(21,740)	11,706
Finance costs and net finance expense relating to pensions and other post-retirement benefits	(2,855)	(3,148)	(3,552)
Taxation	(6,740)	4,159	(3,964)
Non-controlling interest	(922)	424	(164)
Profit (loss) for the year attributable to bp shareholders	7,565	(20,305)	4,026
Inventory holding (gains) losses★, before tax	(3,655)	2,868	(667)
Taxation charge (credit) on inventory holding gains and losses	829	(667)	156
Replacement cost (RC) profit (loss)★	4,739	(18,104)	3,515
Net (favourable) adverse impact of adjusting items★ ^b , before tax	8,697	16,649	8,263
Total taxation charge (credit) on adjusting items	(621)	(4,235)	(1,788)
Underlying RC profit (loss)	12,815	(5,690)	9,990
Adjusted EBIDA★	30,783	19,244	31,606
Dividend paid per ordinary share			
– cents	21.42	31.50	41.00
– pence	15.538	24.458	31.976
Profit (loss) per ordinary share (cents)	37.57	(100.42)	19.84
Profit (loss) per ADS (dollars)	2.25	(6.03)	1.19
Underlying RC profit (loss) per ordinary share★ (cents)	63.65	(28.14)	49.24
Underlying RC profit (loss) per ADS★ (dollars)	3.82	(1.69)	2.95

a 2020 and 2019 have been restated as a result of changes to the presentation of revenues and purchases relating to physically settled derivative contracts effective 1 January 2021. For more information see Financial statements – Note 1 Basis of preparation – Voluntary change in accounting policy.

b Prior to 2021 adjusting items were reported under two different headings – non-operating items and fair value accounting effects★. See page 339 for more information.

At 31 December 2020, the group's reportable segments were Upstream, Downstream and Rosneft. From the first quarter of 2021, the group's reportable segments are gas & low carbon energy, oil production & operations, customers & products, and Rosneft. Comparative information for 2020 has been restated to reflect the changes in reportable segments. For more information see Financial statements – Note 1 Basis of preparation – Change in segmentation.

Group performance continued

Results

The profit for the year ended 31 December 2021 attributable to bp shareholders was \$7.6 billion, compared with a loss of \$20.3 billion in 2020. Adjusting for inventory holding gains, RC profit was \$4.7 billion, compared with a loss of \$18.1 billion in 2020.

After adjusting RC profit for a net adverse impact of adjusting items of \$8.1 billion (on a post-tax basis), underlying RC profit for the year ended 31 December 2021 was \$12.8 billion. The result reflected higher oil and gas prices and refining margins, and strong trading results.

For 2020, after adjusting RC loss for a net adverse impact of adjusting items of \$12.4 billion (on a post-tax basis), underlying RC loss was \$5.7 billion. The result reflected low oil and gas prices, significant exploration write-offs, low refining margins and depressed demand.

For a discussion of bp's financial and operating performance for the year ending 31 December 2019 and 31 December 2020, see bp's Annual Report and Form 20-F 2020, pages 42-47; and bp's Report on Form 6-K filed with the Securities and Exchange Commission on 31 January 2022, pages 4-8, restated to effect the change in accounting policy related to the presentation of revenues and purchases relating to physically settled derivative contracts and the change in segmentation. The consolidated financial statements contained on Form 20-F for the year ended 31 December 2020 have been superseded by the audited consolidated financial statements on Form 6-K filed on 31 January 2022.

Adjusting items

	\$ million		
	2021	2020	2019
Gains on sale of businesses and fixed assets	1,851	2,874	192
Net impairment and losses on sale of businesses and fixed assets	1,123	(14,369)	(8,074)
Environmental and other provisions	(1,536)	(212)	(341)
Restructuring, integration and rationalization costs	(249)	(1,296)	2
Fair value accounting effects	(8,075)	(212)	866
Gulf of Mexico oil spill	(70)	(255)	(319)
Other	(959)	(2,554)	(78)
Total before interest and taxation	(7,915)	(16,024)	(7,752)
Finance costs	(782)	(625)	(511)
Total before taxation	(8,697)	(16,649)	(8,263)
Total taxation	621	4,235	1,788
	(8,076)	(12,414)	(6,475)

Prior to 2021 adjusting items were reported under two different headings – non-operating items and fair value accounting effects.

In 2021 the net adverse pre-tax impact of adjusting items was \$8.7 billion, mainly relating to adverse fair value accounting effects primarily arising from the exceptional increase in forward gas prices, partially offset by net impairment reversals of \$1.3 billion and \$1.0 billion relating to a gain from

the divestment of a 20% stake in Oman Block 61. Under IFRS, reported earnings include the mark-to-market value of the hedges used to risk-manage LNG contracts, but not of the LNG contracts themselves. This mismatch at the end of 2021 is expected to unwind if prices decline and as the cargoes are delivered. See Financial statements – Note 3 for more information on impairments.

In 2020 the net adverse pre-tax impact of adjusting items was \$16.6 billion, mainly related to impairment charges, a gain on the disposal of our petrochemicals business, certain exploration write-offs (reported within the 'other' category), and restructuring costs associated with the reinvent bp programme. The impairment charges mainly related to producing assets and principally arose as a result of changes to the group's oil and gas price assumptions. Impairment charges also included amounts relating to the disposal of the group's interests in its Alaska business.

Cumulative reinvent bp restructuring costs from the third quarter of 2020 to 31 December 2021 were \$1.5 billion. The process is largely complete with the significant majority of restructuring charges booked by 30 June 2021.

See pages 339 and 340 for more information on adjusting items and fair value accounting effects.

Taxation

	%		
Effective tax rate	2021	2020	2019
Effective tax rate (ETR) on profit or loss for the year	44	17	49
Underlying ETR★	32	(14)	36

The charge for corporate income taxes was \$6,740 million in 2021 compared with a credit of \$4,159 million in 2020. The increase mainly reflects the profit for 2021 compared with a loss in 2020. The effective tax rate (ETR) on the profit for the year in 2021 was impacted by fair value accounting effects. The ETR on the loss for the year in 2020 was impacted by impairment charges and exploration write-offs. Excluding inventory holding impacts and adjusting items, the underlying ETR in 2021 was higher than in 2020 due to the absence of the exploration write-offs with a limited deferred tax benefit and the reassessment of deferred tax asset recognition. The underlying ETR for 2022 is expected to be around 40% but is sensitive to the impact that volatility in the current price environment may have on the geographical mix of the group's profits and losses. Underlying ETR is a non-GAAP measure. A reconciliation to GAAP information is provided on page 386.

Outlook for 2022

Macro outlook

- The energy markets are being impacted by the military action in Ukraine, which is adding significant upside pressure to prices. There remains, at this point in time, uncertainty, but price volatility is likely.
- On the macroeconomic side this is likely to have significant economic and financial consequences for the region with global consequences.

2022 guidance

- For full year 2022 we expect both reported and underlying upstream★ production to be broadly flat compared with 2021. Within this, we

expect production from oil production & operations to be slightly higher and production from gas & low carbon to be slightly lower. We expect the start-up of Mad Dog Phase 2 in the second half of the year and first gas from the Tangguh expansion project in 2023.

- In our customer businesses we expect product demand to remain impacted by ongoing uncertainty around COVID-19 restrictions and continued additive supply shortages in *Castrol* in the first half of 2022.
- In products we expect industry refining margins to return to pre-COVID historical levels as demand continues to rebound, further supported by elevated RIN prices. However we expect realized margins to remain impacted by high energy costs.
- The other businesses & corporate underlying annual charge is expected to be in a range of \$1.2-1.4 billion for 2022. The charge may vary from quarter to quarter.

Cash flow and debt information

	\$ million		
	2021	2020	2019
Cash flow			
Operating cash flow★	23,612	12,162	25,770
Net cash used in investing activities	(5,694)	(7,858)	(16,974)
Net cash provided by (used in) financing activities	(18,079)	3,956	(8,817)
Cash and cash equivalents at end of year	30,681	31,111	22,472
Capital expenditure★			
Organic capital expenditure★	(11,779)	(12,034)	(15,238)
Inorganic capital expenditure★	(1,069)	(2,021)	(4,183)
	(12,848)	(14,055)	(19,421)
Divestment and other proceeds			
Divestment proceeds★	6,957	5,480	2,201
Other proceeds	675	1,106	566
	7,632	6,586	2,767
Debt			
Finance debt	61,176	72,664	67,724
Net debt★	30,613	38,941	45,442
Net debt including leases★	39,411	48,196	55,006
Finance debt ratio★ (%)	40.3%	45.9%	40.2%
Gearing★ (%)	25.3%	31.3%	31.1%
Gearing including leases★ (%)	30.4%	36.0%	35.3%

Operating cash flow

Operating cash flow for the year ended 31 December 2021 was \$23.6 billion, \$11.4 billion higher than 2020. Compared with 2020, operating cash flows in 2021 reflected higher oil and gas realizations and higher refining margins partly offset by higher tax payments.

Movements in working capital★ adversely impacted cash flow in the year by \$0.6 billion, including an adverse impact on working capital from the Gulf of Mexico oil spill of \$1.4 billion. Other working capital effects were principally an increase in other current assets and inventory offset by an increase in other current liabilities. bp actively manages its working capital balances to optimize and reduce volatility in cash flow.

Operating cash flow for the year ended 31 December 2020 was \$12.2 billion, \$13.6 billion lower than 2019. Operating cash flow in 2020 reflected \$1.8 billion of pre-tax cash outflows related to the Gulf of Mexico oil spill. Compared with 2019, operating cash flows in 2020 reflected lower oil and gas realizations, lower refining margins and lower fuels volumes partly offset by lower tax payments and lower working capital build.

Movements in working capital adversely impacted cash flow in the year by \$0.1 billion, including an adverse impact on working capital from the Gulf of Mexico oil spill of \$1.6 billion. Other working capital effects, principally a decrease in inventory and other current and non-current assets partially offset by a decrease in other current and non-current liabilities, had a favourable effect of \$1.5 billion.

Net cash used in investing activities

Net cash used in investing activities for the year ended 31 December 2021 decreased by \$2.2 billion compared with 2020.

The decrease mainly reflected lower capital expenditure and an increase in divestment proceeds received.

Total capital expenditure for 2021 was \$12.8 billion (2020 \$14.1 billion), of which organic capital expenditure was \$11.8 billion (2020 \$12.0 billion). Sources of funding are fungible, but the majority of the group's funding requirements for new investment comes from cash generated by existing operations. We expect capital expenditure of \$14-15 billion in 2022 and continue to expect a range of \$14-16 billion per annum through 2025.

Total divestment and other proceeds for 2021 amounted to \$7.6 billion, including \$2.4 billion from the divestment of a 20% stake in Oman Block 61, \$2.2 billion of proceeds relating to the 2020 divestment of bp's Alaska business to Hilcorp and the \$1.0 billion final instalment for the sale of the petrochemicals business. Other proceeds for 2021 include \$675 million from the sale of a 49% interest in a controlled affiliate holding certain refined product and crude logistics assets onshore US and this transaction was reported within financing activities in the group cash flow statement.

Total divestment and other proceeds for 2020 amounted to \$6.6 billion, including \$3.9 billion of proceeds from the sale of the petrochemicals business. Other proceeds for 2020 include a loan repayment of \$455 million relating to the TANAP pipeline refinancing; and \$481 million from the sale of interests in bp's retail property portfolio in the UK and New Zealand. The other proceeds from the UK and New Zealand transactions were reported within financing activities in the group cash flow statement.

As at 31 December 2021 our target of \$25 billion of divestment and other proceeds between the second half of 2020 and 2025 was underpinned by agreed or completed transactions of around \$15.5 billion with almost \$12.8 billion of proceeds received. We expect divestment and other proceeds of \$2-3 billion in 2022.

Net cash provided by (used in) financing activities

Net cash used in financing activities for the year ended 31 December 2021 was \$18.1 billion, compared with net cash provided of \$4.0 billion in 2020. Financing cash flows in 2021 reflect higher net payments arising from actively managing the group's debt portfolio and lower receipts from the issue of perpetual hybrid bonds.

Group performance continued

In 2021, 707 million of ordinary shares (2020 120 million) were repurchased for cancellation for a total cost of \$3.2 billion (2020 \$0.8 billion), including transaction costs of \$17 million (2020 \$4 million).

Total dividends distributed to shareholders in 2021 were 21.42 cents per share, 10.08 cents lower than 2020. This amounted to a total distribution to shareholders of \$4.3 billion in 2021. In 2020 the total distribution to shareholders was \$6.3 billion. The board decided not to offer a scrip dividend alternative in respect of the 2021 and 2020 dividends.

Debt

Finance debt at the end of 2021 decreased by \$11.5 billion from the end of 2020. The finance debt ratio at the end of 2021 decreased to 40.3% from 45.9% at the end of 2020. Net debt at the end of 2021 decreased by \$8.3 billion from the 2020 year-end position. Gearing at the end of 2021 decreased to 25.3% from 31.3% at the end of 2020. The decrease in net debt and gearing reflected strong performance and related cash flow generation during the year. Net debt and gearing are non-GAAP measures. See Financial statements – Notes 25 and 26 for further information on finance debt and net debt.

For information on financing the group's activities see Financial statements – Note 28 and Liquidity and capital resources on page 342.

Group reserves and production (including Rosneft segment)^a

	2021	2020	2019
Estimated net proved reserves (net of royalties)			
Liquids (mmb)	10,124	10,661	11,478
Natural gas (bcf)	39,615	42,467	45,601
Total hydrocarbons (mmboe) ^b	16,954	17,982	19,341
<i>Of which:</i>			
Equity-accounted entities ^b	10,065	10,100	9,965
Production (net of royalties)			
Liquids (mb/d)	1,951	2,106	2,211
Natural gas (mmcf/d)	7,915	7,929	9,102
Total hydrocarbons (mboe/d) ^c	3,316	3,473	3,781
<i>Of which:</i>			
Subsidiaries	1,994	2,146	2,420
Equity-accounted entities ^c	1,322	1,326	1,360

a Because of rounding, some totals may not agree exactly with the sum of their component parts.

b Includes bp's share of Rosneft and Russia joint ventures (2021 9,013mmboe). See Supplementary information on oil and natural gas on page 254 for further information.

c Includes bp's share of Rosneft and Russia joint ventures (2021 1,136mboe/d). See Oil and gas disclosures for the group on page 351 for further information.

Total hydrocarbon proved reserves at 31 December 2021, on an oil equivalent basis including equity-accounted entities, decreased by 6% compared with 31 December 2020. Natural gas represented about 40% (46% for subsidiaries and 36% for equity-accounted entities) of these reserves. The change includes a net decrease from acquisitions and disposals of 408mmboe (decrease of 282mmboe within our subsidiaries and decrease of 126mmboe within our equity-accounted entities). Acquisition and divestment activity occurred in our equity-accounted entities in the Southern Cone, the North Sea and Russia, and divestment activity in our subsidiaries in the US, the Middle East and the North Sea.

Total hydrocarbon production for the group was 4.5% lower compared with 2020. The decrease comprised a 7.1% decrease (12.5% decrease for liquids and 1.6% decrease for gas) for subsidiaries and a 0.3% decrease (1.9% decrease for liquids and 4.7% increase for gas) for equity-accounted entities.

Gas & low carbon energy

Gas & low carbon energy segment comprises our gas and low carbon businesses. Our gas business includes regions with upstream activities that predominantly produce natural gas, integrated gas and power, and gas and power trading. Our low carbon business includes solar, offshore and onshore wind, hydrogen and CCS and our share in bp Bunge Bioenergia. Gas-producing regions^a were previously reported in the Upstream segment, and our renewables businesses were previously reported as part of other businesses & corporate.

Financial and operating performance

	\$ million		
	2021	2020	2019
Sales and other operating revenues^b	30,840	16,275	27,045
Profit (loss) before interest and tax	2,166	(7,049)	2,939
Inventory holding (gains) losses [★]	(33)	(19)	6
RC profit (loss) before interest and tax	2,133	(7,068)	2,945
Net (favourable) adverse impact of adjusting items [★]	5,395	7,757	503
Underlying RC profit (loss) before interest and tax[★]	7,528	689	3,448
Taxation on an underlying RC basis	(1,677)	(773)	(982)
Underlying RC profit (loss) before interest	5,851	(84)	2,466
Depreciation, depletion and amortization	4,464	3,457	5,146
Exploration write-offs^c	43	1,741	340
Adjusted EBITDA^{★d}	12,035	5,214	8,934
Capital expenditure[★]			
Gas	3,180	4,012	5,529
Low carbon energy	1,561	596	161
	4,741	4,608	5,690

a The AGT and Middle East regions have been further subdivided by asset to allow reporting in either gas & low carbon or oil production & operations as appropriate.

b Includes sales to other segments.

c 2020 includes a write-off of \$673 million which has been classified within the 'other' category of adjusting items.

d A reconciliation to RC profit before interest and tax is provided on page 388.

Financial results

Sales and other operating revenues for 2021 were higher due to higher gas marketing and trading revenues, higher realizations, and higher production. The decrease in 2020 compared with 2019 primarily reflected lower gas and liquids realizations, lower gas marketing and trading revenues and were further impacted by lower sales volumes.

RC profit before interest and tax for 2021 included a net adverse impact of adjusting items of \$5,395 million, primarily relates to adverse fair value accounting effects[★] of \$7,662 million relative to management's view of performance, partly offset by the gain on the partial divestment in Oman and net impairment reversals.

RC loss before interest and tax for 2020 included a net adverse impact of adjusting items of \$7,757 million (including adverse fair value accounting effects of \$738 million relative to management's view of performance). This primarily relates to impairments associated with revisions to the long-term price assumptions.

RC loss before interest and tax for 2019 included a net adverse impact of adjusting items of \$503 million (including favourable fair value accounting effects of \$714 million relative to management's view of performance), primarily related to reclassification of accumulated foreign exchange losses from reserves to the income statement upon the contribution of our Brazilian biofuels business to bp Bunge Bioenergia.

After excluding adjusting items, the underlying replacement cost profit before interest and tax for 2021 reflects exceptionally strong gas marketing and trading results, as well as higher realizations and production offset by higher depreciation, depletion and amortization in the gas business.

Compared with 2019, the 2020 underlying RC result before interest and tax reflected lower gas realizations and the impact of writing down certain exploration intangible carrying values.

See Financial statements – Note 4 for further information on segmental analysis.

Operational update

Reported production for 2021 was 912mboe/d, higher than the same period in 2020 mainly due to major project[★] start-ups, partially offset by base decline and the partial divestment in Oman. Underlying production[★] was also higher, by 9.0%, mainly due to major project start-ups, partially offset by base decline.

Renewables pipeline[★] at the end of the year was 23.1GW (bp net). In 2021 the pipeline grew by 12.2GW (bp net), due to growth in Lightsources bp, in which bp has a 50% share, and the acquisition of a 9GW development pipeline from 7X Energy.

In renewables by the end of 2021 we have brought 4.4GW solar and onshore wind projects to final investment decision (FID) and have 23GW project in our pipeline with a further hopper of options being evaluated.

Gas & low carbon energy continued

Strategic progress

Gas

Three major projects started during the year: the Matapal subsea gas development in Trinidad, the Raven field third stage of the West Nile Delta development in Egypt, and the Satellite cluster gas field in block KG D6 offshore India.

bp's sale of a 20% interest in Oman Block 61 to PTT Exploration and Production Public Company Limited (PTTEP) of Thailand (bp operator 40%, OQ 30%, PTTEP 20%, Petronas 10%) closed in March 2021.

Integrated gas and power and LNG trading

- In September, Gas Natural Açú (GNA), a joint venture between bp, Prumo, Siemens and SPIC Brasil, started GNA I commercial operations, a 1.3GW LNG to power thermoelectric plant located in Porto do Açú, Rio de Janeiro, Brazil.
- Shenzhen Gas, State Power Investment Co. Ltd. (SPIC) and Qianhai Foran Energy Co. Ltd., in China – for these three contracts bp will provide approximately 600,000 tonnes per year for 10 years starting in 2023 from the Guangdong Dapeng LNG receiving terminal, in which bp has a 30% stake.
- Pavilion Energy trading & Supply Pte Ltd. in Singapore, bp will supply 800,000 tonnes per year for 10 years, starting in 2024.

See Oil and gas disclosures for the group on page 344 for more information on oil and gas operations in regions.

Low carbon energy

Offshore wind

In offshore wind, in 2021 bp was one of the top developers in terms of acreage. We have built scale in two of the most attractive markets, US and UK. In Scotland for example, these positions in offshore will enable us to leverage integration opportunities with green hydrogen★, EV mobility and power trading as we build the business. We are building a global leadership position in offshore wind.

- In January 2021 bp and Equinor completed their strategic US offshore wind partnership to develop four projects in two existing leases located offshore New York and Massachusetts, which together are expected to have a total generating capacity of 4.4GW (2.2GW net to bp). On 14 January 2022 this partnership signed a 25-year purchase and sale agreement with the New York State Energy Research and Development Authority for 2.5GW of power offtake agreements for US projects Empire Wind II and Beacon Wind I, adding to the 0.8GW power offtake contract secured for Empire Wind 1.
- In February 2021 bp and partner EnBW were announced as the preferred bidder for two highly advantaged 60-year leases in the UK's first offshore wind leasing round in a decade. The leases, both located in the Irish Sea, offer a combined potential generating capacity of 3GW (1.5GW net to bp).
- In January 2022 bp and its partner EnBW were awarded a lease option off the east coast of Scotland to develop a major offshore wind project. The partnership will develop it as a fixed-bottom offshore wind project with a total generating capacity of around 2.9GW (1.45GW bp net), sufficient to power more than three million homes. After this award bp

offshore wind pipeline as of January 2022 stands at 5.2GW of secured projects.

Solar

In solar, we continue accelerating growth through our Lightsource bp partnership and developing our 9GW portfolio of US solar projects which was acquired in July 2021.

- Since bp's investment in late 2017, Lightsource bp has brought 53 projects to FID at weighted average expected internal rate of return (levered) of 8-10% and entered 14 new countries.

Hydrogen and carbon capture and storage

In hydrogen and carbon capture and storage (CCS), bp has created a hopper of 0.7mtpa of projects of which half have been announced such as H2 Teesside and Lingen. This hopper has the potential to grow further up to 1.3mtpa, as we continue to activate demand and scale up production.

bp's growth in hydrogen is focused on growing scale in key regionally integrated markets, such as the UK, Europe, and the US. And as hydrogen markets develop, we aim to create a portfolio of globally advantaged supply hubs. These will deliver cost advantaged low carbon hydrogen for export to global customers. Our strategic partnerships with ADNOC and MASDAR and in Oman are examples of this.

- In January 2022 bp and Oman formed a strategic partnership to progress world-class scale renewable energy and green hydrogen development in Oman. bp will capture and evaluate solar and wind data from 8,000km² of land, to support the government of Oman in approving the future developments of renewable energy and green hydrogen hubs.
- In October 2021, the East Coast Cluster was selected as one of the UK's first two CCS projects by the UK government, enabling our Teesside projects, creating UK's leading hydrogen hub to decarbonize industry and heavy transport.
- bp announced a blue hydrogen project (H2Teesside) in March 2021 and awarded the first engineering contracts for Northern Endurance Partnership and Net Zero Teesside power station.

Estimated net proved reserves and production^a (net of royalties)

	2021	2020	2019
Estimated net proved reserves (net of royalties)			
Crude oil ^b (mmb)	228	292	283
Natural gas liquids (mmb)	32	37	43
Total liquids ^c	260	329	325
Natural gas ^c (bcf)	11,882	15,367	16,377
Total hydrocarbons ^c (mmboe)	2,309	2,979	3,149
<i>Of which equity-accounted entities^d:</i>			
Liquids (mmb)	—	—	—
Natural gas (bcf)	—	—	—
Total hydrocarbons (mmboe)	—	—	—
Production (net of royalties)			
Crude oil ^b (mb/d)	97	77	103
Natural gas liquids (mb/d)	16	19	23
Total liquids (mb/d)	113	96	125
Natural gas (mmcf/d)	4,632	4,379	4,876
Total hydrocarbons (mboe/d)	912	851	966
<i>Of which equity-accounted entities^{d,e}:</i>			
Liquids (mb/d)	3	2	3
Natural gas (mmcf/d)	—	—	—
Total hydrocarbons (mboe/d)	3	2	3
Average realizations^f			
Liquids (\$/bbl)	63.60	35.63	56.92
Natural gas (\$/mcf)	5.11	3.25	4.10
Total hydrocarbons (\$/boe)	33.75	20.71	28.00

a Because of rounding, some totals may not agree exactly with the sum of their component parts.

b Includes condensate and bitumen.

c Includes 10 million barrels of total liquids (11 million barrels at 31 December 2020 and 11 million barrels at 31 December 2019) and 690 billion cubic feet of natural gas (1,059 billion cubic feet at 31 December 2020 and 1,330 billion cubic feet at 31 December 2019) in respect of the 30% non-controlling interest in BP Trinidad & Tobago LLC.

d bp's share of reserves of equity-accounted entities in the gas & low carbon energy segment.

e bp's share of production of equity-accounted entities in the gas & low carbon energy segment.

f Realizations are based on sales by consolidated subsidiaries only – this excludes equity-accounted entities.

Increasing gas production in Oman

We have significantly increased production from the bp-operated Block 61 gas field in central Oman, from its previous level of around 1 billion cubic feet per day (bcf/d) to 1.5 bcf/d.

Block 61 supplies over 30% of Oman's total gas demand and is a high-quality, high-efficiency development, designed to incorporate lower emissions technologies. It is a key part of the integrated energy value chain and will play a core role in Oman's future development. We are committed to supporting the sustainable development of Oman's economy through our strategic partnership with the Sultanate – the production increase will generate value for both the Oman government and the Block 61 partnership.



Renewables

Renewables (bp net, GW)

	2021	2020	2019
Installed renewables capacity^a	1.9	1.5	1.1
Developed renewables to FID ^a	4.4	3.3	2.6
Renewables pipeline	23.1	10.9	
<i>of which by geographical area:</i>			
Renewables pipeline – Americas	16.2	6.3	
Renewables pipeline – Asia Pacific	1.4	0.8	
Renewables pipeline – Europe	5.3	3.7	
Renewables pipeline – Other	0.2	0.1	
<i>of which by technology:</i>			
Renewables pipeline – offshore wind	3.7	2.2	
Renewables pipeline – solar	19.4	8.7	
Total developed renewables to FID and renewables pipeline	27.5	14.1	

Oil production & operations

Oil production & operations segment comprises regions^a with upstream activities that predominantly produce crude oil, including bpx energy. These were previously reported in the Upstream segment.

Financial and operating performance

	\$ million		
	2021	2020	2019
Sales and other operating revenues^b	24,519	17,234	28,702
Profit (loss) before interest and tax	10,509	(14,585)	1,047
Inventory holding (gains) losses [★]	(8)	2	2
RC profit (loss) before interest and tax	10,501	(14,583)	1,049
Net (favourable) adverse impact of adjusting items [★]	(209)	8,695	6,616
Underlying RC profit (loss) before interest and tax[★]	10,292	(5,888)	7,665
Taxation on an underlying RC basis	(4,123)	70	(3,784)
Underlying RC profit (loss) before interest	6,169	(5,818)	3,881
Depreciation, depletion and amortization	6,528	7,787	9,166
Exploration write-offs^c	125	8,179	291
Adjusted EBITDA^{★d}	16,945	8,777	17,122
Capital expenditure[★]	4,838	5,829	10,358

a The AGT and Middle East regions have been further subdivided by asset to allow reporting in either gas & low carbon or oil production & operations as appropriate.

b Includes sales to other segments.

c 2020 includes a write-off of \$1,301 million which has been classified within the 'other' category of adjusting items.

d A reconciliation to RC profit before interest and tax is provided on page 388.

Financial results

Sales and other operating revenues for 2021 were higher due to higher liquids and gas realizations, partly offset by lower sales volumes. The decrease in 2020 compared with 2019 primarily reflected lower liquids and gas realizations and was further impacted by lower sales volumes.

RC profit before interest and tax for 2021 included a net favourable impact of adjusting items of \$209 million. This primarily relates to gains on sales of businesses and net impairment reversals, partly offset by updates to decommissioning provisions related to previously sold assets.

RC loss before interest and tax for 2020 included a net adverse impact of adjusting items of \$8,695 million. This primarily related to impairments associated with revisions to bp's long-term price assumptions. The 2019 result included a net adverse impact of adjusting items of \$6,616 million (including adverse fair value accounting effects of \$8 million), primarily related to impairment charges arising from disposal transactions.

After excluding adjusting items, the underlying RC profit before interest and tax for 2021 primarily reflected higher liquids and gas realizations and significantly lower exploration write-downs, partially offset by lower volumes.

Compared with 2019, the 2020 underlying RC result before interest and tax reflected lower liquids and gas realizations and the impact of writing down certain exploration intangible carrying values.

See Financial statements – Note 4 for further information on segmental analysis.

Operational update

Reported production for 2021 was 1,307mboe/d, 14.2% lower than the same period in 2020. This includes price impacts on PSA[★] and TSC[★] entitlement volumes and the impact of divestments in Alaska and bpx energy. Underlying production decreased by 3.8% mainly due to impacts from reduced capital investment and decline.

Strategic progress

- Four major projects started up during 2021: Zinia Phase 2 in Block 17 and Platina in Block 18, Angola; and Manuel and Thunder Horse South Expansion Phase 2 in the US deepwater Gulf of Mexico.
- We announced an oil discovery in a high-quality Miocene reservoir at the Puma West prospect in the US deepwater Gulf of Mexico.
- bp and PetroChina agreed to establish Basra Energy Company, an incorporated joint venture, intended to own and manage the companies' interests in the Rumaila field in Iraq.
- bp sold shares representing a 2.1% stake in Aker BP ASA for a total of \$273 million. Following the sale, bp holds a 27.9% interest. Subsequently, Aker BP announced its proposed acquisition of the oil and gas business of Lundin Energy, through a statutory merger. Following completion of the merger, which is subject to approvals, bp is expected to own 15.9% in the combined company.
- In March 2022, bp and Eni signed an agreement to form a new 50:50 independent company, Azule Energy, a bp and Eni company, through the combination of the two companies' Angolan businesses. The agreement follows the memorandum of understanding between the companies agreed in May 2021. The creation of Azule Energy will be subject to customary governmental and other approvals, with the aim of completing the transaction in the second half of 2022.

See Oil and gas disclosures for the group on page 344 for more information on oil and gas operations in regions.

Estimated net proved reserves and production^a (net of royalties)

	2021	2020	2019
Estimated net proved reserves (net of royalties)			
Crude oil ^b (mmb)	3,872	4,287	4,894
Natural gas liquids (mmb)	361	361	513
Total liquids	4,234	4,648	5,408
Natural gas (bcf)	11,499	10,776	14,520
Total hydrocarbons ^c (mmboe)	6,216	6,506	7,911
<i>Of which equity-accounted entities^c:</i>			
Liquids (mmb)	795	782	831
Natural gas (bcf)	4,880	4,758	4,951
Total hydrocarbons (mmboe)	1,637	1,602	1,685
Production (net of royalties)			
Crude oil ^b (mb/d)	898	1,041	1,070
Natural gas liquids (mb/d)	81	93	92
Total liquids (mb/d)	978	1,133	1,163
Natural gas (mmcf/d)	1,903	2,264	2,947
Total hydrocarbons (mboe/d)	1,307	1,524	1,671
<i>Of which equity-accounted entities^d:</i>			
Liquids (mb/d)	140	143	135
Natural gas (mmcf/d)	468	480	457
Total hydrocarbons (mboe/d)	221	226	213
Average realizations^e			
Liquids (\$/bbl)	62.57	36.21	57.83
Natural gas (\$/mcf)	5.90	1.53	2.04
Total hydrocarbons (\$/boe)	56.19	29.88	44.43

a Because of rounding, some totals may not agree exactly with the sum of their component parts.

b Includes condensate and bitumen.

c bp's share of reserves of equity-accounted entities in the oil production & operations segment. Includes bp's share of reserves of Russia joint ventures. During 2021 gas operations in Argentina, Bolivia, Mexico, Russia and Norway as well as some of our operations in Angola were conducted through equity-accounted entities.

d bp's share of production of equity-accounted entities in the oil production & operations segment. Includes bp's share of production of Russia joint ventures.

e Realizations are based on sales by consolidated subsidiaries only – this excludes equity-accounted entities.

Customers & products

Customers & products segment comprises our customer-focused businesses, spanning convenience and mobility, which includes convenience and retail fuels, EV charging, as well as *Castrol*, aviation and B2B and midstream. It also includes our oil products businesses, refining & trading. The petrochemicals business is reported in restated comparative information as part of customers & products up to its sale in December 2020.

This segment is unchanged from the former Downstream segment with the exception of the disposal of our petrochemicals business.

Financial and operating performance

	\$ million		
	2021	2020	2019
Sales and other operating revenues^a	130,095	90,744	132,864
Profit (loss) before interest and tax	5,563	622	7,187
Inventory holding (gains) losses [★]	(3,355)	2,796	(685)
Replacement cost (RC) profit (loss) before interest and tax	2,208	3,418	6,502
Net (favourable) adverse impact of adjusting items [★]	1,044	(330)	(83)
Underlying RC profit (loss) before interest and tax [★]	3,252	3,088	6,419
<i>Of which:</i>			
customers – convenience & mobility	3,052	2,883	3,790
<i>Castrol – included in customers</i>	1,037	818	1,258
products – refining & trading	200	(28)	2,227
petrochemicals	—	233	402
Taxation on an underlying RC basis	(1,210)	(537)	(1,214)
Underlying RC profit (loss) before interest	2,042	2,551	5,205

	\$ million		
	2021	2020	2019
Depreciation, depletion and amortization			
<i>Of which:</i>			
customers – convenience & mobility	1,306	1,200	1,113
<i>Castrol – included in customers</i>	150	161	144
products – refining & trading	1,694	1,686	1,603
petrochemicals	—	104	205
	3,000	2,990	2,921
Adjusted EBITDA^b [★]			
<i>Of which:</i>			
customers – convenience & mobility	4,358	4,083	4,903
<i>Castrol – included in customers</i>	1,187	979	1,402
products – refining & trading	1,894	1,658	3,830
petrochemicals	—	337	607
	6,252	6,078	9,340
Capital expenditure [★]			
<i>Of which:</i>			
customers – convenience & mobility	1,564	2,157	1,543
<i>Castrol – included in customers</i>	173	173	229
products – refining & trading	1,308	1,067	1,385
petrochemicals	—	91	137
	2,872	3,315	3,065

a Includes sales to other segments.

b A reconciliation to RC profit before interest and tax by business is provided on page 354.

Financial results

Sales and other operating revenues in 2021 were higher than in 2020 mainly due to higher crude and product prices as COVID-19 restrictions eased and demand recovered. The decrease in 2020 compared with 2019 was mainly due to lower crude and product prices and the demand impact of COVID-19.

RC profit before interest and tax for 2021 included a net adverse impact of adjusting items of \$1,044 million (including favourable fair value accounting effects of \$436 million), which principally relate to impairment charges arising due to increased future expenditure and anticipated portfolio changes in the products business.

RC profit before interest and tax for 2020 result included a net favourable impact of adjusting items of \$330 million (including adverse fair value accounting effects of \$149 million). The net favourable impact reflected a profit of \$2.3 billion on the sale of our petrochemicals business, which was partially offset by restructuring costs and impairments. The 2019 result included a net favourable impact of adjusting items of \$83 million (including favourable fair value accounting effects of \$160 million).

After excluding adjusting items, underlying RC profit before interest and tax for 2021 was \$3,252 million (2020 \$3,088 million, 2019 \$6,419 million).

The customers & products results for 2021 reflect a stronger performance compared to 2020, despite the absence of earnings from our divested petrochemicals business and ongoing COVID-19 impacts.

Customers – convenience and mobility result, excluding *Castrol*, for the full year was similar to 2020 with the benefit of higher volumes offset by the impact of rising commodity costs and increased employee and digital and marketing expenditure in support of our strategic growth agenda. Convenience gross margin ★ delivery for the year was a record.

Castrol result was stronger, with volumes, revenues and growth markets earnings materially higher than 2020, despite the impact of significantly higher industry base oil prices, additive shortages and continued COVID-19 impacts.

Products – in refining, the result for the full year was higher due to improved refining margins, higher utilization and commercial optimization, compared to 2020. This was partially offset by a higher level of combined turnaround and maintenance activity and increased energy costs. The result for the year also reflected a weaker contribution from trading due to an exceptionally strong trading performance in the second quarter of 2020.

Operational update

Refinery utilization for the full year was around 5 percentage points higher than in 2020 mainly due to lower COVID-19 related demand impacts. bp-operated refining availability ★ for the full year was 94.8%, lower compared with 96.0% in 2020, due to a higher level of maintenance activity.

Strategic progress

Strategic convenience sites ★ grew to 2,150, an increase of more than 200 compared to 2020. Additionally, we have extended and strengthened our convenience offers:

- In August 2021, took full ownership of the Thorntons business in the US, positioning bp to be a leading convenience operator in the Midwest US.
- In January 2022, agreed to extend our convenience partnership with Marks & Spencer for our UK retail forecourts until at least 2030.
- In January 2021, extended our partnership with PAYBACK, Europe's largest multi-partner loyalty programme, which has over 30 million customers, to become the first provider in Germany to exclusively offer PAYBACK loyalty rewards to electric vehicle drivers.
- In November 2021, we signed a contract with Grabango, a leading provider of checkout-free technology, to bring a more seamless store experience to our customers.

EV charge points ★ grew to over 13,100, of which nearly half are now rapid or ultra-fast charging ★. In addition:

- In December 2021, in EV fleet, we acquired charging provider AMPLY Power in the US, accelerating bp's entry into one of the fastest growing fleet charging markets in the world.
- In October 2021, we finalized our strategic investment in Digital Charging Solutions with Mercedes-Benz and BMW, a leading developer of digital charging software for automotive manufacturers and fleet operators.
- In June 2021, we opened the UK's first fleet-dedicated rapid EV charging hub in London, as part of our EV only charging hub roll-out in Europe.

In October 2021, Jio-bp, our fuels and mobility joint venture in India with Reliance, opened their first 'mobility station', providing a fully-integrated customer offer, including high-quality additivized fuels, EV charging points, tailored convenience offers, as well as our *Castrol* products and services.

Castrol has a market-leading position in advanced e-fluids, with more than two thirds of the world's major vehicle manufacturers^a having now approved *Castrol ON* products as part of their factory fill. In October 2021, *Castrol* also signed a contract with Williams Advanced Engineering to co-develop electric vehicle fluids.

In refining:

- In February 2021, ceased production at our Kwinana refinery in preparation to convert it to an import terminal.
- In October 2021, announced plans to invest around \$270 million at the Cherry Point refinery in the US, to improve efficiency, reduce CO₂ emissions and increase its renewable diesel production capability.
- In October 2021, received accreditation from the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) for the production of sustainable aviation fuel at our Castellón refinery, the first refinery in the world to receive such status.
- In December 2021, announced our intention to invest in creating an integrated energy hub at our Castellón refinery, to reduce its operational emissions while scaling the production of low carbon products.

^a Based on LMCA data for top 20 selling original equipment manufacturers (OEMs) (total new car sales) in 2019.

Rosneft

The Rosneft segment includes our equity-accounted earnings from our investment in Rosneft.

bp had a 19.75% shareholding and bp's economic interest as of 31 December 2021 was 22.03% (2020 22.03%, 2019 19.75%). bp's share of profit or loss of Rosneft reflected its average economic interest for the period.

Financial and operating performance

	\$ million		
	2021	2020	2019
Profit (loss) before interest and tax	2,688	(238)	2,306
Inventory holding (gains) losses ★	(259)	89	10
Replacement cost (RC) profit (loss) before interest and tax	2,429	(149)	2,316
Net (favourable) adverse impact of adjusting items ★	291	205	103
Underlying RC profit (loss) before interest and tax ★	2,720	56	2,419
Taxation on an underlying RC basis	(269)	(3)	(234)
Underlying RC profit (loss) before interest	2,451	53	2,185

Financial results

RC profit before interest and tax for 2021 included a net adverse impact of adjusting items of \$291 million. The 2020 and 2019 results included a net adverse impact of adjusting items of \$205 million and \$103 million respectively.

After excluding adjusting items, the underlying RC profit before interest and tax in 2021 primarily reflected higher oil prices and favourable foreign exchange effects compared with 2020 underlying profit. Compared with 2019, the underlying RC profit before interest and tax for 2020 reflected lower oil prices and unfavourable foreign exchange and adverse duty lag effects.

In July, bp received a payment of \$176 million, after a deduction of withholding tax, related to the dividends for 2020. In November, bp received a payment of \$464 million, after a deduction of withholding tax, related to an interim dividend for the first half of 2021.

	2021	2020	2019
Estimated net proved reserves (net of royalties) (bp share)			
Crude oil ^a (mmb)	5,490	5,533	5,604
Natural gas liquids (mmb)	140	151	141
Total liquids ^{★b}	5,630	5,683	5,745
Natural gas ^c (bcf)	16,233	16,324	14,705
Total hydrocarbons [★] (mmboe)	8,429	8,498	8,281
Production (net of royalties)			
Crude oil ^a (mb/d)	857	873	920
Natural gas liquids (mb/d)	3	3	3
Total liquids (mb/d)	860	877	923
Natural gas (mmcf/d)	1,380	1,286	1,279
Total hydrocarbons (mboe/d)	1,098	1,098	1,144

a Includes condensate.

b Includes 396mmb (405mmb at 31 December 2020; 357mmb at 31 December 2019) for the 7.04% non-controlling interest (7.12% at 31 December 2020; 6.21% at 31 December 2019) in Rosneft held assets in Russia including 22 million barrels (19mmb at 31 December 2020; 26mmb at 31 December 2019) held through bp's interests in Russia other than Rosneft.

c Includes 1,656bcf (1,640bcf at 31 December 2020; 1,430bcf at 31 December 2019) for the 10.20% non-controlling interest (10.01% at 31 December 2020; 9.72% at 31 December 2019) in Rosneft held assets in Russia including 621bcf (614bcf at 31 December 2020; 569bcf at 31 December 2019) held through bp's interests in Russia other than Rosneft.

2021 summary

Rosneft became the only Russian and one of four global oil and gas companies announced as Global Compact LEAD in the area of sustainable development due to ongoing commitment to the United Nations Global Compact and its Ten Principles for responsible business.

Rosneft completed the sale of its 50% investment in the share capital of JSC Tomskneft, previously accounted for as an investment in joint operations in August, and 100% shares in subsidiaries, mainly engaged in participation in joint operations for gas production and transportation in Vietnam in September.

Also in September, Rosneft closed a deal on the sale of 5% stake in LLC Vostok Oil to a consortium of Vitol S.A. and Mercantile & Maritime Energy Pte. Ltd. for Euro 3.5 billion.

In November, Rosneft announced that the Yermak Neftegaz LLC joint venture (Rosneft 51%, bp 49%) discovered a material new gas condensate field in the Taymyr Peninsula.

In December, Rosneft's Board of Directors approved a new Rosneft-2030 strategy, which incorporates an ambition to be net zero by 2050 for scope 1 and 2 operational emissions.

See Additional information for Rosneft on page 355 for more information on Rosneft.

bp to exit Rosneft shareholding

On 27 February 2022, bp announced it will exit its shareholding in Rosneft. bp's two nominated Rosneft directors, bp chief executive officer Bernard Looney and former bp group chief executive Bob Dudley, both stepped down from Rosneft's board on that date and have submitted letters of resignation.

As a result of bp's nominated directors stepping down from Rosneft's board, bp has determined that it no longer meets the criteria set out under International Financial Reporting Standards (IFRS) for having 'significant influence' over Rosneft. bp will therefore no longer equity account for its interest in Rosneft, treating it now as a financial asset measured at fair value. The change in accounting treatment also means that bp will no longer recognize a share in Rosneft's net income, production and reserves.

bp will no longer report Rosneft as a separate segment from first quarter 2022 results.

Other businesses & corporate

Other businesses & corporate comprises innovation & engineering, bp ventures, Launchpad, regions, cities & solutions; and our corporate activities & functions.

Financial and operating performance

	\$ million		
	2021	2020	2019
Sales and other operating revenues^a	1,724	1,666	1,418
Profit (loss) before interest and tax	(2,777)	(579)	(1,848)
Inventory holding (gains) losses ★	—	—	—
Replacement cost (RC) profit (loss) before interest and tax	(2,777)	(579)	(1,848)
Net (favourable) adverse impact of adjusting items ★	1,394	(303)	613
Underlying RC profit (loss) before interest and tax ★	(1,383)	(882)	(1,235)
Taxation on an underlying RC basis	294	37	130
Underlying RC profit (loss) before interest	(1,089)	(845)	(1,105)
Depreciation, depletion and amortization	813	655	547
Capital expenditure ★	397	303	308

a Includes sales to other segments.

Financial results

RC loss before interest and tax for 2021 included a net adverse impact of adjusting items of \$1,394 million. This includes adverse fair value accounting effects of \$849 million and \$113 million restructuring costs. The 2020 result included a net favourable impact of adjusting items of \$303 million, primarily reflecting favourable fair value accounting effects of \$675 million and a gain on disposal, partly offset by Gulf of Mexico oil spill related costs of \$255 million and \$258 million restructuring costs. The 2019 result included a net adverse impact of adjusting items of \$613 million including Gulf of Mexico oil spill related costs of \$319 million.

After excluding adjusting items, the underlying RC loss before interest and tax for 2021 was \$1,383 million. Compared with 2020, the underlying RC loss before interest and tax for 2021 included lower uplifts in valuation of ventures investments.

Strategic progress

In 2021, **partnering with countries, cities and industries as they shape their own paths to net zero**, we signed the following agreements:

- Memorandum of understanding (MoU) with Qantas on 15 January, to collaborate on opportunities to reduce carbon emissions in the aviation sector.
- MoU with CEMEX on 13 May, to explore solutions to help decarbonize the production and distribution of CEMEX's products and develop lower carbon offers for CEMEX and bp customers worldwide.
- MoU with NYK Line on 24 August, to collaborate on future fuels and transportation solutions to help industrial sectors including shipping decarbonize.

Additionally:

- We formed a joint venture with Aberdeen City Council to build and operate Scotland's first green hydrogen hub.
- We agreed with Infosys to co-develop and pilot an energy as a service solution, which will aim to help businesses improve the energy efficiency of infrastructure, and help meet their decarbonization goals, on 28 October.

bp also continued to **invest in a portfolio of technology businesses, which we see as having the potential for high growth and to benefit and extend our core businesses, through bp ventures and Launchpad**. Main investments in 2021:

- IoTecha, an electric vehicle (EV) charging firm which uses Internet of Things technology to connect EV charge points with the electricity grid, homes, and buildings, on 25 May.
- BluSmart, an all-electric ride hailing & EV charging start-up, India's first and largest integrated EV ride-hailing and charging service, on 24 September.
- Acquisition of Open Energi, an advanced software technology company that uses AI algorithms to optimize distributed commercial and industrial power assets at scale, on 28 June.
- Acquisition of Blue Print Power, a US-based company whose technology is focused on optimizing the power networks of buildings by connecting them to energy markets through cloud-based software, on 2 September.

During the first quarter 2021 bp divested its holding in Palantir for \$443 million.

bp ventures portfolio company Lightning eMotors became a public listed company on the New York Stock Exchange on 7 May. Lightning eMotors designs and manufactures electric vehicles for commercial fleets, including school buses and ambulances, as well as offering charging technologies for commercial and government vehicles. bp, which has supported that company since 2014, owns approximately 30% of that company.

Sustainability

Sustainability at bp

Sustainability is a critical foundation of our strategy. Our sustainability frame links our strategy to our purpose – reimagining energy for people and our planet.

Our frame focuses on three areas where we believe we can make the biggest difference – getting to net zero, improving people's lives and caring for our planet – with aims and objectives linked to the UN Sustainable Development Goals.

We report on our progress embedding and delivering our frame in our latest sustainability report.

 Read more at bp.com/sustainability

Reporting on sustainability

We updated our sustainability materiality assessment process in 2021 to take into account our sustainability frame as well as external developments related to sustainability and environmental, social and governance (ESG) issues. For the purposes of this section we have covered material issues, along with additional non-financial information in the following areas:

- Getting to net zero – **below**.
- Climate-related financial disclosures – **see pages 55**.
- Improving people's lives – **see page 67**.
- Caring for our planet – **see page 68**.
- Foundations – values and code of conduct, safety, people, ethics and compliance, **see page 69**.

 Read more [bp Sustainability Report 2021](#)

Our focus area: Getting to net zero

Our ambition is to be a net zero company by 2050 or sooner, and to help the world get to net zero. In 2021 we continued to make progress against the five aims to help bp get to net zero that we announced in February 2020.


In February 2022 we announced that our strategic progress, combined with growing confidence in the business opportunities that the energy transition offers, has enabled us to update some of our net zero aims.

We now aim to be net zero across operations, production and sales.

- For aim 1, which encompasses our Scope 1 and 2 emissions from our operations, we are accelerating our 2030 aim from 30-35% to 50%.
- For aim 3, we are aiming to reduce to net zero the carbon intensity of the energy products we sell by 2050 or sooner. Previously we had been aiming for a reduction of 50% in their carbon intensity. This aim now includes physical trades of energy products as well as marketing sales. For 2030 we are now aiming for a 15-20% reduction in the lifecycle carbon intensity of these products.

These changes are not yet reflected in our basis of reporting. For 2021 purposes we report using the prior year basis. Looking ahead, we plan to report progress against these updated aims.

What we mean by net zero

 See glossary on page **378** for our definition of net zero.

Aim	2021 performance	2025 target	2030 aim	2050, or sooner, aim
① Net zero operations★	35% ^a	20% ^a	50% ^{a,b}	Net zero★
② Net zero production★	16% ^a	20% ^a	35-40% ^a	Net zero★
③ Net zero sales★	0% ^c	5% ^d	15-20% ^{d,e}	Net zero★ ^f
④ Reducing methane	0.07% ^g	0.20% ^h	50% reduction ^h	
⑤ More \$ for new energies	\$2.2bn ⁱ	\$3-4bn	~\$5bn	

a Cumulative reductions against the 2019 baseline on an absolute basis.

b Previously 30-35%.

c Cumulative impact on average emissions intensity of marketed energy products★ against the 2019 baseline

d Cumulative reduction in the carbon intensity of the energy products we sell★ against the 2019 baseline.

e Previously >15%.

f Previously 50% cumulative reduction in the average emissions intensity of marketed energy products★ against the 2019 baseline.

g The 2021 methane intensity is calculated using existing methodology and, while it reflects

progress in reducing methane emissions, will not directly correlate with progress towards delivering the 2025 target under aim 4.

h The 0.20% carbon intensity target is based on our new measurement approach, which we aim to have in place across the relevant operations by the end of 2023. The 50% reduction we are aiming for is against a new baseline which we plan to set based on that new measurement approach.

i In 2021, capital expenditure against our aim 5 activities has increased from \$750 million in 2020 to nearly \$2.2 billion, the majority of which related to investments in offshore wind, electric vehicle charging infrastructure and solar.

★ See glossary on page **377**

Aim 1 is to be net zero across our entire operations on an absolute basis by 2050 or sooner.

This aim relates to our Scope 1 (from running the assets within our operational control boundary) and Scope 2 (associated with producing the electricity, heating and cooling that is bought in to run those operations) GHG emissions on an operational control boundary.


Our combined Scope 1 and Scope 2 emissions decreased by 35% against the 2019 baseline (54.4MtCO₂e^a) and by 22% compared to 2020 (45.5MtCO₂e^a).

This means that while we have exceeded our 2025 target, we have more work to do to achieve our overall net zero aim by reducing emissions while bringing new projects online.

Scope 1 (direct) emissions, covered by aim 1, were 33.2MtCO₂e^a in 2021, a decrease of 20% from 41.7MtCO₂e^a in 2020. 32.0MtCO₂e^a of those emissions were from CO₂ and 1.1MtCO₂e^a from methane^b. Scope 2 (indirect) emissions decreased by 1.4MtCO₂e^a, to 2.4MtCO₂e^a in 2021, a 37% reduction compared to 2020.

bp equity share reporting

We also report our Scope 1 and 2 emissions on an equity share basis^c. In 2021, our combined Scope 1 and 2 equity share emissions decreased by around 14% to 39.1MtCO₂e (2020 45.5MtCO₂e). The reduction was associated with a number of factors such as divestments, including of our Alaska operations, sustainable emissions reductions (SERs) and turnarounds.

 Find more data at bp.com/ESGdata

Aim 2 is to be net zero on an absolute basis across the carbon in our upstream oil and gas production★ by 2050 or sooner.

This is our Scope 3 aim and, based on bp's net share of production^c, excluding bp's share of production in Rosneft. It is associated with the CO₂ emissions from the assumed combustion

of upstream production of crude oil, natural gas and natural gas liquids (NGLs). The estimated emissions from the carbon in our upstream oil and gas production were 304MtCO₂e^a in 2021, a reduction of approximately 7% from 328MtCO₂e^a in 2020, mainly associated with portfolio changes, including divestments and existing field decline. This is in line with our aim to reduce our oil and gas production and was partially offset by major project start-ups and new well deliveries.

We are on track to meet our 2025 target of a 20% reduction against a 2019 baseline.

Aim 3 is to reduce to net zero the carbon intensity of the energy products we sell★ by 2050 or sooner.

This is a lifecycle carbon intensity approach, per unit of energy. This aim relates to the rate of GHG emissions estimated on a lifecycle basis from the use, production, and distribution of energy products per unit of energy (MJ) delivered. For the 2019 to 2021 reporting years, it covers marketing sales of energy products^d.

As updated in February 2022, the scope of aim 3 for future reporting years is expanding to include physically traded energy products★ as well as marketed sales. In future, it may also cover certain other products, for example, those associated with land carbon projects. Compared to the 2019 baseline, the carbon intensity of bp's marketing sales of energy products^e remained flat. This is because of a lower share in sales of gas and power products from 2019 to 2021, caused by a number of factors including a reduction in demand over the period and an increase in refined products demand post-COVID-19.

Average emissions intensity of marketed energy products^{efg} (gCO₂e/MJ)

	2021	2020	2019
Average emissions intensity of marketed energy products	79 ^a	79 ^a	79 ^a
Refined energy products	92	92	93
Gas products	72	71	71
Bio-products	27	28	29
Power products	38	43	44

Aim 4 is to install methane measurement at all our existing major oil and gas processing sites by 2023, publish the data, and then drive a 50% reduction in methane intensity of our operations.

And we will work to influence our joint ventures★ to set their own methane intensity targets of 0.2%.

In 2020 we set an intensity target of 0.20% by 2025, using a measurement approach. Our methane intensity in 2021 was 0.07%^{ah}, down from 0.12%^a in 2020. Methane emissions from upstream operations, used to calculate our intensity, decreased by 40% to around 43.0kt, from 71.6kt in 2020. Marketed gas volumes decreased by 1% from 3,075bcf in 2020 to 3,058bcf in 2021.

Aim 5 is to increase the proportion of investment we make into our non-oil and gas businesses.

Our investment increased from around \$750 million in 2020 to nearly \$2.2 billion, the majority of which related to activities in offshore wind, solar and electric vehicle charging infrastructure. Read more about aim 5 on page 33.

Aim 6 is to more actively advocate for policies that support net zero, including carbon pricing.

We have stopped corporate reputation advertising campaigns and this is enabling us to redirect resources to promote well-designed climate policies.

We publish examples of our activity in support of aim 6 online.

 See bp.com/advocacyactivities

Aim 7 is to incentivize our global workforce to deliver on our aims and mobilize them to become advocates for net zero.

This will include continuing to allocate a percentage of remuneration linked to emissions reductions for leadership and around 22,000ⁱ employees.

a Deloitte has provided independent limited assurance, in accordance with the International Standard for Assurance Engagements (ISAE) 3000 (Revised), on selected sustainability information (subject matter), for the financial year ended 31 December 2021. Their assurance statement will be made available in the bp sustainability report 2021 at bp.com/sustainability.

b Excluding bp's share of production in Rosneft. On 27 February 2022, following the military action in Ukraine, the bp board announced that bp intends to exit its 19.75% shareholding in Rosneft Oil Company (Rosneft).

c Due to rounding some totals may not agree exactly to the sum of their component parts.

d Please see the *Basis of reporting* for the list of energy products covered at bp.com/basisofreporting

e The weighted average GHG emissions per unit of energy delivered (in grams CO₂e/MJ), estimated in respect of marketing sales of energy products. GHG emissions are estimated on a lifecycle basis covering production, distribution and use of the relevant products (assuming full stoichiometric combustion of the product to CO₂).

f We now report carbon intensity for aim 3 to the nearest whole number in gCO₂e/MJ.

Following publication of the 2020 bp Annual Report and Form 20-F, bp sustainability report and ESG datasheet, we identified minor data reporting corrections and implemented methodological improvements which have impacted the previously reported aim 3 figures. Recognizing that amendments and methodological enhancements may continue to occur in the future, we believe that the rounding of aim 3 figures in this way provides a more reliable and consistent representation of our performance. Since this is the first year of reporting on this basis, our ESG datasheet on bp.com also includes carbon intensity on the prior basis of rounding to one decimal place.

g The aggregate lifecycle emissions and energy values used in the calculation of the average emissions intensity of marketed energy products is provided in our ESG datasheet on bp.com

h The 2021 methane intensity is calculated using existing methodology and, while it reflects progress in reducing methane emissions, will not directly correlate with progress towards delivering the 2025 target under aim 4.

i This figure was approximately 37,000 in February 2020. It has been updated to reflect the number of employees eligible for a cash bonus in 2021.

Our annual bonus for all eligible employees, including the bp leadership team, has been linked to a sustainability measure since 2019. The bonus scorecard against which our employees are measured incentivizes our people based on three themes: safety and sustainability (30%), operational performance (20%) and financial performance (50%).

This includes a measure related to sustainable emissions reductions. In 2022 our annual bonus scorecard will remain unchanged for employees and we will expand sustainability measures in the long-term incentive plan scorecard for group leaders, through two social measures; employee engagement and an improvement in ethnic representation.

From 2022, over 40% of the performance-based share awards for our senior leaders will be related to low carbon actions and delivering our purpose of reimagining energy for people and our planet.

➔ See the Directors' remuneration report on page 116 and Share ownership on page 72 for more detail.

Aim 8 is to set new expectations for our relationships with trade associations around the globe.

We will make the case for our views on climate change within the associations we belong to

and we will be transparent where we differ. And where we can't reach alignment, we will be prepared to leave.

In 2021 we published an update on the progress made by five organizations that we had found to be only partially aligned in our 2020 inaugural report. We plan to publish a further review in 2022.

➔ See bp.com/tradeassociations

Aim 9 is to be recognized as an industry leader for the transparency of our reporting.



On 12 February 2020, we declared our support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). We intend to work constructively with the TCFD and others – such as the Sustainability Accounting Standards Board (SASB)^a – to develop good practices and standards for transparency.

^a SASB is now part of the Value Reporting Foundation (VRF).

In 2021 we published our reporting against the SASB exploration & production standard.

We also resumed submission to the CDP (Climate Disclosure Project) climate questionnaire and received an A- score.

In support of our aim to work constructively with the TCFD and others, our chief economist participated in work with the World Business Council for Sustainable Development (WBCSD), co-ordinated by the Energy Forum and supported by the TCFD, to develop a Scenario Reference Catalogue to assist with corporate scenario analysis. We have used the WBCSD scenarios to inform our own scenario analysis and hope that others also find it useful.

➔ For our expanded TCFD disclosures, see page 55

Aim 10 is to launch a new team to create integrated clean energy and mobility solutions.

We launched our regions, cities and solutions team in 2020. It will help countries, cities and corporations around the world decarbonize.

In 2021 we continued to work towards our aim of partnering with 10-15 cities globally over the next decade. We now have three city or region partnerships.

➔ See bp.com/rcs

Streamlined energy and carbon reporting (SECR) information

Further information on our greenhouse gas (GHG) emissions, energy consumption and energy efficiency is set out here and on the following page and includes disclosures in respect of the SECR requirements.

Further breakdown of our GHG and energy data is available in our ESG datasheet at bp.com/ESG.

Operational control^{ab}

	Unit	2021	2020
Scope 1 (direct) emissions^c	MtCO ₂ e	33.2	41.7
UK and offshore ^c	MtCO ₂ e	1.0	1.7
Global (excluding UK and offshore) ^c	MtCO ₂ e	32.1	40.0
Scope 2 (indirect) emissions – location-based^d	MtCO ₂ e	2.4	3.2
UK and offshore	MtCO ₂ e	0.03	0.05
Global (excluding UK and offshore)	MtCO ₂ e	2.37	3.13
Scope 2 (indirect) emissions – market-based^{cd}	MtCO ₂ e	2.4	3.8
UK and offshore ^c	MtCO ₂ e	0.03	0.04
Global (excluding UK and offshore) ^c	MtCO ₂ e	2.38	3.77
Energy consumption^e	GWh	128,805	180,004
UK and offshore ^c	GWh	4,386	7,005
Global (excluding UK and offshore) ^c	GWh	124,419	172,999
Ratio of Scope 1 (direct) and Scope 2 (indirect) emissions to gross production^f	teCO ₂ e/te	0.17	0.20
UK and offshore	teCO ₂ e/te	0.13	0.17
Global (excluding UK and offshore)	teCO ₂ e/te	0.17	0.20

^a Operational control data comprises 100% of emissions from activities operated by bp, going beyond the IPIECA guidelines by including emissions from certain other activities such as contracted drilling activities.

^b Due to rounding some totals may not agree exactly to the sum of their component parts.

^c Deloitte has provided independent limited assurance, in accordance with the International Standard for Assurance Engagements (ISAE) 3000 (Revised), on selected sustainability information (subject matter), for the financial year ended 31 December 2021. Their assurance statement will be made available in the bp sustainability report 2021 at bp.com/sustainability.

^d Value rounded to one decimal place.

^e Energy content of flared or vented gas is excluded from energy consumption reported as although it reflects loss of energy resources, it does not reflect energy use required for production or manufacturing of products.

^f Gross production comprises upstream production, refining throughput and petrochemicals produced.

Streamlined energy and carbon reporting (SECR) information continued

Energy efficiency measures

Since 2016 we have delivered 6.5MtCO₂e of sustainable emissions reductions (SERs)★ across our operated sites. This is our key metric for tracking annual reductions in greenhouse gas (GHG) emissions from energy efficiency savings and direct GHG emissions. A total of 120 SERs were delivered in 2021 leading to reductions of 1.6MtCO₂e. This follows SERs of 1.0MtCO₂e in 2020, which included reduced fuel use for water injection pumps through energy efficiency optimization in the Azerbaijan Georgia Turkey (AGT) region, and our US onshore operations, bpx energy, driving operational efficiencies and substantively reducing our methane emissions profile.

Energy efficiency projects delivered in 2021 include:

- AGT region – waste heat recovery logic modification to ensure the reliable performance and constant use of hot oil heater with fuel gas consumption reduction.
- bpx energy – multiple projects across bpx sites including electrification and removal of existing compressors reducing fuel use in the Permian basin.
- bp shipping – reduced fuel consumption by introducing more frequent hull cleaning, which improves the efficiency of our ships.
- Oman operations – the automation of gas turbine generators (power export optimization) through automating the manual set point and reducing exported power to a minimum.
- Eastern Trough Area Project (ETAP) facility in the North Sea – reduced fuel consumption through delivering spinning reserve reduction by running just one gas turbine.

We take a portfolio-wide approach to assessing and prioritizing spinning reserve reduction opportunities. Spinning reserve involves running additional power generation machines to provide an excess of energy supply to protect production from plant vulnerabilities, including power generation reliability. Reducing spinning reserve can cause greater production exposure to power fluctuations. We use a risk-based appraisal of the benefit and impact of implementing reductions when considering reducing the number of running machines. This allows bp to realize the emissions and maintenance cost reductions from fewer running machines, while managing the associated production risk.

In 2021, we increased the size of the central energy efficiency team focusing on upstream and downstream assets. This team champions and builds knowledge within the energy efficiency discipline at bp by establishing energy best practices, benchmarking, and working on operational excellence. In 2021, several energy best practices were updated, and a scorecard was assembled to track key energy metrics for refineries.

The team is involved in several external groups working on energy efficiency including OGCI, IOGP, and Energy Star. bp runs an annual training course for new chemical engineers which includes energy efficiency and offers GHG & energy efficiency training for more experienced engineers and practitioners.

Reporting methodology

Our approach to reporting GHG emissions broadly follows the IPIECA/API/IOGP Petroleum Industry Guidelines for Reporting GHG Emissions. We calculate CO₂ emissions based on the fuel consumption and fuel properties for major sources, such as flares. We report CO₂ and methane. We do not include nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride as they are not material to our operations and it is not practical to collect this data.

Ratio of Scope 1 and Scope 2 emissions to gross production

bp reports a ratio of Scope 1 and Scope 2 emissions to gross production, see SECR table on page 53. This covers all our emissions and uses gross operated sales from our operated oil and gas facilities, refinery throughput and petrochemicals produced. The denominator uses output from production businesses, refineries and petrochemical facilities, which account for 95% of total operated emissions. The intensity ratio has improved due to our aim 1 reductions, as described on page 52.

Climate-related financial disclosures

We support the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), which was established by the Financial Stability Board to improve the reporting of climate-related risks and opportunities.

Consistent with our aim 9 – to be a recognized industry leader in the transparency of reporting – we announced in 2020 that we would work constructively with the TCFD, and others, to develop good practices and standards for transparency. In 2021 we contributed to work requested by the TCFD of the World Business Council for Sustainable Development (WBCSD) to develop a ‘Climate Scenario Analysis Reference Approach for Companies in the Energy System’. This work, due to be published in March 2022, is intended to provide business-relevant approaches to climate scenario analysis that support and inform disclosures about strategic resilience. Read more about how we have used the WBCSD Scenario Catalogue to inform our own scenario analysis under Strategy Recommended Disclosure^a, page 61.

TCFD statement

This year we are reporting in line with the FCA listing rule for premium listed companies LR 9.8.6(8)^b, which requires us to report on a ‘comply or explain’ basis against the TCFD Recommendations and Recommended Disclosures in respect of the financial year ended 31 December 2021^c.

We consider our climate-related financial disclosures to be consistent with all of the TCFD Recommendations and Recommended Disclosures and are therefore compliant with the requirements of Listing Rule 9.8.6(8). We have set out our disclosures against each TCFD Recommended Disclosure and in doing so have covered both the Recommended Disclosure and the related Recommendation^d. Where applicable, therefore, we have made disclosures that take into consideration references made to the materiality of information in the Recommendations related to Strategy and Metrics & Targets.

Although this is our first year of disclosing in compliance with the listing rule, our disclosures build on previous years. In preparing them

we have had to make several judgements, and while we are satisfied that they are consistent with the Recommendations and Recommended Disclosures, we will continue to evaluate our options for future TCFD disclosures. We plan to monitor TCFD guidance as it evolves and will consider opportunities to enhance our disclosures. We welcome feedback on our disclosures.

Governance

TCFD Recommendation:

Disclose the organization’s governance around climate-related issues and opportunities.

Recommended Disclosure:

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

The role of the board is to promote the long-term sustainable success of the company, generating value for our shareholders while having regard to the interests of our other stakeholders, the impact of our operations on the communities where we operate and the environment. In performing this role, the board sets and monitors bp’s strategy and is responsible for monitoring bp’s management and operations and obtaining assurance about the delivery of its strategy.

Any changes to the company’s purpose, strategy and values are reserved for the board for approval in accordance with the board-approved corporate governance framework.

The board considers that the strategy allows us to be flexible to adapt to market changes and scenarios to remain consistent with the Paris goals, see page 30.

The board’s responsibilities extend to oversight of bp’s internal control and risk management

frameworks, including with respect to bp’s climate-related risks and opportunities. This is set out in the terms of reference of the board, which are available online at bp.com/governance.

The board and its committees, including the safety and sustainability, audit, people and governance and remuneration committees, have oversight of climate-related issues^e, which include climate-related risks and opportunities. The role of the committees in respect of climate-related risks and opportunities is set out below.

Climate-related risks and opportunities were discussed at every board meeting covering strategy, of which six were held in 2021. The board committees consider climate-related issues where they consider it appropriate to do so in the execution of their responsibilities. Oral reports from each of the committee chairs are included at the board meeting so that the board is kept apprised of relevant matters discussed in those committees including, where applicable, in respect of climate-related risks and opportunities.

The board continues to develop its knowledge and expertise on climate-related matters. For example, in 2021, it received a paper prepared by the chief economist to update them on key indicators which are used to track the energy transition, some of the key issues associated with these, and other developments shaping the political and societal trends affecting the energy transition. They also received training on Scope 1, 2 and 3 emissions to assist with their oversight of bp’s net zero aims 1-3.

The board also reviewed corporate reporting documents containing climate-related disclosures.

Our company secretary’s office manages the process by which board and committee agendas are set and works closely with teams in bp to develop materials that assist the board to discharge its responsibilities, including in respect of climate-related issues where relevant.

^a Describe the resilience of the organization’s strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

^b https://www.handbook.fca.org.uk/instrument/2020/FCA_2020_75.pdf





^c In considering the consistency of our disclosures with the TCFD Recommendations and Recommended Disclosures we have had regard to, among other things, the documents referred to in LR 9.8.6B and 6C, as applicable to the financial year 2021.

^d In preparing the disclosures we have referred to the TCFD implementation guidance ‘Annex: Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures (June 2017)’, available from fsb-tcfd.org/publication

^e We interpret the term ‘climate-related issues’ to relate primarily to those climate-related risks and opportunities for bp which are relevant to the delivery of long-term shareholder value in the context of the low carbon transition.

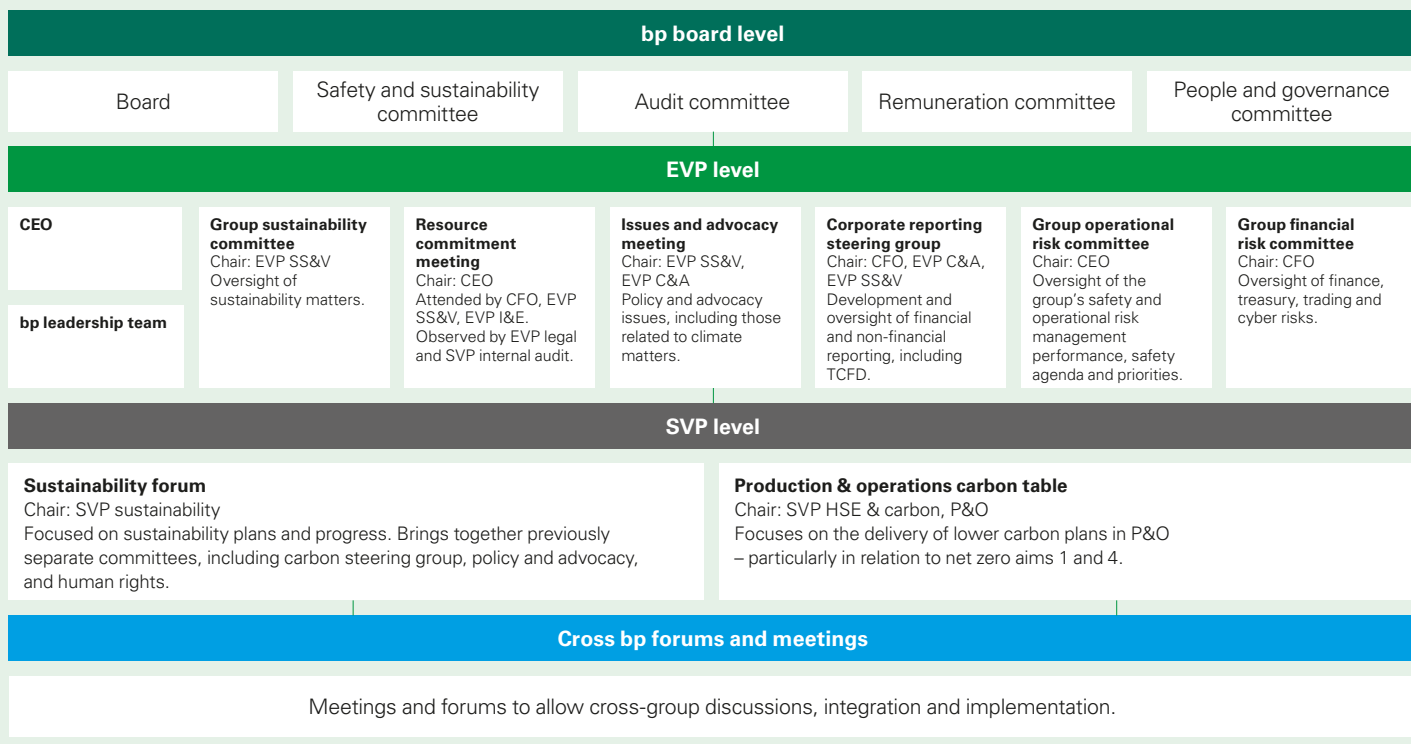
Sustainability continued

The table below sets out some examples from the year ended 31 December 2021, where the board and its committees considered climate-related issues:

Forum	How climate-related matters have been considered
The board	<p>Reviewing and guiding the strategy and considering the annual plan and strategy</p> <ul style="list-style-type: none"> Consulted shareholders in a review of its aims and strategy to navigate the energy transition and meet the Paris goals. It considered and approved our new people and planet aims including those related to the just transition and natural climate solutions. Reviewed individual business group strategy and performance, which in turn informed the budget and planning process for 2022. This review extended to understanding the capital commitments that are contemplated and their consistency with our strategy and with the Paris goals. In considering the plan and budget for 2022 the board also considered, among other matters, our emissions and methane targets and aims, strategic priorities and opportunities, including electrification, offshore wind and hydrogen, alongside the 'energy transition key indicators and issues' paper from the chief economist. <p>Risk Management</p> <ul style="list-style-type: none"> Approved revisions to the governance framework to give more clarity, to the extent considered appropriate, of how the board, committee and CEO's roles relate to the management of climate change risk and opportunities. The board receives yearly updates on Risk Management and, since July 2021, has received an update on emerging risk at each board meeting that includes transition risk. For further detail on the board's role regarding risk oversight, see page 74. <p>Monitoring implementation and performance</p> <ul style="list-style-type: none"> Monitored management's progress in the execution of bp's strategy, with updates from the CEO and CFO at board meetings covering, among other matters, performance against bp aims 1-3 and a sustainability and ESG update. Reviewed the effectiveness of investment, including the emissions intensity of the project portfolio. <p>Capital expenditure, acquisitions and divestments</p> <ul style="list-style-type: none"> At every board meeting the CEO provides an update on business development. This update covers projects across bp (which may include opportunities in the low carbon space, M&A opportunities and divestment options) which either involve investment or proceeds of more than \$100 million or would represent a strategic business entry. The CFO provides a verbal update and where appropriate specific climate-related considerations are drawn out. The board reviews and approves transition and low carbon investments★ above \$1 billion and in 2021 considered bp's bids alongside partner EnBW for leases in the UK's offshore wind leasing round in the Irish Sea and the ScotWind bid in the North Sea, see page 33.
Audit committee  Read more on page 107	<p>Risk Management</p> <ul style="list-style-type: none"> Evaluated the approach to governance of risk and recommended to the board for approval the allocation of the principal risks across the board and committees (including climate change and the transition to a lower carbon economy and process safety, personal safety and environmental risks). Considered bp's control and assurance framework in respect of bp's ESG reporting and climate-related metrics. Conducted its annual review of energy price assumptions covering the period 2022-2050 and challenged those assumptions for, among other matters, their consistency with the goals of the Paris Agreement compared to a broad spectrum of external Paris-consistent scenarios.
Safety and sustainability committee  Read more on page 114	<p>Monitoring implementation and performance</p> <ul style="list-style-type: none"> Conducted a review of aims 1 and 4. The committee also received a summary of an executive outreach programme on the sustainability aims and considered the sustainability assurance findings. Reviewed an update on the near-term and long-term reduction of emissions in the Permian including lower emission technologies and looked at GHG and methane measurements during its virtual site visit of Angola. Received updates on the implementation of our sustainability frame (which includes our net zero ambition and aims) via reports from the EVP strategy, sustainability & ventures.
Remuneration committee  Read more on page 116	<p>Performance objectives</p> <ul style="list-style-type: none"> Discussed and agreed the climate measures in the annual scorecards, for example the weighting for sustainable emissions reductions, required for bonus awards and the long-term incentive plans to align with bp's purpose, strategy, values, culture and long-term sustainable success.
People and governance committee  Read more on page 104	<p>Performance objectives</p> <ul style="list-style-type: none"> Reviewed people capability plans analyzing the skills and experience required for bp to deliver its strategy and net zero ambition including the skills requirements and programmes to develop capability and acquire knowledge across new businesses including offshore wind, hydrogen and electrification.

Climate governance: management of climate-related matters

As at 1 January 2022



Recommended Disclosure:

b. Describe management's role in assessing and managing climate-related risks and opportunities.

The board, subject to certain conditions and limitations, delegates day-to-day management of the business of the company to the CEO. The CEO is responsible for proposing bp's strategy to the board for approval and leading the bp leadership team in delivering bp's strategy and annual plan.

Under their delegation, the CEO has the responsibility to oversee the implementation of a comprehensive system of internal controls that are designed to, among other things (a) identify and manage risks that are material to bp, (b) protect bp's assets, and (c) monitor the application of bp's resources in a manner which meets external regulatory standards. Risks, for these purposes, include the climate-related risks and opportunities for bp associated with the issue of climate change and the transition to a lower carbon economy. This is set out in the CEO role profile at bp.com/board.

The assessment and management of climate-related risks and opportunities is embedded across bp at various levels and delegated

authority flows down from the board, see page 74 for more information on risk governance and oversight.

EVP level

Where considered appropriate, climate-related risks and opportunities, were discussed at the bp leadership team meetings in 2021 as part of the regular business performance updates which are produced for these meetings.

The resource commitment meeting reviews and evaluates investment decisions, see page 33.

The bp leadership team provides oversight of risk, including climate-related risk, through the various committees described on page 74. The leadership team is informed about and monitors emerging risks via the 'emerging risk paper' produced by the SVP, finance, other businesses & corporate, which focuses primarily on short to medium term risk. They are also updated on the longer-term risks and opportunities associated with the energy transition via the 'tracking the energy transition paper' produced by our chief economist. These papers are shared with the board.

The executive-level group sustainability committee was established to provide oversight, challenge and support in the implementation of bp's sustainability frame and management of potentially significant non-operational

sustainability (including climate-related) risks and opportunities. It met three times in 2021. During 2021 the committee considered entities' progress embedding sustainability, performance against targets and bp's position on certain strategic sustainability issues that present risks or opportunities to delivery. This committee is chaired by the EVP strategy, sustainability & ventures (SS&V) and comprises members of the bp leadership team.

The outputs from the committee are shared with the board and its committees, including the safety and sustainability committee, as appropriate.

The group operational risk committee provides oversight of safety and operational risk management performance for the group, where appropriate. Climate-related factors may affect certain sources of safety and operational risk such as severe weather events.

The group financial risk committee monitors the effectiveness of bp's financial reporting, systems of internal control and financial risk management, namely material group financial risks.

In 2021, in relation to climate-related risks and opportunities, they considered the proposed TCFD disclosures and planned approach to assurance and verification of non-financial reporting (including climate-related reporting) ahead of discussion with the audit committee.

SVP level and beyond

The bp leadership team is supported by bp's senior-level leadership and their respective teams, with dedicated business and functional expertise focused on climate-related risks and opportunities or on matters which may be affected by such risks and opportunities, including health, safety, environment and carbon; risk; strategy and sustainability (which includes our carbon ambition, policy and economics teams). Alignment between group, business and functional leaders is fostered through other meetings, for example, the C&P Sustainability Management Forum or the TCFD working group which leads the preparation of bp's TCFD disclosures.

Strategy

TCFD Recommendation:

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's business, strategy and financial planning where such information is material.

Recommended Disclosure:

a. Describe the climate-related risk and opportunities that the organization has identified over the short, medium, and long term.

In setting and monitoring delivery of bp's strategy, the board and leadership team consider climate-related risks and opportunities across three time horizons:

- **Short term (to 2025):** the next four years are defined by business and financial plans that are performance managed in order to deliver our 2025 targets.
- **Medium term (to 2030):** looking out to the end of this decade enables us to think beyond our short-term targets and adjust course if appropriate.
- **Long term (to 2050):** we use scenarios to help us explore the wide range of uncertainty surrounding the energy transition over the next 30 years. For more detail on our approach, see page 11.

TCFD categorizes climate-related transition risk and opportunity as follows: policy and legal, market, reputation and technology. It also refers to climate-related acute and chronic physical risks and opportunities. Risks in each of these categories have been identified using a risk management process that our businesses, integrators and enablers are required to follow.

For more on how the relative significance of identified risks are evaluated, see Risk Management on page 65.

Climate-related transition risks and opportunities

At a group level, we have identified three broad, material climate-related transition risks, which are underpinned by underlying risks that are managed through the risk process outlined on page 65. These transition risks may cut across our short, medium and long-term time horizons, however we indicate below wherever there is a particular time horizon in which the risk has been considered. The transition risks are also global in nature, so we do not discuss specific geographies here, but the underlying risks refer to specific geographies where appropriate^a.

We also recognize significant potential for upside – or opportunity – associated with some of these risks. These are discussed under each risk and in respect of Recommended Disclosure (b) below we also describe the potential impacts of both the risks and opportunities to bp.

#1 The value of our hydrocarbon business could be impacted by climate change and the energy transition.

Changes in policy, legislation, consumer preferences or markets as a result of growing concerns about climate change and the energy transition could reduce demand for fossil fuels or lower their price relative to our financial planning assumptions, particularly in the medium to long term, negatively impacting returns from or the value of our hydrocarbon businesses. Alternatively, prices for oil and natural gas and refined products during the next decade could remain higher than our financial planning assumptions under certain transition pathways, including those that are aligned with 1.5°C.

The energy transition could impact the demand for commodities such as oil, natural gas and refined products and their future prices relative to our financial planning assumptions, which in turn may affect the returns from our hydrocarbon businesses. Changes in regulations, including carbon pricing and fossil fuel policies, could also impact compliance and operating costs in our oil and natural gas production and refining businesses. If oil, natural gas and refined product prices are higher than our financial planning assumptions, this could strengthen returns from our hydrocarbon businesses (including securing higher proceeds from assets we choose to divest) which may enable us to deliver enhanced shareholder value, further strengthen our balance sheet and invest more in the transition, in line with our financial frame. Demand for oil, natural gas and/or refined products could

also remain higher for longer, which could support stronger and more sustained refining and trading margins – particularly as we focus our oil, natural gas and refining portfolios as part of our strategy (see page 12). We intend to reduce our hydrocarbon production over time.

#2 Our ability to grow or deliver expected returns from our transition growth businesses could be impacted by the energy transition.

Factors including a lack of, or insufficient development and application of, policies, regulations and frameworks that support low carbon businesses; insufficient consumer demand for our low carbon offering; strong competition in the market; or the insufficiently rapid development of supporting technologies and supply chains for low carbon energies could restrict growth of, or returns from, our transition businesses. This could particularly impact bp in the short to medium term as we seek to grow our low carbon businesses but could also represent a longer-term risk. Alternatively, demand, policy support or enabling technology for renewables could support a more rapid portfolio shift with expansion of our low carbon businesses and higher returns from them.

Some low carbon businesses, including renewable power, bioenergy and emerging technologies such as hydrogen and carbon capture and storage (CCS), rely on policy support to promote growth. Our aim 6 is to more actively advocate for policies that support net zero, including carbon pricing (see page 52).

Changes in customer preferences, pace of technology development and costs could also impact the markets for low carbon products and services. For example, the pace of adoption of electric vehicles (EV) could impact utilization rates, and consequently returns, from our EV charging networks – this is an area we are seeing an acceleration in growth in some regions, and hence are stepping up our strategic plans (see page 16).

We recognize that the pace of our transition relative to our core low carbon target sectors and regions is important. If we move more slowly than those markets, we may miss investment opportunities and customers may prefer different suppliers with potential negative consequences both to demand for our products and our reputation. If we move faster than these markets, we risk investing in technologies or low carbon products that are unsuccessful because there is insufficient demand for them – but our investment may also help to stimulate demand and provide us with a leading position in growth markets.

^a Underlying risks are specific, for example, local or business-specific risks identified by specific bp entities through the risk processes described below under Risk Management.

#3 Our ability to implement our strategy could be impacted by evolving attitudes towards the energy sector, climate change and the energy transition.

If bp, or the energy sector more broadly, is perceived negatively by stakeholders, this could have a number of consequences, for example: adverse litigation; reputational impacts, including our ability to attract and retain talent; and shareholder action. These consequences could occur in the short, medium or long term. Alternatively, increased support from our stakeholders could enable access to additional capital and new investors, strengthening our ability to deliver our strategy and enabling faster growth of our low carbon businesses.

We see signs that the energy transition is accelerating, and along with the strategic progress we are already making, this gives us growing confidence in the opportunities of the energy transition, allowing us to accelerate our net zero ambition and aims, see page 51.

Perceived inconsistencies between our business and the pace of our transition with policy and societal trends could have reputational and commercial impacts that impair our ability to deliver our strategy – but we also see potential for bp to be positively differentiated as a result of delivering against our strategy, ambition and aims.

Climate-related physical risks

In addition to transition risks, we have also identified potential climate-related physical risks. These primarily relate to severe weather and often represent potential for increased drivers for safety and operational risks to our operations, particularly process safety, personal safety, and environmental risks, see Risk factors page 76. In relation to our offshore facilities, climate change could create greater uncertainty around severe weather events, such as extreme waves, particularly in the medium to long term, which in turn could affect the future risk profile of an asset over its lifetime. We also recognize that we could face other forms of physical climate-related risk over the longer term, for example associated with sea level rise, extreme temperatures and flooding, which could impact our operations. Given the primarily operational, and locally specific, nature of the identified physical risks, they are not grouped in the same way as transition risks.

Water resources are increasingly under pressure from various factors, including, climate change and those pose a potential risk to some of our operations that depend on the availability of freshwater. Based on analysis using the World Resources Institute (WRI) Aqueduct Global Water Risk Atlas, four of our 17 major operating sites were located in regions with medium to

extremely high water stress in 2021. See page 68 for more information on steps we are taking to improve water efficiency.

In common with other businesses around the world, in the longer term we could face adverse market conditions associated with large-scale cumulative impacts of physical climate change if global mitigation and adaptation efforts are insufficient or unsuccessful. The *bp Energy Outlook 2022* used estimates that drew on available economic literature to explore the potential impact of climate change on GDP over the next 30 years. It assumed that in all scenarios, GDP is lower than in a hypothetical world where greenhouse gas concentrations do not rise any further. However, the analysis highlighted that estimating the potential size of these impacts is highly uncertain.

We support the goals of the Paris Agreement and believe that the best mitigation against these types of physical risk is to seek to contribute along with others, to the success of global climate mitigation efforts. Our strategy seeks to position us to make such a positive contribution. We do not currently foresee any material opportunities arising from changes in the physical environment as a result of climate change. However, the actions we are taking to make our operations more resilient, for example through improving efficiency of our freshwater use, may also bring about benefits such as reduced costs.

Recommended Disclosure:

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

Our strategy to evolve from being an international oil company focused on producing resources to an integrated energy company focused on delivering solutions for customers, including our net zero ambition and aims (see page 51), has been informed by, among other inputs, the climate-related risks and opportunities associated with the energy transition described above; the same is true of our financial and business processes. We describe how we use scenarios to inform our strategy on page 11.

The opportunities presented by the energy transition have enabled us to go further with our net zero aims. In February 2022 we announced that we are now aiming to be net zero across operations, production and sales by 2050 or sooner. We believe our ambition is both good business and supports society's drive towards the Paris goals.

- **Resilient hydrocarbons:** recognizing the risks that the energy transition could present to our hydrocarbons business, we are focusing our upstream portfolio to be smaller and more price resilient. In support of this,

we are also working to manage down both our costs and the operational GHG emissions associated with bp's hydrocarbon operations. In 2020 we raised the investment thresholds for new oil and natural gas projects (see page 32) to help our portfolio generate sustainable cash flows even in a lower price environment. We also adjusted our long-term oil and natural gas price assumptions downwards, and consequently recognized material impairment charges and exploration write-offs, totalling around \$23 billion. In 2021 net impairment reversals of around \$1 billion were recognized, see Financial statements – Note 3 and Note 7 for more information.

As a result of future investments and divestments, and the natural depletion of fields, we expect our net production of oil, natural gas and natural gas liquids in 2030 to be around 1.5 million barrels of oil equivalent per day, or 40%, lower than in 2019 (see page 16), and the Scope 1 and 2 emissions from our operations (the majority of which are associated with the operating assets in our hydrocarbons portfolio) to be 50% lower in 2030 than in 2019.

We see cash flow from our hydrocarbon businesses, as well as proceeds from divestments, as helping to fund our investment into transition growth businesses as well as delivering shareholder value and maintaining a strong balance sheet. The energy transition may also impact demand for certain refined products in the future, which could reduce prices for these products leading to lower refinery margins and forcing less efficient refineries to be retired. Consequently, we are improving and high-grading our refining business – through conversion, consolidation of less advantaged units, or divestments – to provide resilience in a lower margin environment, while simultaneously transforming parts of our portfolio into low carbon fuel production hubs. As a result, we are aiming for our oil refining throughput to fall from 1.7 million barrels a day (mmb/d) in 2019 to around 1.2mmb/d by 2030, and for biofuels production to triple over the same period. We also aim to increase production of biogas 20-fold by 2030 through leveraging our existing position as the largest US biogas supplier to the road transportation sector and expansion in Europe.

Accounting judgements and estimates made in assessing the impact of climate change and the transition to a lower carbon economy on our hydrocarbon assets, including consideration of potential impacts over the expected useful lives of upstream oil and gas and refining assets, are described further in Financial statements – Note 1.

- Convenience & mobility:** recognizing the growing opportunities in low carbon mobility that the energy transition offers, we are accelerating our EV charging rollout and aim to have >100,000 charge points installed by 2030 and are further expanding our *Castrol* business into the EV market. We see these and other businesses being supported by our focus on 'on-the-go' charging and end-to-end integrated fleet offer. As the aviation industry also transitions, we are aiming to be a sector leader in sustainable aviation fuel (SAF), with a 20% share of supply by 2030. We recognize the risk of a decline in demand for conventional vehicle fuels and products due to the energy transition and we are working to increase the efficiency and resiliency of our existing fuels and lubricants businesses through operating cost reductions and margin optimization. We are also leveraging digital solutions to deepen our customer-centricity and expand our customer and loyalty engagement platforms. Integration of the customer-facing aspects of our strategy with our production of biofuels, hydrogen, liquefied natural gas (LNG) and electricity also helps to provide security of supply and access to higher margins in a potentially supply-constrained faster transition.
- Low carbon energy:** recognizing the opportunity to scale up our low carbon businesses over the next decade to meet growing demand and regulatory requirements, we aim to grow our renewables businesses and seek early positions in hydrogen and carbon capture and storage (CCS). In renewable power, we aim to build a leadership position in offshore wind and accelerate our solar growth through Lightsource bp and bp's US solar pipeline. We seek levered returns of 8 to 10% for renewable power investments (see Financial frame, page 20). In hydrogen, we aim to leverage bp's existing refinery demand to build regional supply positions. As hydrogen markets develop, we aim to create a portfolio of globally advantaged supply hubs, and we are aiming to capture a 10% share of core markets. Increasingly, we will work to integrate CCS capability with our blue hydrogen^a and hydrocarbon projects. To help maintain resilience to the possibility of a slower transition, we continue to consider whether the necessary regulatory support is in place and seek to secure a customer-backed route to market for a reasonable share of energy produced by our renewable power and hydrogen projects prior to final investment.

Impact on technology

We are investing in technology that can help to generate value for bp and also help to accelerate the transition through focused scale-up and innovation. Over time, we expect bp's research and development spend to be increasingly oriented towards technologies with the potential for reducing carbon emissions and enabling our new low carbon businesses. See page 50 for examples of our technology investments in 2021.

Recognizing the potential for disruptive technologies to impact our strategy, our bp ventures and Launchpad portfolios include investments in emerging technologies and business models that may help enable the transition to a low carbon economy. By investing in both our existing portfolio and new companies we can respond to both short-term and longer-term technology trends.

Physical risk

The potential impacts of the physical risks we have identified could include reduced production or throughput, supply chain disruption, damage to facilities, or in a most extreme case loss of life or an asset. Due to the uncertainty associated with the impact of climate change on severe weather events in the future, it is difficult to quantify the potential impacts associated with any increase in these risks as a result of climate change.

However, where appropriate, depending on both the location and academic consensus on the ability of climate models to adequately represent future trends in the parameter of interest, we seek to take this uncertainty resulting from climate-related physical risk into account in our approach to design criteria for existing assets and new major projects^a. We have updated our metocean design criteria, where appropriate, to include consideration of additional models including climate and synthetic models and both forward-looking and historic models in an attempt to mitigate both model and extrapolation uncertainty. The particular models chosen will depend in part on geographic location. See Risk Management, page 65, for how we manage these uncertainties.

We are taking steps to improve the resilience of our operations to the physical changes that might occur as a result of climate change – including changes in the frequency or severity of extreme weather events, and the potential for increased water scarcity, as described above. We have undertaken screening of present-day and future potential physical risk exposure for selected key assets and identified those sites with potential for heightened exposure to physical risks in order to prioritize these for further site-based assessment.

As part of this prioritized approach, in 2021 we began a detailed site-based study at our Whiting refinery in the US, where projected climate change may increase the frequency or severity of extreme heat, precipitation and storm surge events.

Recognizing the potential impact of climate change on water resources, we are taking steps to be more efficient in operational freshwater use and effluent management. Our aim is to become water positive by 2035, see page 68.

Impacts on our financial planning

Capital allocation: We plan to allocate sufficient capital to advance our energy transition strategy – both to mitigate the risks and capture the opportunities we have identified. This includes continuing to invest in resilient hydrocarbons while seeking to maximize value and scaling-up investment in our transition growth engines: bioenergy, convenience, EV charging, renewables and hydrogen, see page 16.

Over time, as investment goes up in our transition growth businesses, we see it going down in oil and natural gas. Investment into our transition growth businesses described on page 16 is expected to represent over 40% of total capital expenditure by 2025, rising to around 50% by 2030. We expect that the capital employed^a in those businesses will rise from over 20% in 2025 to around 40% by 2030.

Access to capital: Concerns about the energy transition could reduce the appetite of banks or debt investors to finance hydrocarbon activity. We do not anticipate any material change to funding in the short to medium term, and our financial frame includes working to reduce net debt and maintaining a strong investment grade credit rating. In 2021 we reduced our net debt by over \$8 billion. Since the end of 2019 we have repurchased around \$15 billion of short-dated existing bonds and issued over \$11 billion of new bonds with a duration of 20 years or longer, more than doubling the duration of our debt book to over nine years. Additionally we have continued to have good access to the commercial paper markets. Subject to maintaining an investment grade credit rating, we plan to allocate 40% of surplus cash flow to further strengthen the balance sheet in 2022.

Investment criteria: all investments are evaluated against our long-term price assumptions which we consider to be broadly in line with a range of transition paths consistent with the Paris goals, see page 32. In addition, all investment cases above defined thresholds for anticipated annual greenhouse gas (GHG) emissions from operations include an associated carbon price into the investment economics, including \$100/teCO₂ in 2030 (2020 \$ real).

^a Excludes goodwill and cash and cash equivalents.

Recommended Disclosure:

c. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario

Our strategy is designed to be resilient to a range of climate-related scenarios including those consistent with well-below 2°C and 1.5°C outcomes (see page 30).

This year we used a scenario-based approach to test this resilience (see box – Scenarios and risks). We see this approach as having the potential to inform our strategy in the future.

For the purposes of our analysis we evaluated the potential financial impact that could occur on the majority of our businesses under business-as-usual (BAU), well-below 2°C and 1.5°C outcomes, based on the WBCSD Scenario Catalogue described on page 55, and assessed the possible impact on our 2030 group adjusted EBITDA in order to assess relative materiality of exposure. We then focused our resilience test on the most material downside scenario (lowest oil price) and assessed our resilience (as defined below) for the period from 2023 to 2030. We based these analyses on our reference group business outlook (see box: Our approach to testing resilience to transition risk, page 63) that aligns to our strategic aims and lies within the adjusted EBITDA range disclosed at our 4Q results and update on strategic progress on 8 February 2022.

A core assumption of the analysis was necessarily that, aside from any implications of the external scenarios being used for the analysis, bp would deliver the assumed underlying strategic and planned financial outcomes for each in-scope business area out to 2030. We have not sought to mitigate the impact of the scenarios tested, for example through cost management or strategic adjustments, for the purpose of this assessment, but reflect that these remain potential future levers if required.

In order to undertake this exercise, we needed to identify criteria which could be modelled as proxies for strategic resilience, and we chose to do this through three lenses – our ability to continue to (i) deliver shareholder value, (ii) maintain a strong balance sheet and (iii) invest in the energy transition (see box: Our approach to testing resilience to transition risk, page 63). This was not intended to represent a 'definition' of resilience beyond the purposes of this exercise.

Scenarios and risks

As described on page 11, given the inherent uncertainty in the pace and direction of the energy transition, scenarios can play a useful role in describing a wide range of external economic, market, policy, technological and societal conditions in which our strategy might be executed, and the outcomes we might see as a result. These outcomes can help test a judgement about the financial resilience of our strategy to the uncertainty surrounding the transition.

Such scenarios do not and cannot represent all possible futures, however we value them as a simplified and schematic way to consider the potential implications of, and uncertainty inherent within, a range of possible energy transition pathways to a future bp portfolio mix.

For the scenario analysis exercise described here, we used the WBCSD Scenario Catalogue, see the table on page 64. We used all of the scenarios contained in a pre-publication version of the catalogue for our work.^a Recognizing the inherent uncertainty in the transition, our analysis did not consider the likelihood of any specific scenario, rather took the full range of possible outcomes for specific transition variables from the WBCSD Scenario Catalogue.

The analysis we undertook is directly applicable to transition risks #1 and #2 – as well as their associated opportunities – as these lend themselves to a financially quantified scenario-based analysis. The scenario analysis did not directly address transition risk #3 – however, we believe that some of the potential drivers for transition risk #3, namely policy and societal trends, may be implicit in these scenarios, and we believe that the successful execution of our strategy will, over time, help to mitigate this risk to bp as well as positioning us to take advantage of the potential associated opportunities. This scenario analysis exercise also does not specifically address climate-related physical risk, our strategic resilience to which is further discussed below.

Key insights from our scenario analysis and resilience test

- **There is significant uncertainty in the pace and nature of the transition to 2030.**

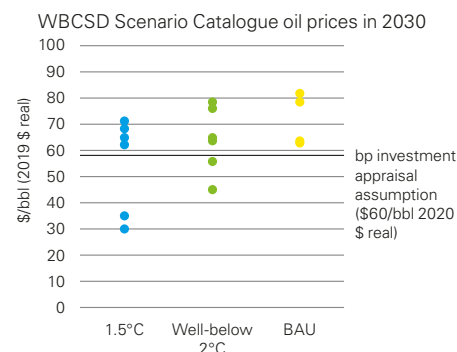
Across, and often within, each WBCSD Scenario Catalogue family (BAU, well-below 2°C and 1.5°C), the range of some of the variables

selected for the scenario analysis is significant, reflecting the complexity and interdependencies of the energy transition, as shown in the table on page 64. Generally, we observed that the faster the pace of transition, the greater the uncertainty in the exact shape of the resulting energy system in 2030.

As an example, while the minimum 2030 oil price in the WBCSD Scenario Catalogue 1.5°C family is lower than in the well-below 2°C or BAU families, a wide range of prices are observed and the majority of the oil prices in both the 1.5°C and the well-below 2°C scenario families of oil prices are higher than our long-term planning price of \$60/bbl (2020 \$ real) – see chart below.

As explained above, while our resilience test was conducted against the most extreme low case oil price across all of these scenarios, it is observed that although some scenarios could result in a downside financial pressure, other scenarios, including several oil price scenarios consistent with a 1.5°C outcome, could offer financial upside relative to our reference group business outlook.

Recognizing this complexity, we are cautious about placing too much weight on any one scenario or set of assumptions.



- **Despite planning to grow the capital employed in the energy transition, we expect oil price to remain our primary climate-related uncertainty through 2030.**

Oil price is likely to remain the main source of climate-related transition uncertainty for our strategy through to 2030, reflecting both the wide range of outcomes and the share of our expected total adjusted EBITDA over this period, that oil-price-linked businesses represent – note that for the purposes of our scenario analysis and resilience test, we have assessed the impact of oil price across both our oil production businesses and those natural gas businesses for which commercial outcomes are linked to oil price.

All of the oil prices in the WBCSD Scenario Catalogue BAU family offer upside opportunity in terms of group adjusted EBITDA, versus our

^a We used a catalogue dated 2022-01-21 for our analysis, which did not include the Bloomberg NEF New Energy Outlook 2021 and IEA World Energy Outlook 2021 Stated Policies Scenario (STEPS) scenarios which will be included in the first release of the WBCSD Scenario Catalogue due to be published in March 2022.

2030 reference case (see the chart on page 61 and box: Our approach to testing resilience to transition risk on page 63 for the range of 2030 oil prices in the WBCSD Scenario Catalogue). In the 1.5°C family, the potential downside suggested by the lowest oil prices is around 26% of group adjusted EBITDA. However, oil price in several of the 1.5°C scenarios could offer a financial upside relative to our reference group business outlook.

In comparison, the potential scale of impact to our remaining natural gas and refining and fossil fuel retail businesses, based on the WBCSD Scenario Catalogue ranges, is smaller (<5% maximum exposure to 2030 expected group adjusted EBITDA across the BAU and 1.5°C scenarios). While we aim to significantly grow capital employed and adjusted EBITDA in our transition businesses over this period, the transition-related uncertainty to any particular business as a proportion of the group adjusted EBITDA in 2030 remains small (<3% for each business area). Our diversified portfolio helps mitigate exposure risk to any one sector.

- **As a direct result of our strategy, we expect to be less exposed to low oil price in 2030 than we are today.**

Our strategy to grow our transition growth businesses, together with our aim to reduce net upstream oil and gas production by 40% by 2030 through active portfolio management (see page 16), is expected to reduce our exposure to oil price over the decade. Though the relationship is complex, in a sustained low oil price scenario, we could see some natural offsetting of the resulting decline in revenues from hydrocarbons from faster growth or higher margins from our growth engines by 2030.

- **Our analysis supports our view that our strategy is resilient to a range of climate-related oil price scenarios including those consistent with well-below 2°C and 1.5°C outcomes.^a**

Having identified that oil price associated with the most extreme cases of the family of 1.5°C scenarios was the only variable with the potential to have financial impacts of sufficient materiality to potentially impact the resilience of our strategy, we then considered the resilience of our strategy to this potential downside.

While the results of any such analysis must be treated with caution – each is necessarily dependent on numerous assumptions and methodological choices, and each has its own limitations – overall, this analysis and resilience test reinforced our confidence in the resilience of our strategy to a wide range of oil price scenarios throughout this decade, including in scenarios consistent with limiting temperature rise to 1.5°C.

Even with the most extreme low oil price environment (as defined above) in any of the scenarios, sustained over the eight years from 2023-2030, in our analysis bp was found to be able to deliver shareholder value, maintain a strong balance sheet and invest in the energy transition, as defined below.

In a BAU scenario, we believe our transitioning strategy mitigates against the risk of a delayed and disorderly transition which might follow.

Should the growth of any one of our in-scope transition business areas be challenged by the downside range in the relevant variable, our analysis suggests that the impact of this on group adjusted EBITDA in 2030 would not be sufficient to impact the resilience of our strategy in that timeframe. It is reasonable to consider each potential outcome in isolation since the outcomes for different business areas vary across scenarios.

Maintaining strategic resilience to the transition

Within the inevitable constraints associated with factors such as long-term capital investment, contractual commitments and organizational capabilities at any given time, part of bp's ability to maintain its strategic resilience rests in the governance by which the strategy can be kept under review as necessary in light of new information and changes in circumstances. To enable us to understand and respond to the changing pace of the energy transition, we monitor and assess key indicators and metrics, such as policy development, renewables installed capacity, electric vehicle sales, and low carbon technology costs. Our strategy as well as the associated risks, opportunities and our resilience, is also reviewed routinely by the bp leadership team and the board and updated where appropriate.

Resilience to physical risk

As described above, we have identified a number of physical risks which may affect our business and assets, the frequency or severity of which could be affected by climate change. We seek to manage these risks currently. We consider that our approach to managing these risks, described in Risk Management Recommended Disclosure (b) on page 65, supports our strategic resilience to them. For the purposes of this Recommended Disclosure, we have considered the potential for physical risks to bp operated assets to increase as a result of climate change (namely, increases in the potential frequency or intensity of extreme weather events) to such an extent as to have the potential to impact the resilience of our strategy.

As with our transition risk scenario analysis described above, we have considered our medium-term timeframe to 2030. This is because, given the nature of our strategic plans,

beyond that time horizon we do not consider it to be realistic or helpful to seek to present what would inevitably be an increasingly speculative view of the nature and potential location of assets we might expect to have in our operated portfolio; nor to seek to assess the impact of physical risk on them. Exposure to physical climate-related risk is highly dependent on geographical location and on factors such as asset design.

We have considered the potential scale of financial impact that might be required to potentially affect our strategic resilience. Our transition risk scenario analysis identified impacts on the earnings of our oil-priced businesses as having the most potential to impact the resilience of our strategy in 2030. Therefore, and viewing resilience through the same lenses that we describe above, we have considered the extent to which our oil and gas production business would need to be impacted by evolving physical risk for the scale of financial impact to be sufficient to jeopardise the resilience of our strategy in 2030. We concluded that a significant proportion of our combined oil and gas portfolio would need to be either permanently shut-in or temporarily shutdown to jeopardise our strategic resilience in this way.

Historically, severe weather risks to our operated assets have not manifested at a scale which could reduce earnings so significantly as to jeopardise the resilience of our strategy. As reflected in the latest science from the IPCC, it is in the nature of climate-induced severe weather events that their occurrence, intensity and severity are unpredictable and uncertain. Our own modelling work, undertaken on a subset of those bp-operated assets we consider to be potentially most exposed to present day physical risk, and which incorporated future projections of climate change, is consistent with this IPCC view. Despite this uncertainty, we have found no basis in either the IPCC report or the limited number of detailed studies we have undertaken, to conclude that climate change induced increases in the frequency or severity of severe weather events would be likely to result, at any point in time out to 2030, in disruption and shutdowns across our oil and gas portfolio on a scale that would reduce earnings so significantly as to jeopardise the resilience of our strategy.

For the purposes of this Recommended Disclosure, the resilience of our strategy was considered separately for the relevant transition and physical risks; accordingly, we did not seek to take account of any interdependencies or cumulative effects between the two types of climate-related risk, and the associated potential financial impact.

^a It is important to note that conclusions from this analysis are necessarily limited by the scenarios, methodologies and business assumptions therein and are designed to be used as one of a number of sources to provide directional insight in a highly uncertain environment. They should not be taken as a prediction of the future nor as a basis for investment decisions.

Our approach to testing resilience to transition risk

The steps we took as part of our scenario analysis approach are outlined here at a high level.

1. We focused our analysis on our medium-term time horizon (2030) which is far enough ahead to provide a divergent range of scenarios, while not being so far ahead that it is unrealistic to attempt to generate credible financial metrics for bp or for an individual business area within bp. For variables considered material (see below), we also assessed resilience over the period 2023-2030.

2. Nine business areas, shown in the table on page 64, were included in the scope of the scenario analysis. These cover approximately three quarters of our expected 2030 adjusted EBITDA. Our analysis therefore covers the majority, though not all, of our expected 2030 portfolio.

3. Our analysis sought to quantify the potential impact of a range of scenarios on bp's currently held (as at the time the analysis was completed) internal reference group business outlook to 2030. This outlook is used for internal corporate planning and holds a current deterministic view of our portfolio, activity set, cost and capital frame. The outlook used in our analysis aligned to the strategic direction shared in the 'bp update on strategic progress' announced on 8 February 2022, and the financials lie within the range of financial outcomes set out in that announcement. It also took into account a preliminary assessment of the revised adjusted EBITDA and cash flow, which bp may expect as a result of its decision to exit its 19.75% shareholding in Rosneft as disclosed in bp's announcement on 27 February 2022.

4. For each business area, we selected appropriate variables from the WBCSD Scenario Catalogue representing what we consider to be the primary area of exposure to the energy transition, and the full range of 2030 outcomes within each scenario 'family' (using the 'world' values in the Catalogue except for gas price, see table on page 64).

5. By calibrating the WBCSD Scenario Catalogue 2030 scenarios to relevant business metrics underpinning our strategic planning (for example, oil price or EV demand/utilization), we were able to model the impact of each variable across the full range of scenarios and each scenario family, on associated 2030 expected earnings (adjusted EBITDA) for the business area(s) with which that variable was associated. For example, we applied an earnings rule of thumb appropriate to the period in question to the deviation of oil prices versus our reference case price. This analysis was unmitigated (see 'Other key considerations').

6. This screening enabled us to assess the potential ability of each scenario to materially impact group adjusted EBITDA in 2030 (and by

implication associated cash flows), against the reference group business outlook. By modelling the specific business area within the reference group business outlook (described in step 3 above), both the relative contribution of the business area to group earnings at that point in time, and its exposure to the most extreme range of the respective scenario, could be assessed to identify which variables(s) and scenario(s) could have the potential to impact strategic resilience (as defined below) most materially, and as such should be carried forward into a multi-year resilience assessment. In this case, only oil price was assessed as sufficiently material and hence carried forward.

7. Our multi-year (2023-30) oil price resilience test considered sustained low oil prices consistent with the most extreme WBCSD Scenario Catalogue 2025 and 2030 scenarios – for 2025 the IEA (World Energy Model Net Zero Energy 2050) price at \$36/bbl, and for 2030 the UN PRI (Inevitable Policy Response Required Policy Scenario) at \$30/bbl (both 2019 \$ real).

8. For the purposes of this exercise, we considered the resilience of our strategy to climate-related transition risk through the three lenses described on page 61. We defined the following as proxy indicators for these lenses:

- Positive group surplus cash flow★, to confirm whether after funding, among other things, our disclosed capital frame (8 February 2022 investor update) and the dividend/share assumed in our reference group business outlook, sufficient surplus cash flow remains to maintain or reduce net debt and/or make share buybacks.
- Healthy cash cover ratio as an indicator of the ability to maintain a strong investment grade credit rating.

Other key considerations

- To aid transparency, we made the simplifying assumption that, aside from the oil price modelled, our strategy, operating model, cost basis, volumes, margins, sales proceeds and taxes would remain unchanged out to 2030. We have also used bp's internal view of potential shape of future distributions and uses of surplus cash as a basis for analysis. Hence, we do not consider actions which we might naturally expect to make in response to external trends, such as cost reductions, portfolio adjustments or capital reallocation. In reality, we keep our strategy under review and would seek to make use of opportunities to maintain our strategic flexibility in the face of the many uncertainties of the energy transition.

- The design of a strategic resilience analysis involves numerous methodological choices and assumptions – any one of which could reasonably have been different, leading to different outcomes. We have found value in conducting this analysis; however, we are mindful of the limitations to any such exercise and the highly qualified nature of any conclusions which may be drawn from it. The disclosures provided here should be read in conjunction with the rest of our strategic report, where we discuss how we have developed, and continue to evolve, our strategic approach.
- As outlined above, we have utilized our latest internal reference group business outlook as the basis against which resilience has been tested, as this is our latest deterministic view against which to model the transition sensitivities to 2030. Alongside disclosed elements such as the capital frame to 2030, this includes shaping assumptions such as future distribution and net debt management. Through conducting this analysis, we do not intend to imply or commit to a specific forward trajectory of usage of cash, beyond those disclosed in the full year and 4Q results update on 8 February 2022. While we cannot disclose, for confidentiality reasons, the detail of the deterministic case, the test assesses whether the resilience indicators in our reference group business outlook are impacted by the transition uncertainties tested. Further, by the nature of the timeframes considered, a variety of uncertainties exist around this deterministic case (including transition risk itself) as indicated by the range of adjusted EBITDA disclosed in the full year and 4Q results on 8 February 2022. It is not practical, and we have not attempted, to extend the analysis conducted here to any other potential outcomes within the disclosed range of group adjusted EBITDA.
- Where rules of thumb have been applied, to convert variance in hydrocarbon price to variance in adjusted EBITDA, these are appropriate to the period in question – i.e. they reflect the respective 2025 and 2030 production portfolios and contract/price leverage for this period. Due to the evolution of bp's portfolio, these rules of thumb may diverge from any short-term rule of thumb that we publish.

WBCSD Scenario Catalogue family ranges for 2030 key transition variables

Business area		TCFD/WBCSD variable	Scenario family	Min	Max
Resilient hydrocarbons	Oil and natural gas production	Oil price ^a (\$2019/bbl)	BAU	62.82	81.77
			Well-Below 2°C	45.00	78.45
			1.5°C	30.00	71.22
		Natural gas price ^b (\$2019/mmbtu)	BAU	2.59	3.34
			Well-Below 2°C	2.07	3.48
			1.5°C	1.90	4.17
	Refining	Primary energy demand for oil (% vs 2020)	BAU	0.4%	11.1%
			Well-Below 2°C	-4.4%	11.6%
			1.5°C	-44.1%	1.4%
	Biojet fuels	Final demand for liquid biofuels in aviation (EJ/yr)	BAU	0.38	0.40
			Well-Below 2°C	0.38	0.97
			1.5°C	0.26	2.05
	Biogas production	Biogas demand in road transport (EJ/yr)	BAU	0.01	0.01
			Well-Below 2°C	0.01	0.01
			1.5°C	0.01	0.18
Convenience and mobility	EV charging	Final energy demand for electricity in road transport (EJ/yr)	BAU	1.69	3.80
			Well-Below 2°C	1.64	3.87
			1.5°C	1.85	6.69
	Conventional fuel retail	Final energy demand for liquid oil in road transport (EJ/yr)	BAU	57.86	85.00
			Well-Below 2°C	58.32	85.44
			1.5°C	45.43	76.76
Low carbon energy	Renewables	Wind + solar photovoltaic capacity additions (GW vs 2020)	BAU	1,553	3,614
			Well-Below 2°C	1,553	5,892
			1.5°C	4,585	8,077
	Hydrogen production	Hydrogen consumption (EJ/yr)	BAU	0.83	2.64
			Well-Below 2°C	0.73	2.64
			1.5°C	0.79	9.15

^a Oil price sensitivities have been applied to the oil and gas production portfolio that is linked to oil marker prices – as such it not only reflects oil production exposure, but also a proportion of bp's natural gas production that is contracted off oil marker prices.

^b Gas prices shown reflect Henry Hub price ranges. Where available in the TCFD/WBCSD data sets Asian and UK gas price sensitivities have also been selected and compared to the Henry Hub sensitivity percentages with the maximum deviation selected and applied to the respective Asian and NBP rules of thumb for these parts of the gas portfolio, in order to provide the most conservative uncertainty range.

Risk Management

TCFD Recommendation:

Disclose how the organization identifies, assesses and manages climate-related risks.

Recommended Disclosure:

a. Describe the organization's processes for identifying and assessing climate-related risks.

bp's risk management system and policy, described on page 73, are designed to address all types of risks including our principal risks and uncertainties described on page 76.

As part of this system our businesses, integrators and enablers are responsible for identifying, assessing, managing, and monitoring risks associated with their business or functional area. Risks are identified as outlined on page 74 and guidance to support consistency has been made available to our businesses, integrators and enablers and provides them with a climate-related framework and taxonomy, which they are able to use if they consider it helpful. Where risks are identified, businesses, integrators and enablers are required by our policies to assess them, including climate-related risks, in line with bp's risk management policy and this includes an impact and likelihood assessment which supports consideration of relative significance and risk prioritization of risk management activities.

The impact criteria outlined on page 74 include health and safety, environmental, financial and non-financial (such as regulatory impact) criteria and are to be used for assessing risks, including climate-related risks. This provides a consistent basis for assessment across bp.

For the purposes of our TCFD disclosures, we have made use of the TCFD's distinction between 'physical' and 'transition' climate-related risks.

Recommended Disclosures:

b. Describe the organization's processes for managing climate-related risks.
c. Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall Risk Management.

Risk Management process

Risks which may be identified include potential effects on operations at asset level, performance at business level and developments at regional level from extreme weather or the transition to a lower carbon economy.

As part of our annual process the bp leadership team and board review the group's principal risks and uncertainties. Climate change and the transition to a lower carbon economy has been identified as a principal risk, see page 77. It covers various aspects of how risks associated with the energy transition could manifest. Similarly, physical risks such as extreme weather, which may be affected or intensified by climate change, are covered in our principal risks related to safety and operations.

Physical risk

Physical risks are typically identified at the asset or project level and are managed depending on the level of risk assessed.

In the North Sea and Gulf of Mexico, regions more prone to severe weather conditions, our offshore facilities monitor meteorological and oceanographic conditions through the collection of measurements. This data is collated and periodically compared against the 'Basis of Design' for the facility. If significant differences are observed, then this may trigger an update to the Basis of Design, prompting action to re-assess risks such as structural integrity and station-keeping and if necessary, implement additional risk mitigations, for example updating procedures for shutting down and removing personnel from facilities ahead of severe weather events. Updates may also be made as a result of other new knowledge, analysis methods and data, including climate projections where appropriate.

Our major projects are required to assess the potential impact of severe weather and projected climate-related physical impacts. Where relevant, potential changes in environmental conditions, such as sea level rise and ambient temperatures, over the expected lifetime of a project are to be considered as part of the design process.

For other assets, such as our retail sites, that are typically not exposed to a comparable level of severe weather risk, climate-related risks such as flooding or wind damage may be managed where appropriate through the emergency response plans and business continuity plans which are mandated through company-wide policies.

Additionally at a group level we recognize risk associated with the potential for increased water scarcity due to climate change and other factors and the impact this could have on our operations and in the catchments where we operate. The impact of this risk is assessed by looking at a combination of the water availability in the catchment area and the water needs of the relevant asset, see page 68.

Transition risk

The board establishes bp's strategy and monitors bp's management and operations to obtain assurance over the delivery of its strategy. This approach ensures the effective management of climate-related transition risks and opportunities facing bp associated with the energy transition.

For the purposes of our TCFD disclosures, we have grouped transition risks identified by our businesses, integrators and enablers, as described above, into the three broad material climate-related transition risks to bp, see page 58. However, we still assess and manage the component parts of those broad transition risks.

• Policy and legal risks

Our policy & partnerships team monitors and develops policy positions in line with bp's sustainability aims. This team works with bp's regional organization as well as corporate entities to discuss regional and global policy trends and support external positioning and interactions relating to policy and advocacy topics. Our group sustainability committee provides oversight of sustainability matters and our issues and advocacy meeting covers emerging advocacy issues.

Our legal team manage bp's litigation, including climate-related litigation and advise on the management of associated risks. This includes the use of internal lawyers and, where appropriate, external counsel.

• Market risks

In developing our business strategies, we consider market risks, controls and mitigations including future demand in the different geographies in which we might operate, the competitive landscape and the potential value proposition. We manage these risks through our investment decisions, our hedge trading and optimization activity, and through key business processes including the group investment assurance and approval process.

• Reputational risks

Our investor relations and communications & advocacy teams work to mitigate reputation-related risks, which includes the risk of shareholder action. Our investor relations team co-ordinates engagement with key investors on both a bilateral basis and through investor initiatives to support understanding of bp's strategy and gain insights to inform feedback they provide to the group.

Our communications & advocacy team manages corporate reputation through identification and monitoring of key issues and both proactive and reactive engagement with relevant stakeholder groups to communicate bp's positions. Under our aim 6, which is to actively advocate for policies that promote net zero, the team also leads advocacy campaigns for policies that support net zero, including carbon pricing, see page 52.

Technology risks

Our technology insights team work to both mitigate risks and identify opportunities associated with evolving and emerging technologies that play a role in the changing global energy system. The team generates technology assessments and disruptive technology reports for review by bp senior executives and the recommendations are overseen by the board through the Innovation Advisory Council. In appropriate cases this helps to underpin and appraise the business case for new investments, new partnerships, new customer offers or new business models where these are being driven by technology innovation.

Metrics and targets

TCFD Recommendation:

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

The principal metrics and targets used at group level to help monitor progress on delivery of our strategic consistency with the Paris goals (including Scope 1, 2 and 3 emissions) – are disclosed at the most appropriate locations in this strategic report.

We present the principal group-wide metrics and targets used to assess and manage climate-related risks and opportunities below.

In addition, we report on selected energy group illustrative metrics. In the context of the strategic report as a whole, we have judged that it is best to present this reference table online at [bp.com/TCFD](https://www.bp.com/TCFD).

Looking ahead, we will consider the updated TCFD guidance on Metrics & Targets, published in October 2021.

Our group-wide principal metrics and relevant targets/goals

TCFD recommended disclosures

Where

a. Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and Risk Management process	<ul style="list-style-type: none"> Our strategic metrics: low carbon energy and convenience and mobility 2025, 2030 metrics, pages 16 and 17 (in table, relevant metrics with a T). Sustainability at bp: five aims to get to net zero, page 51 (in table). <p>Our financial frame and investor proposition.</p> <ul style="list-style-type: none"> Disciplined investment allocation: 2022-2025 guidance (~\$5-7 billion in low carbon and convenience and mobility). #3 investing at scale in the energy transition: capital allocation in low carbon and convenience and mobility and internal rate of return (IRR) hurdle rates, page 20. <p>Our investment process</p> <ul style="list-style-type: none"> Price assumptions, Key investment appraisal assumptions, page 32 (in table, indicated with a T). Carbon price, page 32 (in table, indicated with a T). <p>Consistency with the Paris goals:</p> <ul style="list-style-type: none"> Six investment criteria: Investment economics, page 32 (in green box, indicated with a T). Paris consistency evaluation process: Quantitative evaluations, page 35 (in green box, indicated with a T). <p>KPIs:</p> <ul style="list-style-type: none"> Key performance indicators, page 24 (relevant KPIs shown with a T). <p>Sustainability at bp:</p> <ul style="list-style-type: none"> Water metrics, page 68. Biodiversity metrics, page 68. <p>Directors' remuneration report:</p> <ul style="list-style-type: none"> Director's remuneration report, page 116. 2021 annual bonus outcome, page 122. 2022 remuneration policy on a page, page 137. <p>Incentivizing our employees to advocate for net zero:</p> <ul style="list-style-type: none"> Aim 7, page 52.
b. Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	<p>Sustainability at bp:</p> <ul style="list-style-type: none"> Scope 1,2 in SECR table, page 53. Ratio of Scope 1 and 2 emissions: gross production, page 53. Scope 3 (category 11, which is broadly aligned to our aim 2) performance, page 52^a TCFD: risks as described in Strategy A, page 56. Risk factors, page 76.
c. Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	<p>Sustainability: net zero aims</p> <ul style="list-style-type: none"> Aim 1-5 summary of 2020 performance, 2025 targets and 2030 aims, page 51. Aim 1 performance (Scope 1 and 2), page 52. Aim 2 performance (Scope 3), page 52. Aim 3 performance (emissions from the carbon in our upstream oil and gas production), page 52. Aim 4 performance (methane), page 52.

a In determining the Scope 3 emissions that are 'appropriate' to be disclosed for the purposes of this Recommended Disclosure, we have considered this term in the context of the recommendation to disclose the metrics and targets used to assess and manage relevant climate related risks and opportunities. The relevant target that we use in respect of Scope 3 emissions is our aim 3, which is broadly aligned to category 11 of Scope 3.

Our focus area: Improving people's lives

We have five aims to improve people's lives. We recognize the importance of health and wellbeing, supporting livelihoods, treating people with respect and working to enhance diversity, equity and inclusion.

Our people aims build on strong social impact and risk management requirements and guidance in our operating management system. These aims focus on how we think bp can make the biggest difference in the places where we work. They are underpinned by specific objectives and targets.

Summary of our aims and 2021 performance

Aim	2021 performance
More clean energy Aim 11 is to develop enough clean energy to benefit more than 36 million people.	<ul style="list-style-type: none"> We brought 4.4GW (2020 3.3GW) of developed renewables to FID★ by end of 2021 and have a renewables pipeline of 23GW. Our development pipeline includes new solar development projects agreed by Lightsource bp in the US across 12 states and in New South Wales, Australia, as well as new offshore wind projects with Equinor in the US and EnBW in the UK.
Just transition Aim 12 is to support a just energy transition which advances human rights and education.	<ul style="list-style-type: none"> We focused on defining and building the systems, processes and metrics we will need to progress towards our 2025 targets and 2030 aims. We advanced initiatives that support a just transition for the bp workforce and for people living in communities where we operate.
Sustainable livelihoods Aim 13 is helping more than 1 million people build sustainable livelihoods and resilience.	<ul style="list-style-type: none"> We are working to define a more systematic approach to helping people and communities develop sustainable livelihoods and become more resilient. We partnered with the Fair Wage Network to increase our understanding of the different definitions of fair wages and to benchmark against their extensive fair and living wage database.
Greater equity Aim 14 is greater diversity, equity and inclusion for our workforce and customers, and to increase supplier diversity spend to \$1 billion.	<ul style="list-style-type: none"> Launched our Leadership Inclusion for Talent (LIFT) programme to support the progression of Black and African American colleagues into senior leadership roles. Developed and rolled out Race for Equity, a mandatory racial equity and inclusion programme for bp leadership. Published our first <i>bp diversity, equity & inclusion report</i>, which we plan to update annually. <p>➔ Read more about diversity, equity & inclusion and our people on page 71</p>
Enhance wellbeing Aim 15 is to enhance the health and wellbeing of our employees, contractors and local communities.	<ul style="list-style-type: none"> Launched 'Thrive' – our new wellbeing portal – to support our workforce, and their friends and family, in building and maintaining healthy habits across all aspects of wellbeing. Started to implement our global health hubs strategy that aims to improve access to health resources for employees and their families. <p>➔ Read more on page 72</p>

🌱 For more information about our aims and performance in 2021, see the [bp Sustainability Report 2021](#)

Human rights

We believe everyone deserves to be treated with fairness, respect and dignity. At bp we strive to conduct our business in a responsible way, respecting the human rights of our workers and everyone we come into contact with. Our human rights policy and our code of conduct help us do that. We respect internationally recognized human rights as set out in the International Bill of Human Rights and the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, including the core Conventions.

These include the rights of our workforce and those living in communities potentially affected by our activities.

We incorporate the UN Guiding Principles on Business and Human Rights, which set out how companies should prevent, address and remedy human rights impacts, into our business processes. When working to remediate any impacts on the rights of local communities we are open to co-operating in good faith to agree remedial actions through state-led mechanisms such as the Organisation for Economic Co-operation and Development National Contact Points.

We recognize the importance of accessible and effective operational-level grievance mechanisms in addressing our impacts.

🌱 See bp.com/humanrights

Our focus area: Caring for our planet

We have set five aims to care for our planet. These aims focus on how we think bp can make the biggest difference in the places where we work. In 2021 much of our focus was on setting the foundations needed to deliver these aims.

Our five planet aims build on our environmental impact and risk management requirements and guidance in our operating management system. They are underpinned by specific objectives and targets.

Summary of our aims and 2021 performance

Aim	2021 performance
Enhancing biodiversity Aim 16 is making a positive impact through our actions to restore, maintain and enhance biodiversity where we work.	<ul style="list-style-type: none"> Joined the Taskforce on Nature-related Financial Disclosures (TNFD) Forum and the Science-Based Targets for Nature's corporate engagement programme. We are working on developing our methodology for achieving net positive impact (NPI) on biodiversity in new projects from planned activities.
Water positive Aim 17 is becoming water positive by 2035.	<ul style="list-style-type: none"> A key focus for 2021 was evolving our water management by developing a methodology and approach to improve water efficiency. We are working to align our actions with international water stewardship good practices and to follow a water management framework.
Championing nature-based solutions Aim 18 is championing nature-based solutions and enabling certified natural climate solutions.	<ul style="list-style-type: none"> We are working towards the delivery of a nature-based solutions (NbS) action plan by the end of 2022. Continued our external engagement to support the scaling of high-quality natural climate solutions in carbon markets.
Unlock circularity Aim 19 is to unlock new sources of value through circularity.	<ul style="list-style-type: none"> Continued building the foundations needed to embrace circularity in bp, by evaluating the suitability of respected third-party definitions and frameworks to be adopted as our internal methodology. Focused on reducing generated waste in all our activities, from construction to operating and decommissioning. Around 270kt of hazardous and non-hazardous waste was disposed in 2021, a 4% decrease from around 280kt in 2020.
Sustainable purchasing Aim 20 is developing a more sustainable supply chain.	<ul style="list-style-type: none"> Trialled the inclusion of sustainability factors in major purchasing decisions and focused on supplier sustainability strategies, greenhouse gas (GHG) emissions, use of renewable energy and circular approaches to product design. Created a roadmap of high priority areas of goods and services with a focus on improving GHG emissions performance, continuing to act on opportunities as we identify them.

 For more information about our aims and performance in 2021, see the [bp Sustainability Report 2021](#)

Water consumption

In 2021 we saw a 2.2% fall in freshwater withdrawals and a 4.1% fall in freshwater consumption compared with our 2020 baseline^a. This was largely due to an improvement in the calculation of freshwater consumption across our retail sites and some measures of operational efficiency.

At major operating sites, 0.1% of our total freshwater withdrawals and 0.6% of freshwater consumption were from regions with high or extremely high water stress in 2021 (compared to 4% and 8% in 2020 respectively). This is mainly due to the divestment of Geel Chemicals and a downgrading of Kwinana refinery to low baseline water stress by the WRI.

Air emissions

We monitor our air emissions and, where relevant, put measures in place to reduce the potential impact of our operational activities on local communities and the environment.

In 2021 our total air emissions reduced by 38% from 2020 largely due to reductions in flaring at some of bp's operating facilities, including US onshore operations. bp's operated shipping fleet transitioned to very low or ultra-low sulphur fuels in 2020 to comply with the International Maritime Organization's 2020 MARPOL regulation.

Biodiversity

Our biodiversity position, published in 2020, builds on the robust practices we already had in place to manage biodiversity across bp projects up to that date. We expect that from 2022 all new bp projects in scope will have plans in place aiming to achieve net positive impact (NPI), with a target to deliver 90% of actions within five years of project approval. We also aim to enhance biodiversity at our major operating sites and support biodiversity restoration and sustainable use of natural resource projects in the countries where we have current or growing investments.

^a The baseline freshwater consumption is defined as 55.8 million m³ in the bp Sustainability Report 2020.

Foundations

Our sustainability frame is built on strong foundations: our values, our continued focus on safety, our commitment to ethics and compliance, our people, and the economic value we create.

Our values and code of conduct

Our values of safety, respect, excellence, courage and one team represent the qualities and actions we wish to see at bp. They inform how we do business and the decisions we make. We use these values as part of our recruitment, promotion and individual performance management processes.

Our code of conduct is based on our values and sets clear expectations for how we work at bp. It applies to all bp employees and members of the board.

Employees, contractors or other third parties who have a question about our code of conduct or see something that they feel is unethical or unsafe can discuss this with their managers, supporting teams, works councils (where relevant) or through OpenTalk, a confidential and anonymous helpline operated by an independent company.

We received more than 1,400 concerns or enquiries through these channels in 2021 (2020 1,600). We take steps to identify and correct areas of non-conformance and take disciplinary action where appropriate. In 2021 our businesses dismissed approximately 26 bp employees for non-conformance with our code of conduct or unethical behaviour (2020 50^e). This excludes dismissals of contractors and vendors, and employees at our retail service stations.

Safety

Safety is our core value and it is underpinned by our operating management system (OMS), which sets out how we aim to sustainably deliver safe, reliable and compliant operations.

Tragically, in July 2021 a contractor died in a pipe lifting incident at our Castellón refinery in Spain. We deeply regret this loss. We are taking action to learn from this incident by codifying lessons into our OMS and sharing them internally and externally, so we can try to mitigate the potential for this kind of incident to happen again.

Our safety goal is to eliminate tier 1 process safety events, fatalities and life-changing injuries and we have set out a bp-wide plan to help us achieve this. And in 2021, we continued work to strengthen our safety culture with the launch of a refreshed set of harmonized 'safety leadership principles', designed to guide behaviour and ways of working across bp – driving a robust, consistent safety culture.

Keeping people safe

We monitor and report on key workforce personal safety metrics in line with industry standards. We include both employees and contractors in our data.

We have seen gradual improvements in our personal safety metrics over the past five years, which we believe reflect our increasingly systematic approach and improvements in safety leadership and human performance. This work is ongoing with a continuing focus on our updated safety leadership principles and initiatives such as our roll-out of the IOGP Life Saving Rules. These safety rules guide our workers on staying safe while performing tasks with the potential to cause most harm. The rules are aligned with our operating management system (OMS) and focus on areas such as working at heights, lifting operations and driving safety.

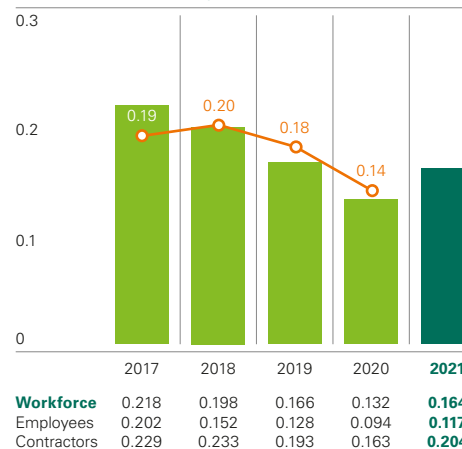
Our recordable injury frequency (RIF) increased by over 20% compared with 2020, where the unique impact that the COVID-19 pandemic had on personal safety in 2020 was reflected in a lower RIF for that year. Compared with 2019, in 2021 our RIF slightly improved and, except for 2020, it was better than any time in the past 15 years.

For absolute injuries, there was a small increase in recordable injuries (RI) between 2021 and 2020, and a small decrease in days away from work cases (DAFWC) over the same period. In 2021, DAFWC were at their lowest ever recorded level.

 Read more at bp.com/ESGdata

	2021	2020	2019
Day away from work case frequency ^e	0.051	0.044	0.047
Severe vehicle accident rate	0.034	0.009	0.050

Recordable injury frequency Workforce incidents per 200,000 hours worked



^e IOGP 2021 data reports are not available until May 2022.

Our operating management system

The way our businesses around the world are expected to understand and manage their environmental and social impacts is set out in our OMS. This includes requirements on engaging with stakeholders who may be affected by our activities. OMS is a group-wide framework designed to help us manage risks in our operating activities and drive performance improvements.

^e Incidents that result in an injury where a person is unable to work for a day (shift) or more per 200,000 hours worked.

Sustainability continued

It brings together bp requirements on health, safety, security, the environment, social responsibility and operational reliability, as well as related issues, such as maintenance, contractor relations and organizational learning, into a common management system. Our OMS also helps us improve the quality of our activities by setting a common framework that our operations must work to.

We review and amend these requirements from time to time to reflect our priorities. Any variations in the application of our OMS, in order to meet local regulations or circumstances, are subject to a governance process. Recently acquired operations need to transition to our OMS.

In planning our projects, we identify potential impacts from our activities and use the results to identify actions and mitigation measures and look to implement these in project design, construction and operations. Our OMS requires each of bp's operating businesses and functions to create and maintain its own OMS handbook, describing how it will carry out its local operating activities. Through self-verification, local business processes are reviewed and areas for improvement are prioritized, allowing focus on delivering safe, reliable and compliant operations.

Three lines of defence

bp has a three lines of defence model to improve the effective management of all types of risk, including safety. The nature and extent of first, second and third lines of defence activities are based on the type and level of risk and comprise:

- **Businesses and functions** – the first line of defence: accountable for working to meet business objectives, including risk management, and for self-verifying the effectiveness of their own risk management.
- **Group functions** – the second line of defence: support the first line of defence in their management of risk and consider the effectiveness of their activities. Functions determine their activity set based on the type and level of risk which may include defining requirements, providing expertise (systems, tools and processes), building capability and conducting monitoring independent of the first line. The second line reports outside the line conducting the first line activity.

- **Internal audit** – the third line of defence: considers whether the group's system of internal control is adequately designed and operating effectively. Internal audit also tests the management of significant risks in the first and second lines of defence across the organization over time. The third line is independent of the first and second lines of defence.

Preventing incidents

We carefully plan our operations, with the aim of identifying potential hazards and having rigorous operating and maintenance practices applied by capable people to manage risks at every stage. We design our new facilities in line with process safety, good design and engineering principles. We track our safety performance using industry-aligned metrics such as those found in the American Petroleum Institute recommended practice 754 and the International Association of Oil & Gas Producers recommended practice 456.

The overall downward trend in tier 1 and tier 2 process safety events (PSEs) continued into 2021. Our combined PSEs have generally decreased over the last 10 years, apart from 2019. Our performance improved in 2021 with one fewer tier 1 PSEs and seven fewer tier 2 PSEs, compared with 2020. The combined tier 1 and tier 2 PSEs were down 11% in 2021 compared to 2020.

We investigate incidents including near misses, and we also use leading indicators, such as inspections and equipment tests, to monitor the strength of controls to prevent incidents.

	2021	2020	2019
Tier 1 and tier 2 process safety events	62	70	98
Oil spills – number	121	121	152
Oil spills contained	73	70	90
Oil spills reaching land and water	47	46	58
Oil spilled – volume (thousand litres)	655	784	710
Oil unrecovered (thousand litres)	308	494	300

Emergency preparedness

The scale and spread of bp's operations means we must be prepared to respond to a range of possible disruptions and emergency events. We maintain disaster recovery, crisis and business continuity management plans and work to build day-to-day response capabilities to support local management of incidents.

Security

We monitor for hostile actions that could harm our people or disrupt our operations. These actions might be connected to political or social unrest, terrorism, armed conflict or criminal activity. We take these potential threats seriously and assess them continuously. Our 24-hour response information centre in the UK uses state-of-the-art technology to monitor evolving high-risk situations in real time. It helps us to assess the safety of our people and provide them with practical advice if there is an emergency.

Cyber security

The severity, sophistication and scale of cyber attacks continues to evolve. The increasing digitalization and reliance on IT systems and cloud platforms makes managing cyber risk an even greater priority for many industries, including our own. The risk comes from a variety of cyber threat actors, including nation states, criminals, terrorists, hackers and insiders.

As with previous years, we've experienced threats to the security of our digital infrastructure, but none of these had a significant impact on our business in 2021.

We have a range of measures to manage this risk, including the use of cyber-security policies and procedures, security protection tools, continuous threat monitoring and event detection capabilities, and incident response plans. We also conduct exercises to test our response to and recovery from cyber attacks. To encourage vigilance among our employees, our cyber security training and awareness programme covers topics such as phishing and the correct classification and handling of our information. We collaborate closely with governments, law enforcement and industry peers to understand and respond to new and emerging threats.

Working with contractors

Through documents that help bridge between our policies and those of our contractors, we define the way our safety management system co-exists with those of our contractors to manage risk on a site. For our contractors facing the most serious risks, we conduct quality, technical, health, safety and security audits before awarding contracts. Once they start work, we continue to monitor their safety performance. Our OMS includes requirements and practices for working with contractors. Our standard model contracts include health, safety and security requirements. We expect and encourage our contractors and their employees to act in a way that is consistent with our code of conduct and take appropriate action if those expectations, or their contractual obligations, are not met.

Our partners in joint arrangements

In joint arrangements where we are the operator, our OMS, code of conduct and other policies apply. We aim to report on aspects of our business where we are the operator – as we directly manage the performance of these operations. We monitor performance and how risk is managed in our joint arrangements, whether we are the operator or not. Where we are not the operator, our OMS is available as a reference point for bp businesses when engaging with operators and co-venturers. We have a group framework to assess and manage bp's exposure related to safety, operational and bribery and corruption risk from our participation in these types of arrangements.

Where appropriate, we may seek to influence how risk is managed in arrangements where we are not the operator.

Our people are the most important element of our success. We need a motivated, engaged, and diverse workforce to deliver our purpose and strategy. We promote a culture that generates the diversity of thought, approach and ideas needed to reimagine energy and move to a low carbon environment.

The people and governance committee reviews workforce policies and practices and their alignment with bp's strategy, purpose, values and culture and conducts workforce engagement measures.

➔ For more on the people and governance committee, see page [106](#)

Our people

Workforce by gender^a

	Male		Female		Female %	
	2021	2020	2021	2020	2021	2020
As at 31 December 2021						
Board directors	6	6	4	5	40	45
Leadership team	7	8	4	4	36	33
Group leaders	192	193	89	77	32	29
Subsidiary directors	674	1,351	303	284	31	17
All employees	39,912	38,826	25,933	24,719	39	39

Number of employees at 31 December^b

	2021	2020	2019
Gas & low carbon energy	4,000	–	–
Oil production & operations	8,800	–	–
Customers & products	43,600	–	–
Other businesses and corporate	9,500	–	–
Total	65,900	63,600	70,100

Attraction, retention and development

We aim to recruit talented people from diverse backgrounds, and invest in training, development and competitive rewards for all our people. We invest in employee development – with a focus on driving safe, reliable and compliant operations, and on building technical, functional and leadership capability. This includes a range of development opportunities for our people through a mix of on-the-job learning, developmental relationships with mentors, managers and peers, and training delivered face-to-face, virtually and through simulation or e-learning.

Diversity, equity & inclusion

Our DE&I ambition is for bp to reflect the world around us.

Gender equality

Overall, the proportion of women employed across bp remained at 39% of our global workforce in 2021 (39% in 2020). 41% of our 120 extended leadership team are women and our goal is to increase this. At the end of 2021 we had four female directors (2020 5) on our board. Our people and governance committee remains mindful of diversity when considering potential candidates.

➔ See our gender pay gap report at bp.com/ukgenderpaygap

Ethnic diversity

Our global, US and UK frameworks for action guide how we aim to improve DE&I in bp.

In 2021 we published a comprehensive global DE&I report, embedding expectations and metrics on DE&I delivery in our operating plans. In 2022 we reported on our UK ethnicity pay gap for the first time. We also aim to double our spend with US-based diverse suppliers by 2023.

In 2021, 31% of our group leaders came from countries other than the UK and the US (2020 30%).

➔ See our DE&I report at bp.com/diversity
For more on the composition of our board, see page [84](#)

Inclusion

To promote an inclusive culture we provide leadership training and support employee-run advocacy groups in areas such as gender, ethnicity, sexual orientation and disability. As well as bringing employees together, these groups support our recruitment programmes and provide feedback on the potential impact of policy changes. Each group is sponsored by a senior executive.

We aim to provide equal opportunity in recruitment, career development, promotion, training and reward for all employees – regardless of ethnicity, national origin, religion, gender, age, sexual orientation, marital status, disability, or any other characteristic protected by applicable laws.

Where existing employees become disabled, our policy is to engage and use reasonable accommodations or adjustments to enable continued employment.

In 2021 bp joined the Valuable 500 – a global business collective made up of 500 CEOs and their companies, to drive lasting change for people around the world living with a disability.

^a The number of subsidiary directors is lower than prior years following a change in the way that the data is collated for subsidiary companies, with associated undertakings no longer included in the data set.

^b We do not report number of employees data against our new financial reporting segments for 2020 and 2019 as the numbers are not comparable following our reorganization in 2020.

Sustainability continued

We are making progress in the areas of recruitment, workspaces and assistive technology. We have also formed partnerships to help source talent, assist with research and training and support students with disabilities build the skills they need to access the workplace.

Employee engagement

Our managers hold team and one-to-one meetings with their team members, complemented by formal processes through works councils in parts of Europe.

We regularly communicate with employees on factors that affect bp's performance, and seek to maintain constructive relationships with labour unions formally representing our employees.

To understand what our employees think and feel about bp, we run an annual 'Pulse' survey as well as 'Pulse Live' surveys, which enable us to monitor changes in employee sentiment on a weekly basis. We introduced a new overall engagement metric in 2021, which scored 64%. Pride in working for bp remained strong at 73%, but has declined by two percentage points since 2019.

Employees participating in the 2021 'Pulse' survey told us that their trust in our senior leadership had increased and more employees believe we are making progress on transformation with a simplified organizational structure. Some employees told us they do not fully understand our strategy.

bp has committed to centrally focus and direct action planning in four key areas to strengthen engagement: connecting with purpose and strategy, future excitement, career development and inclusion.

Mental health and wellbeing

In 2021 we continued to offer employees access to a range of mental health support services. This included support from our well-established 24/7 Employee Assistance Programme, which saw increased usage in most regions. We also enabled employees to share access to the Headspace meditation app with two family members.

Share ownership

We continue to encourage employee share ownership and have a number of employee share plans in place. For example, we operate a ShareMatch plan in more than 50 countries, matching bp shares purchased by our employees. We also make annual share awards as part of our total reward package all for senior and mid-level employees globally, and a portion of our more junior professional grade employees.

In February 2021, we introduced the Reinvent bp share award to incentivize our employees in meeting our aims. All individuals employed by the bp group at the grant date will receive a one-off grant of either share units or share options, depending on employee level, that will become available to keep, sell or transfer in the first quarter of 2025, provided the employee remains in employment to this date.

Ethics and compliance

Anti-bribery and corruption

We operate in parts of the world where bribery and corruption present a high risk. We have a responsibility to our employees, our shareholders and the countries and communities in which we do business to be ethical and lawful in all our work.

Our code of conduct explicitly prohibits engaging in bribery or corruption in any form. Our group-wide anti-bribery and corruption policy and procedures include measures and guidance to assess risks, understand relevant laws and report concerns. They apply to all bp-operated businesses.

We provide training to employees appropriate to the nature or location of their role. In 2021, over 12,700 employees completed anti-bribery and corruption training (2020 7,700). We assess any exposure to bribery and corruption risk when working with suppliers and business partners. Where appropriate, we put in place a risk mitigation plan or we reject them if we conclude that risks are too high.

We also conduct anti-bribery compliance audits on selected suppliers to assess their conformance with our anti-bribery and corruption contractual requirements. We take corrective action with suppliers and business partners that fail to meet our expectations, which may include terminating contracts. In 2021 we issued 4^a audit reports (2020 35).

Political donations and activity

We prohibit the use of bp funds or resources to support any political candidate or party. We recognize the rights of our employees to participate in the political process and these rights are governed by the applicable laws in the countries where we operate. The way in which we interact with those governments depends on the legal and regulatory framework in each country. Our stance on political activity is defined in our code of conduct.

In the US we provide administrative support for the bp employee political action committee (PAC), which is a non-partisan committee that encourages voluntary employee participation in the political process. All bp employee PAC contributions are reviewed for compliance with federal and state law and are publicly reported in accordance with US election laws.

The PAC paused all contributions beginning in January 2021 and we expect to restart them in 2022. During this time PAC re-evaluated its criteria for candidate support.

Tax transparency

Our code of conduct informs the responsible approach we take to managing taxes. We endorse the B Team responsible tax principles and we engage in open and constructive dialogue with governments and tax authorities. We do not tolerate the facilitation of tax evasion by people who act for or on behalf of bp.

We are committed to transparency around our tax principles and the taxes we pay. We paid \$5.4 billion in corporate income and production taxes to governments in 2021 (2020 \$3.3 billion).

In 2021 we published the latest bp tax report, providing more detailed information on how we approach tax matters and the tax payments we make.

 [Read more **bp.com/tax**](https://www.bp.com/tax)

a Fewer reports were issued in-year in 2021 as the audit programme was delayed as a result of the COVID-19 pandemic and the Reinvent bp programme.

How we manage risk and risk factors

How we manage risk

bp manages, monitors and reports on the principal risks and uncertainties we have identified that can impact our ability to deliver our strategy. These risks are described in the Risk factors on page 76.

bp's system of internal control is a holistic set of internal controls that includes policies, processes, management systems, organizational structures, culture and behaviours employed to conduct bp's business and manage associated risks.

bp's risk management system

bp's risk management system and policy is designed to be a consistent and clear framework for managing and reporting risks from the group's business activities and operations to management and to the board. The system seeks to avoid incidents and enhance business outcomes by allowing us to:

- Understand the risk environment, identify the specific risks and assess the potential exposure for bp.
- Determine how best to deal with these risks to manage overall potential exposure.
- Manage the identified risks in appropriate ways.
- Monitor and seek assurance of the effectiveness of the management of these risks and intervene for improvement where necessary.
- Report up the management chain and to the board on a periodic basis on how principal risks are being managed, monitored, assured and the improvements that are being made.

Our risk management activities



Day-to-day risk management

Management and employees at our facilities, assets, and within our businesses, integrators and enablers (see page 12) seek to identify and manage risk, promoting safe, compliant and reliable operations. bp requirements, which take into account applicable laws and regulations, underpin the practical plans developed to help reduce risk and deliver safe, compliant and reliable operations as well as greater efficiency and sustainable financial results.

Business and strategic risk management

Our businesses, integrators and enablers integrate risk management into key business processes such as strategy, planning, performance management, resource and capital allocation and project appraisal. We do this by using a standard framework for collating risk data, assessing risk management activities, making further improvements and in connection with planning new activities.

Oversight and governance

Throughout the year, management, the leadership team, the board and relevant committees provide oversight of how principal risks to bp are identified, assessed and managed. They support appropriate governance of risk management including having relevant policies in place to help manage risks. Such oversight may include internal audit reports, group risk reports and reviews of the outcomes of business processes including strategy, planning and resource and capital allocation.

bp's group risk team analyses the group's risk profile and maintains the group's risk management system. Our internal audit team provides independent assurance to the chief executive and board as to whether the group's system of internal control is adequately designed and operating effectively to respond appropriately to the risks that are significant to bp.

How we manage risk and risk factors *continued*

Risk oversight and governance

Key risk oversight and governance committees include the following:

Leadership team and its committees

- Leadership team meeting – for oversight and for strategic and commercial risks.
- Group operations risk committee – for health, safety, security, environment and operations integrity risks.
- Group financial risk committee – for finance, treasury, trading and cyber risks.
- Group disclosure committee – for financial reporting risks.
- People and culture committee – for employee risks.
- Group ethics and compliance committee – for legal and regulatory compliance and ethics risks.
- Group sustainability committee – for non-operational sustainability risks.
- Resource commitment meeting – for investment decision risks.
- bp quarterly internal audit meeting – for assurance on the oversight of bp's principal risks.

Board and its committees

- bp board.
- Audit committee.
- Safety and sustainability committee.
- Remuneration committee.
- People and governance committee.

➔ For Board activities see page [90](#), bp governance framework see page [92](#), committee reports see pages [104-117](#) and Risk management and internal control see page [142](#)

Risk management processes

We aim for a consistent basis of measuring risk to:

- Establish a common understanding of risks on a like-for-like basis, taking into account potential impact and likelihood.
- Report risks and their management to the appropriate levels of the organization.

- Inform prioritization of specific risk management activities and resource allocation.

bp's risk management policy sets out requirements for businesses, integrators and enablers to follow. These requirements support the consideration of the following risk types:

- Strategic and commercial
- Safety and operational
- Compliance and control

Risk identification – businesses, integrators and enablers identify risks across the three risk types.

Risks are identified on an ongoing basis – this can be done using a range of approaches including workshops, subject matter expertise, hazard identification processes and engineering requirements.

Risk assessment – identified risks are assessed for potential impact across a number of criteria including:

- Health and safety
- Environmental
- Financial
- Non-financial (includes reputation and regulatory impact levels)

Likelihood is also assessed using a standardized set of criteria. This aims to provide a consistent basis for the evaluation of potential impact and likelihood, facilitating a comparison across risks.

Risk management and monitoring – risk management activities can be prioritized where improvements are needed based on a number of factors, including the risk assessment, strength of existing risk management measures, strategy and plans and legal and regulatory requirements. Risk management measures, including mitigations, are to be identified for each risk and monitored to the extent considered appropriate. To support leadership oversight of decisions relating to the risk assessment and management measures, risks are to be notified to, and the business's risk management measures are subject to endorsement at, the appropriate organizational level (EVP, SVP, VP) depending on the assessed potential impact and likelihood.

As part of bp's annual planning process, the leadership team and the board review the group's principal risks and uncertainties and determine risks for particular oversight by the leadership team, the board and their respective committees. These may be updated

during the year in response to changes in internal and external circumstances.

There can be no certainty that our risk management activities will mitigate or prevent these, or other risks, from occurring. Further details of the principal risks and uncertainties we face are set out in Risk factors on page 74.

Our risk profile

The nature of our business operations is long term, resulting in many of our risks being enduring in nature. Nonetheless, risks can develop and evolve over time and their potential impact or likelihood may vary in response to internal and external events. These may include emerging risks which are considered through existing processes, including an emerging risk paper considered at board meetings, bp's risk management system, the *bp Energy Outlook*, bp's Technology Insights Radar and ongoing emerging technology scanning and group strategic reviews.

We identify risks for particular oversight by the board and its various committees in the coming year.

Risks for particular oversight by the leadership team, the board and their committees in 2022

Areas of risk for particular oversight in 2022 have been reviewed and are listed below. These may be updated during the year in response to changes in internal and external circumstances. The oversight of other risks is undertaken in the normal course of business.

Climate-related risks

Risks associated with climate change and the transition to a lower carbon economy impact many elements of our strategy and, as such, these risks are considered through key business processes including agreeing the strategy, annual plan, capital allocation and investment decisions. The outputs of these key business processes are reviewed in line with the cadence of these activities. Further details are described in Climate-related financial disclosures on page 55.

Strategic and commercial risks

Financial liquidity

External market conditions can impact our financial performance. Supply and demand and the prices achieved for our products can be affected by a wide range of factors including

political developments, consumer preferences for low carbon energy, global economic conditions and the influence of OPEC+.

We seek to manage this risk through bp's diversified portfolio, our financial framework, liquidity stress testing, maintaining a significant cash buffer, regular reviews of market conditions and our planning and investment processes.

➔ See Energy markets, page 8 and Liquidity, financial capacity and financial, including credit, exposure, page 76

The impact of COVID-19

The continued impacts of COVID-19, including the impacts of measures implemented around the world in response to the pandemic, have contributed to significant volatility in the oil and gas prices and refining margins. bp's future financial performance will be impacted by the extent and duration of the current market conditions and the effectiveness of the actions that it and others take, including its financial interventions. Our financial frame is designed to be robust to periods of low price, whether or not due to COVID-19, with flexibility to reduce cost and capital expenditure if required. COVID-19 can also have operational impacts. We continue to monitor the impact of COVID-19 on our employees and operations and have instigated and maintained mitigation plans where the business considers them necessary.

Cyber security

Both targeted and indiscriminate threats to the security of our digital infrastructure and those of third parties continue to evolve rapidly and are increasingly prevalent across industries worldwide.

We seek to manage this risk through a range of measures, which include cyber security standards, security protection tools, ongoing detection and monitoring of threats and testing of cyber response and recovery procedures. We collaborate with governments, law enforcement agencies and industry peers to understand and respond to new and emerging cyber threats. We build awareness with our employees, share information on incidents with leadership for continuous learning and conduct regular exercises including with the leadership team to test response and recovery procedures.

Geopolitical

The diverse locations of our business activities and operations around the world expose us to a wide range of political developments and consequent changes to the economic and operating environment. Geopolitical risk is inherent to many regions in which we operate, and heightened political or social tensions or changes in key relationships could adversely affect the group.

We seek to manage this risk through development and maintenance of relationships with governments and stakeholders and by being trusted partners in each country and region. In addition, we closely monitor events and implement risk mitigation plans where deemed appropriate.

bp's exit from its businesses in Russia

bp announced it will exit its 19.75% shareholding in Rosneft and its other businesses with Rosneft in Russia. This decision was approved by the bp board on 27 February 2022. In response to the conflict in Ukraine, bp's business continuity plans have been activated and executive, country and business support teams have been established. We continue to monitor impacts to our people and our operations, and mitigation plans are being implemented where needed. For further information see the segmental overviews on pages 3, 48 and 49.

Safety and operational risks

Process safety, personal safety and environmental risks

The nature of the group's operating activities exposes us to a wide range of significant health, safety and environmental risks such as incidents associated with releases of hydrocarbons when drilling wells, operating facilities and transporting hydrocarbons.

Our operating management system★ helps us manage these risks and drive performance improvements. It sets out the standards and requirements which govern key risk management activities such as inspection, maintenance, testing, business continuity and crisis response planning and competency development. In addition, we conduct our drilling activity through a wells organization in

order to promote a consistent approach for designing, constructing and managing wells.

Security

Hostile acts such as terrorism or piracy could harm our people and disrupt our operations. We monitor for emerging threats and vulnerabilities to manage our physical and information security.

Our intelligence, security and crisis management teams provide strategic and operational risk management to our businesses through a network of regional security managers who provide front line risk management as well as conduct assurance activities through a team independent of the business. We continue to monitor threats globally and maintain disaster recovery, crisis and business continuity management plans.

Compliance and control risks

Ethical misconduct and legal or regulatory non-compliance

Ethical misconduct or breaches of applicable laws or regulations could damage our reputation, result in litigation, regulatory action and penalties, adversely affect results and shareholder value, and potentially affect our licence to operate.

Our code of conduct and our values and behaviours, applicable to all employees, are central to managing this risk. Additionally, we have various group requirements and training covering areas such as anti-bribery and corruption, anti-money laundering, competition/anti-trust law and international trade regulations. We seek to keep abreast of new regulations and legislation that could materially affect the implementation of our strategy or business and plan our response to them. We offer an independent confidential helpline, OpenTalk, for employees, contractors and other third parties.

Trading non-compliance

In the normal course of business, we are subject to risks around our trading activities which could arise from shortcomings or failures in our systems, risk management methodology, internal control processes or employee conduct.

We have specific operating standards and control processes to manage these risks, including guidelines specific to trading, and seek to monitor compliance through our dedicated compliance teams. We also seek to maintain a positive and collaborative relationship with regulators and the industry at large.

Risk factors

The risks discussed below, separately or in combination, could have a material adverse effect on the implementation of our strategy, our business, financial performance, results of operations, cash flows, liquidity, prospects, shareholder value and returns and reputation.

Strategic and commercial risks

Prices and markets

– our financial performance is impacted by fluctuating prices of oil, gas and refined products, technological change, exchange rate fluctuations, and the general macroeconomic outlook.

Oil, gas and product prices are subject to international supply and demand and margins can be volatile.

Political developments, increased supply from new oil and gas or alternative low carbon energy sources, technological change, global economic conditions, public health situations (including the continued impact of the COVID-19 pandemic or any future epidemic or pandemic), the introduction of new carbon costs and the influence of OPEC+ can impact supply and demand and prices for our products.

Decreases in oil, gas or product prices could have an adverse effect on revenue, margins, profitability and cash flows. If these reductions are significant or for a prolonged period, we may have to write down assets and reassess the viability of certain projects, which may impact future cash flows, profit, capital expenditure, the ability to work within our financial frame and maintain our long-term investment programme. Conversely, an increase in oil, gas and product prices may not improve margin performance as there could be increased fiscal take, cost inflation and more onerous terms for access to resources. The profitability of our refining activities can be volatile, with periodic over-supply or supply tightness in regional markets and fluctuations in demand.

Exchange rate fluctuations can create currency exposures and impact underlying costs and revenues. Crude oil prices are generally set in US dollars, while products vary in currency. Many of our major project ★ development costs are denominated in local currencies, which may be subject to fluctuations against the US dollar.

Accessing and progressing hydrocarbon resources and low carbon opportunities

– inability to access and progress hydrocarbon resources and low carbon opportunities could adversely affect delivery of our strategy.

Delivery of our strategy depends partly on our ability to progress hydrocarbon resources from our existing portfolio and access new resources in our existing core regions. Our ability to progress upstream resources and develop technologies at a level in line with our strategic outlook for hydrocarbon production could impact our future production and financial performance. Furthermore, our ability to access low carbon opportunities and the commercial terms associated with those opportunities could impact our financial performance and the pace of our transition to an integrated energy company in line with our strategy.

Major project delivery

– failure to invest in the best opportunities or deliver major projects successfully could adversely affect our financial performance.

We face challenges in developing major projects, particularly in geographically and technically challenging areas. Poor investment choice, efficiency or delivery, or operational challenges at any major project that underpins production or production growth, could adversely affect our financial performance.

Geopolitical

– exposure to a range of political developments and consequent changes to the operating and regulatory environment could cause business disruption.

We operate and may seek new opportunities in countries, regions and cities where political, economic and social transition may take place. Political instability, changes to the regulatory environment or taxation, international trade disputes and barriers to free trade, international sanctions, expropriation or nationalization of property, civil strife, strikes, insurrections,

acts of terrorism, acts of war and public health situations (including the continued impact of the COVID-19 pandemic or any future epidemic or pandemic) may disrupt or curtail our operations, business activities or investments. These may in turn cause production to decline, limit our ability to pursue new opportunities, affect the recoverability of our assets and our related earnings and cash flow or cause us to incur additional costs, particularly due to the long-term nature of many of our projects and significant capital expenditure required.

Events in, or relating to Russia and the conflict in Ukraine, including trade restrictions, international sanctions or any other actions taken by governmental authorities or other relevant persons will adversely impact our income and investment in or relating to Russia and could impact our ability to exit our interests in Rosneft and our other businesses with Rosneft within Russia, and the value we can realise for those interests.

Liquidity, financial capacity and financial, including credit, exposure

– failure to work within our financial framework could impact our ability to operate and result in financial loss.

Failure to accurately forecast or work within our financial framework could impact our ability to operate and result in financial loss. Trade and other receivables, including overdue receivables, may not be recovered, divestments may not be successfully completed and a substantial and unexpected cash call or funding request could disrupt our financial framework or overwhelm our ability to meet our obligations.

An event such as a significant operational incident, legal proceedings or a geopolitical event in an area where we have significant activities, could reduce our financial liquidity and our credit ratings. Credit rating downgrades could potentially increase financing costs and limit access to financing or engagement in our trading activities on acceptable terms, which could put pressure on the group's liquidity.

They could also potentially require the company to review the funding arrangements with the bp pension trustees. In the event of extended constraints on our ability to obtain financing, we could be required to reduce capital expenditure or increase asset disposals in order to provide additional liquidity.

➔ See Liquidity and capital resources, page 342 and Financial statements – Note 28

Joint arrangements and contractors

– varying levels of control over the standards, operations and compliance of our partners, contractors and sub-contractors could result in legal liability and reputational damage.

We conduct many of our activities through joint arrangements, associates or with contractors and sub-contractors where we may have limited influence and control over the performance of such operations.

Our partners and contractors are responsible for the adequacy of their resources and capabilities. If these are found to be lacking, there may be financial, operational or safety exposures for bp. Should an incident occur in an operation that bp participates in, our partners and contractors may be unable or unwilling to fully compensate us against costs we may incur on their behalf or on behalf of the arrangement. Where we do not have operational control of a venture or direct oversight of contractor activity, we may still be pursued by regulators or claimants in the event of an incident.

Digital infrastructure, cyber security and data protection

– breach or failure of our or third parties' digital infrastructure or cyber security, including loss or misuse of sensitive information could damage our operations, increase costs and damage our reputation.

The energy industry is subject to fast-evolving risks, including ransomware, from cyber threat actors, including nation states, criminals, terrorists, hacktivists and insiders. Current geopolitical factors have increased these risks. There is also growing regulation around data protection and data privacy. A breach or failure of our or third parties' digital infrastructure – including control systems – due to breaches of our cyber defences, or those of third parties, negligence, intentional misconduct or other reasons, could seriously disrupt our operations. This could result in the loss or misuse of data or

sensitive information, including employees' and customers' personal data, injury to people, disruption to our business, harm to the environment or our assets, legal or regulatory breaches, legal liability and significant costs including fines, cost of remediation or reputational consequences. Furthermore, the rapid detection of attempts to gain unauthorized access to our digital infrastructure, often through the use of sophisticated and co-ordinated means, is a challenge and any delay or failure to detect could compound these potential harms.

Climate change and the transition to a lower carbon economy

– developments in policy, law, regulation, technology and markets, including societal and investor sentiment, related to the issue of climate change could increase costs, reduce revenues, constrain our operations and affect our business plans and financial performance.

Laws, regulations, policies, obligations, government actions, social attitudes and customer preferences relating to climate change and the transition to a lower carbon economy, including the pace of change to any of these factors, and also the pace of the transition itself, could have adverse impacts on our business including on our access to and realization of competitive opportunities in any of our strategic focus areas, a decline in demand for, or constraints on our ability to sell certain products, constraints on production and supply, adverse litigation and regulatory or litigation outcomes, increased costs from compliance and increased provisions for environmental and legal liabilities.

Investor preferences and sentiment are influenced by environmental, social and corporate governance (ESG) considerations including climate change and the transition to a lower carbon economy. Changes in those preferences and sentiment could affect our access to capital markets and our attractiveness to potential investors, potentially resulting in reduced access to financing, increased financing costs and impacts upon our business plans and financial performance.

Technological improvements or innovations that support the transition to a lower carbon economy, and customer preferences or regulatory incentives that alter fuel or power choices, could impact demand for oil and gas.

Depending on the nature and speed of any such changes and our response, these changes

could increase costs, reduce our profitability, reduce demand for certain products, limit our access to new opportunities, require us to write down certain assets or curtail or cease certain operations, and affect investor sentiment, our access to capital markets, our competitiveness and financial performance.

Policy, legal regulatory, technological and market developments related to climate change could also affect future price assumptions used in the assessment of recoverability of asset carrying values including goodwill, the judgement as to whether there is continued intent to develop exploration and appraisal intangible assets, the timing of decommissioning of assets and the useful economic lives of assets used for the calculation of depreciation and amortization.

➔ See Climate-related financial disclosures, page 55 and Financial statements – Note 1

Competition

– inability to remain efficient, maintain a high-quality portfolio of assets and innovate could negatively impact delivery of our strategy in a highly competitive market.

Our strategic progress and performance could be impeded if we are unable to control our development and operating costs and margins, if we fail to scale our businesses at pace, or to sustain, develop and operate a high-quality portfolio of assets efficiently. Furthermore, as we transition from an international oil company to an integrated energy company, we face an expanded and rapidly evolving range of competitors in the sectors in which we operate. We could be adversely affected if competitors offer superior terms for access rights or licences, or if our innovation in areas such as new low carbon technologies, digital, customer offer, exploration, production, refining, manufacturing or renewable energy lags behind those of our competitors. Our performance could also be negatively impacted if we fail to protect our intellectual property.

Talent and capability

– inability to attract, develop and retain people with necessary skills and capabilities could negatively impact delivery of our strategy.

The sectors in which we operate face increasing challenges to attract and retain diverse, skilled and capable talent. An inability to successfully recruit, develop and retain core skills and capabilities and to reskill existing talent could negatively impact delivery of our strategy.

How we manage risk and risk factors continued

Crisis management and business continuity

– failure to address an incident effectively could potentially disrupt our business.

Our business activities could be disrupted if we do not respond, or are perceived not to respond, in an appropriate manner to any major crisis or if we are not able to restore or replace critical operational capacity.

Insurance

– our insurance strategy could expose the group to material uninsured losses.

bp generally purchases insurance only in situations where this is legally and contractually required. Some risks are insured with third parties and reinsured by group insurance companies. Uninsured losses could have a material adverse effect on our financial position, particularly if they arise at a time when we are facing material costs as a result of a significant operational event which could put pressure on our liquidity and cash flows.

Safety and operational risks

Process safety, personal safety, and environmental risks

– exposure to a wide range of health, safety, security and environmental risks could cause harm to people, the environment and our assets and result in regulatory action, legal liability, business interruption, increased costs, damage to our reputation and potentially denial of our licence to operate.

Technical integrity failure, natural disasters, extreme weather or a change in its frequency or severity, human error and other adverse events or conditions, including breach of digital security, could lead to loss of containment of hydrocarbons or other hazardous materials. This could also lead to constrained availability of resources used in our operating activities, as well as fires, explosions or other personal and process safety incidents, including when drilling wells, operating facilities and those associated with transportation by road, sea or pipeline. There can be no certainty that our operating management system★ or other policies and procedures will adequately identify all process safety, personal safety and environmental risks or that all our operating activities, including acquired businesses, will be conducted in conformance with these systems.

 See Safety, page 69

Such events or conditions, including a marine incident, or inability to provide safe environments for our workforce and the public while at our facilities, premises or during transportation, could lead to injuries, loss of life or environmental damage. As a result we could face regulatory action and legal liability, including penalties and remediation obligations, increased costs and potentially denial of our licence to operate. Our activities are sometimes conducted in hazardous, remote or environmentally sensitive locations, where the consequences of such events or conditions could be greater than in other locations.

Drilling and production

– challenging operational environments and other uncertainties could impact drilling and production activities.

Our activities require high levels of investment and are sometimes conducted in challenging environments such as those prone to natural disasters and extreme weather, which heightens the risks of technical integrity failure. The physical characteristics of an oil or natural gas field, and cost of drilling, completing or operating wells is often uncertain. We may be required to curtail, delay or cancel drilling operations or stop production because of a variety of factors, including unexpected drilling conditions, pressure or irregularities in geological formations, equipment failures or accidents, adverse weather conditions and compliance with governmental requirements.

Security

– hostile acts against our employees and activities could cause harm to people and disrupt our operations.

Acts of terrorism, piracy, sabotage and similar activities directed against our operations and facilities, pipelines, transportation or digital infrastructure could cause harm to people and severely disrupt operations. Our activities could also be severely affected by conflict, civil strife or political unrest.

Product quality

– supplying customers with off-specification products could damage our reputation, lead to regulatory action and legal liability, and impact our financial performance.

Failure to meet product quality specifications could cause harm to people and the environment, damage our reputation, result in regulatory action and legal liability, and impact financial performance.

Compliance and control risks

Ethical misconduct and non-compliance

– ethical misconduct or breaches of applicable laws by our businesses or our employees could be damaging to our reputation, and could result in litigation, regulatory action and penalties.

Incidents of ethical misconduct or non-compliance with applicable laws and regulations, including anti-bribery and corruption, competition and antitrust, and anti-fraud laws, trade restrictions or other sanctions, could damage our reputation, and result in litigation, regulatory action, penalties and potentially affect our licence to operate. In relation to trade restrictions or other sanctions, current geopolitical factors have increased these risks.

Regulation

– changes in the law and regulation could increase costs, constrain our operations and affect our business plans and financial performance.

Our businesses and operations are subject to the laws and regulations applicable in each country, state or other regional or local area in which they occur. These laws and regulations result in an often complex, uncertain and changing legal and regulatory environment for our global businesses and operations. Changes in laws or regulations, including how they are interpreted and enforced, can and does impact all aspects of our business.

Royalties and taxes, particularly those applied to our hydrocarbon activities, tend to be high compared with those imposed on similar commercial activities. In certain jurisdictions there is also a degree of uncertainty relating to tax law interpretation and changes. Governments may change their fiscal and regulatory frameworks in response to public pressure on finances, resulting in increased amounts payable to them or their agencies.

Changes in law or regulation could increase the compliance and litigation risk and costs, reduce our profitability, reduce demand for or constrain our ability to sell certain products, limit our access to new opportunities, require us to divest or write down certain assets or curtail or cease certain operations, or affect the adequacy of our provisions for pensions, tax, decommissioning, environmental and legal liabilities. Changes in laws or regulations could result in the nationalization, expropriation, cancellation, non-renewal or renegotiation of our interests, assets and related rights. Potential changes to pension or financial market regulation could also impact funding requirements of the group. Following the Gulf of Mexico oil spill, we may be subjected to a higher level of fines or penalties imposed in relation to any alleged breaches of laws or regulations, which could result in increased costs.



See Regulation of the group's business, page [356](#)

Trading and treasury trading activities

– ineffective oversight of trading and treasury trading activities could lead to business disruption, financial loss, regulatory intervention or damage to our reputation and affect our permissions to trade.

We are subject to operational risk around our trading and treasury trading activities in financial and commodity markets, some of which are regulated. Failure to process, manage and monitor a large number of complex transactions across many markets and currencies while complying with all regulatory requirements could hinder profitable trading opportunities. There is a risk that a single trader or a group of traders could act outside of our delegations and controls, leading to regulatory intervention and resulting in financial loss, fines and potentially damaging our reputation, and could affect our permissions to trade.



See Financial statements – [Note 28](#)

Reporting

– failure to accurately report our data could lead to regulatory action, legal liability and reputational damage.

External reporting of financial and non-financial data, including reserves estimates, relies on the integrity of the control environment, our systems and people operating them. Failure to report data accurately and in compliance with applicable standards could result in regulatory action, legal liability and damage to our reputation.

Compliance information

bp non-financial reporting information statement

Produced in compliance with Sections 414CA and 414CB of the Companies Act. Information incorporated by cross reference.

Requirement	Relevant policies and standards	Information related to policies, any due diligence process and the outcome (a-e)
a. Environmental matters	<ul style="list-style-type: none"> Net zero aims TCFD (governance and risk management) Sustainability frame Biodiversity position (online) 	<ul style="list-style-type: none"> Climate-related financial disclosures – pages 55-66. Caring for our planet aims – page 68. Our operating management system (OMS) – page 69. Decision making by the board – page 97.
b. Employees	<ul style="list-style-type: none"> Reinvent bp guidelines bp values and code of conduct (online) 	<ul style="list-style-type: none"> Our people – pages 71-72. Safety – pages 69-71 Our values and code of conduct – page 69. Employee engagement (Pulse survey) – page 72. How the board engaged with stakeholders (workforce) – pages 93-96.
c. Social matters	<ul style="list-style-type: none"> Sustainability frame 	<ul style="list-style-type: none"> Caring for our planet – page 68. Our operating management system – page 69. Improving people's lives – page 67. Decision making by the board – page 97.
d. Respect for human rights	<ul style="list-style-type: none"> Business and human rights policy (online) Modern slavery statement (online) Labour rights and modern slavery principles (online) Code of conduct (online) 	<ul style="list-style-type: none"> Human rights – page 67. Our values and code of conduct – page 69.
e. Anti-corruption and anti-bribery	<ul style="list-style-type: none"> Anti-bribery and corruption policy Code of conduct (online) 	<ul style="list-style-type: none"> Ethics and compliance – page 72. Our partners in joint arrangements – page 71.
Description of principal risks relating to matters (a-e above)		<ul style="list-style-type: none"> How we manage risk – pages 73-75. Risk factors – pages 76-79. TCFD (climate-related risk management) – page 65.
Relevant information		
Business model description	<ul style="list-style-type: none"> Business model – pages 12-15. 	
Description of non-financial KPIs	<ul style="list-style-type: none"> Measuring our progress – pages 24, 26-27. 	

TCFD index table

Our expanded TCFD disclosures can be found on the following pages.

TCFD Recommendation	TCFD Recommended Disclosure	Where reported
Governance Disclose the organization's governance around climate-related issues and opportunities.	<p>a. Describe the board's oversight of climate-related risks and opportunities.</p> <p>b. Describe the management's role in assessing and managing climate-related risks and opportunities.</p>	<ul style="list-style-type: none"> Pages 55-57. Page 57-58.
Strategy Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's business, strategy and financial planning where such information is material.	<p>a. Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.</p> <p>b. Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.</p> <p>c. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.</p>	<ul style="list-style-type: none"> Pursuing a strategy that is consistent with the Paris goals, page 30. Strategy – page 58-60. Risk factors, page 76. Risk factors, page 76 – description of principal risks. Strategy – page 58-60. Strategy, page 58-60. Pursuing a strategy that is consistent with the Paris goals, page 30.
Risk management Disclose how the organization identifies, assesses and manages climate-related risks.	<p>a. Describe the organization's processes for identifying and assessing climate-related risks.</p> <p>b. Describe the organization's processes for managing climate-related risks.</p> <p>c. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.</p>	<ul style="list-style-type: none"> Risk management – page 65. How we manage risk, pages 73. Risk factors – page 76. Risk management, pages 65. How we manage risk, page 73. How we manage risk, page 73. Risk management, pages 65. How we manage risk, page 73. Risk factors – pages 76.
Metrics and targets Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	<p>a. Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.</p> <p>b. Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions, and the related risks.</p> <p>c. Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.</p>	<ul style="list-style-type: none"> Our strategic focus areas and metrics, page 16. Our group-wide principal metrics and relevant targets – page 66. GHG emissions data – pages 51-54. Our net zero targets and aims at a glance – pages 51.

Section 172 statement

In accordance with the requirements of Section 172 of the Companies Act 2006 ('the Act'), the directors consider that, during the financial year ended 31 December 2021, they have acted in a way that they consider, in good faith, would most likely promote the success of the company for the benefit of its members as a whole, having regard to the likely consequences of any decision in the long term and the broader interests of other stakeholders, as required by the Act.

 See page [97](#) for more information in support of this statement, including a description of the board's activities during 2021.

The Strategic report was approved by the board and signed on its behalf by Ben J.S.Mathews, company secretary, on 18 March 2022