



equinor

Climate roadmap

1 Creating a low carbon advantage



We will develop our business in support of the climate ambitions of the Paris Agreement

We believe a low carbon footprint will make us more competitive in the future. We also believe there are attractive business opportunities in the transition to a low-carbon economy. Equinor wants to be a part of this transformation in order to fulfil our purpose of turning natural resources into energy for people and progress for society.

Changing our name from Statoil to Equinor, in May 2018, reflects our purpose and strategy presented in February 2017 - *always safe, high value, low carbon*. Embedded in the strategy is a new set of principles to guide our decision-making. One of these principles is that we should leverage our low carbon advantage.

Our Climate roadmap describes how we plan to achieve this and how we will develop our business, supporting the ambitions of the Paris Climate Agreement.

It is a platform – and an invitation – to work with us to realise our vision of ‘Shaping the future of energy’.

A handwritten signature in black ink, reading 'Eldar Sætre'. The signature is stylized with a large 'E' and a cursive 'Sætre'.

Eldar Sætre, CEO and President





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We are Equinor

A broad energy company

OUR PURPOSE

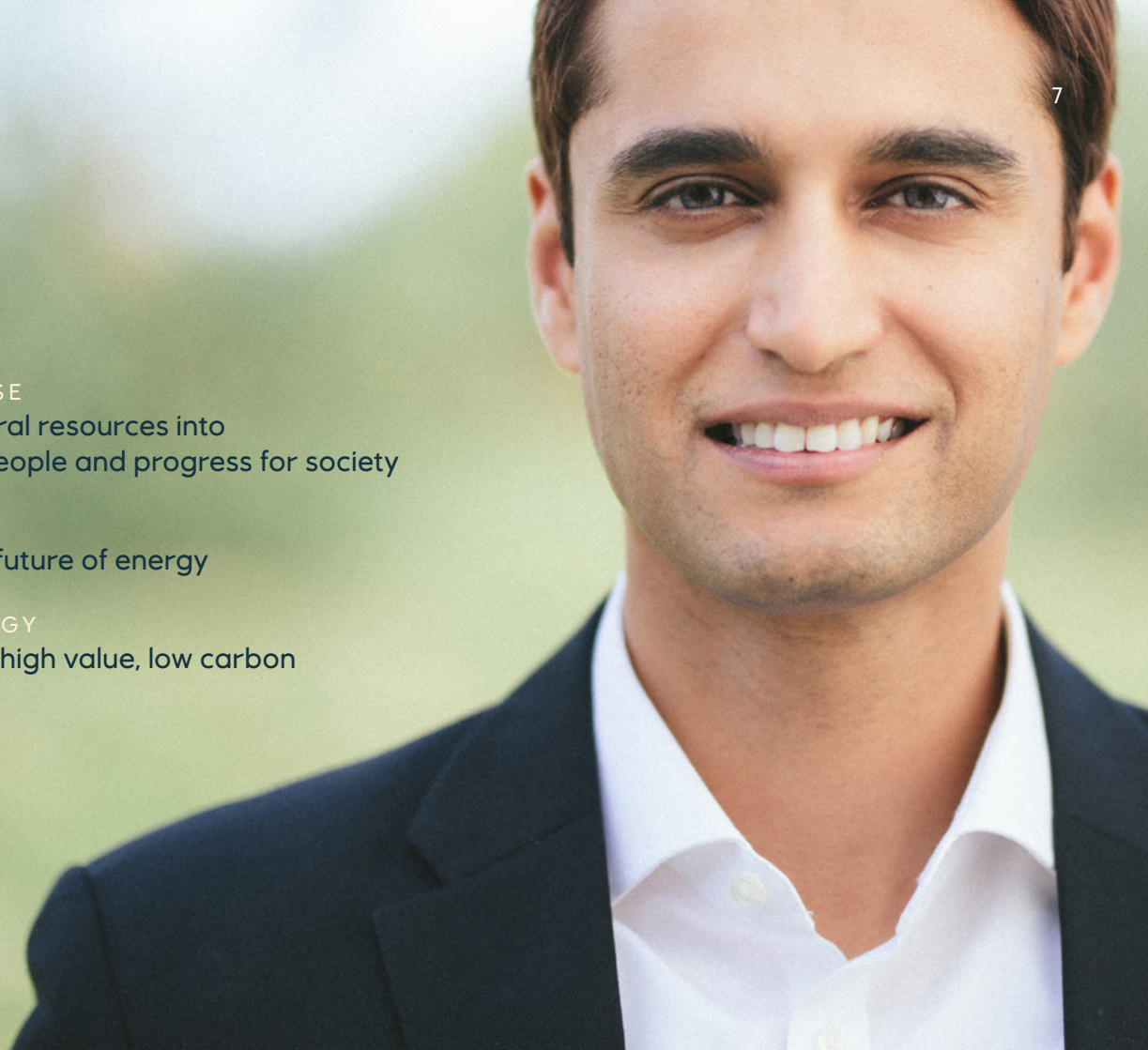
Turning natural resources into
energy for people and progress for society

OUR VISION

Shaping the future of energy

OUR STRATEGY

Always safe, high value, low carbon



Sustainability is embedded in our strategy and performance

Always safe

Serious incident frequency¹



High value

Break-even,
Next generation portfolio²

21 USD/bbl

Free cash flow positive below³

50 USD/bbl

2017 efficiency improvements⁴

1.3 bn USD

Low carbon

Upstream
CO₂ intensity 2017⁵

9 kg CO₂ /boe

CO₂ emission reductions 2017⁵

10% of 3 million target

Installed capacity offshore wind 2017

750 MW


1. Serious incidents per million hours worked

2. Equinor- and partner-operated projects, sanctioned since 2015 or planned for sanction, with start-up by 2022. Volume weighted

3. Organic free cash flow, excluding considerations from announced transactions

4. Additional 2017 effects, total 4.5 bn USD in cost savings compared to 2013

5. Equinor operated portfolio. 100% basis.



Our strategy – always safe, high value, low carbon – positions us as an energy company committed to long term value creation in a low carbon future.

Equinor is providing millions of people with energy every day. We are developing from an oil and gas company to a broad energy company.

We will actively shape our portfolio to create high value with a lower carbon footprint: so that Equinor remains fit for the future towards 2030 and beyond. We do this in two ways: First, we are building a high value oil and gas portfolio with a lower carbon footprint, by ensuring that the most competitive hydrocarbons are produced as efficiently as possible. Second, we are building a material industrial position in new energy solutions.

We believe that this long-term perspective will make us more competitive, while supporting the ambitions set out in the Paris climate agreement. We embrace the energy transition as an opportunity for sustainable growth. Maintaining our position as an industry leader in carbon efficient oil and gas production while growing renewables and low carbon energy solutions will help Equinor to thrive in the energy transition – and at the same time position us to ensure a competitive advantage in a low carbon world.

Equinor supports the Sustainable Development Goals (SDGs). Our Climate roadmap entails Equinor's contributions to SDG 7 Clean and Affordable Energy and SDG 13 Climate Action. Effective partnerships and collaborations (SDG 17) will play a central role in the delivery of this agenda.

Our climate roadmap:
**A strategy to create a
low carbon advantage**



Build a high value and lower carbon oil and gas portfolio

CO₂ emission reductions of 3 million tonnes per year by 2030¹

Upstream portfolio carbon intensity of 8kg CO₂/boe

Create a material industrial position in new energy solutions

We expect around 15-20% of our investments to be directed towards new energy solutions in 2030, assuming we can access and mature profitable projects.

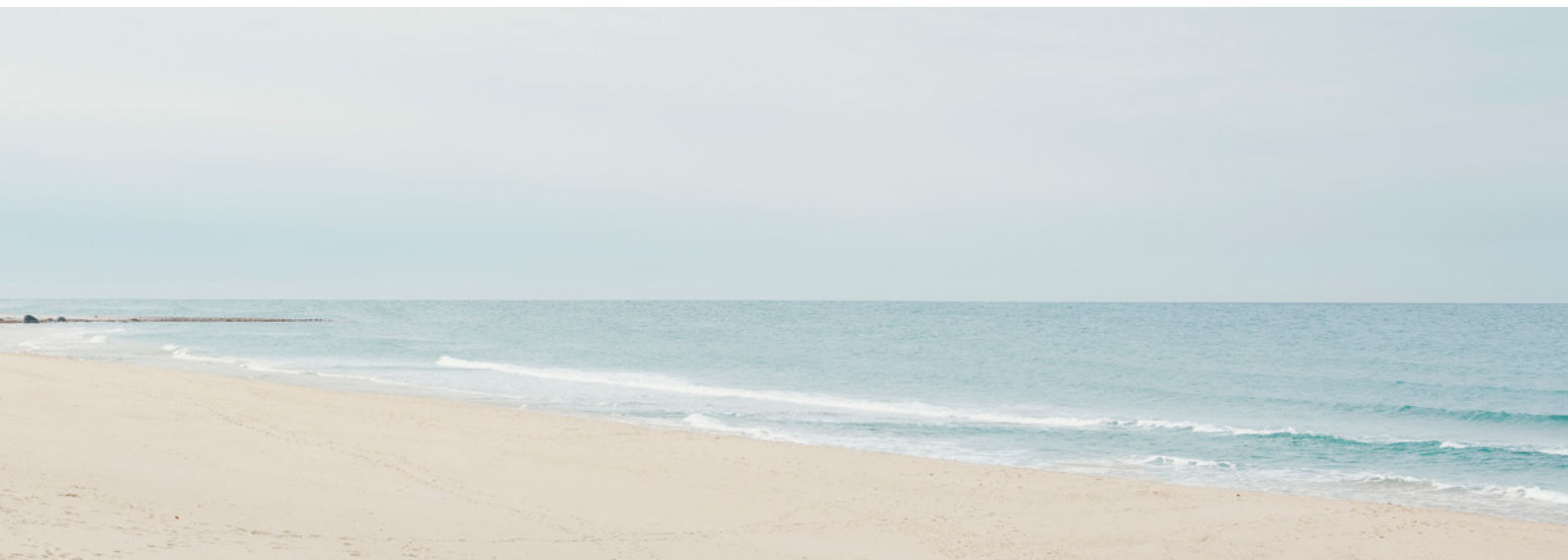
Up to 25% of research funds to new energy solutions and energy efficiency by 2020

Accountability and collaboration to amplify climate action

Portfolio stress-testing and transparent reporting

Climate embedded in strategy, decision-making and incentives

1. We aim to achieve, by 2030, annual CO₂ emissions that are 3 million tonnes less than they would have been, had no reduction measures been implemented between 2017 and 2030.



Energy transition - a call for action

The world needs energy producers that can deliver at low cost, with lower emissions.

The world needs affordable and reliable energy to supply growing demand. At the same time it needs to reduce greenhouse gas emissions. The decoupling of energy use from emissions represents a fundamental challenge to all of us.

Renewables are becoming competitive without subsidies in many markets. According to our Energy Perspectives report, new renewables are set to represent up to 6-19% of the energy mix by 2050, compared with less than 2% today¹. This is a business opportunity for Equinor.

Oil and gas will continue to make up a sizeable part of the energy mix in 2050. Sectors such as heavy transport, aviation, industry, petrochemicals and heating and cooling in buildings will continue to rely on oil and gas for decades to come. Natural gas as a replacement for coal in power generation is a critical part of a credible low-carbon strategy. The natural gas we currently supply to Europe is helping countries reduce emissions.

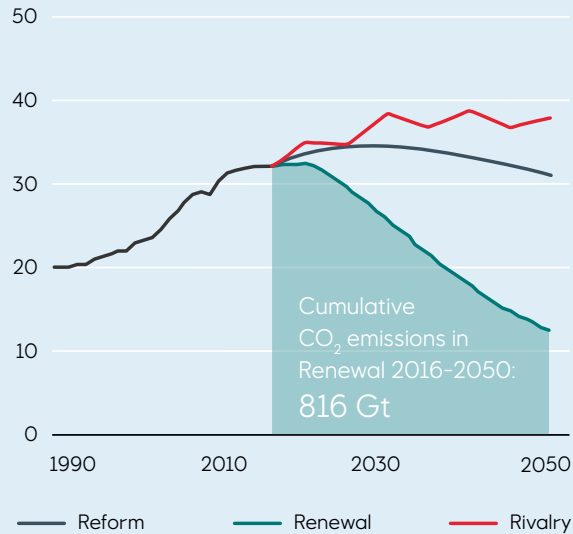
These are the reasons why we continue to explore for and invest in oil and gas projects. Without new investment, production from global oil and gas fields currently in operation would decline at around 3-6% per year¹, which would not be sufficient to meet future demand. As not all oil and gas resources will be developed, Equinor is exploring to find the most competitive barrels, shaped by production cost, energy prices, technology and carbon intensity.

There are many uncertainties in the transition to low carbon energy. Game-changing technologies, stricter climate policies and new entrants may disrupt the energy industry. We cannot predict the future, but we do know that nothing prepares us better than our ability to adapt.

1. Equinor Energy Perspectives, June 2018

The world needs lower CO₂ emissions

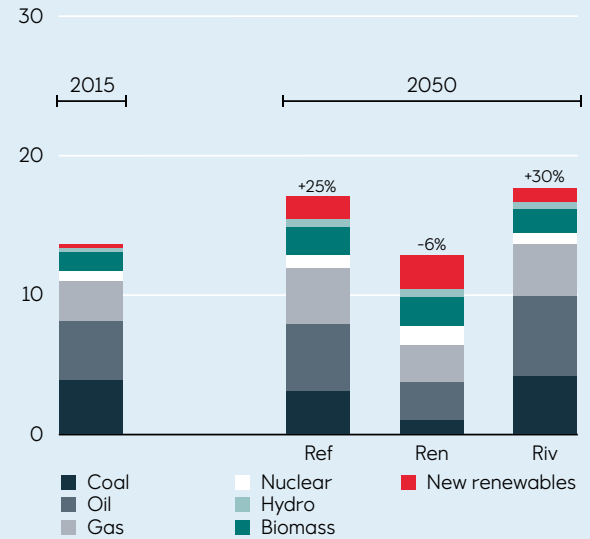
World CO₂ emissions. (Billion tonnes)



Source: IEA (history), Equinor (projections)

Succeeding with energy transition is critical

World energy demand per fuel. (Billion toe¹)



1. Tonnes of oil equivalent





15

Building a
high value and lower carbon
oil and gas portfolio

Reducing our own emissions

We aim to achieve CO₂ emission reductions of 3 million tonnes per year by 2030 and to eliminate routine flaring.

As a large producer of oil and gas, Equinor emitted approximately 15 million tonnes of CO₂ equivalents from our operated portfolio in 2017 (100% basis). We have implemented emission reduction measures summing up to about 1.8 million tonnes CO₂ per year by 2016 compared to emissions in 2008, largely through better energy management, technical design and flaring reductions.

We are now accelerating our initiatives to achieve reductions amounting to a further 3 million tonnes of CO₂ per year by 2030, compared to estimated emissions in 2017¹. To achieve our goals, we will systematically pursue energy efficiency measures, electrification and other low-carbon energy sources at our installations. We need big leaps that will come from new technologies, but we also need many small steps initiated by our employees and in collaboration with our business partners. These are driven by adopting the right attitude to ensure smart operational improvements that reduce emissions and drive energy efficiency.

In Norway we do not have routine flaring in our operations. We have set a company-wide upstream flaring intensity target of 0.2% by 2020 for our operated assets. This was set in 2012 as part of our commitment to the Sustainable Energy for All Initiative. Our aim is to stop routine flaring in our operations by 2030 at the latest, in line with the World Bank Zero Flaring by 2030 initiative.

Currently Equinor's upstream flaring intensity for our operated assets is around 0.2% of hydrocarbons produced², aligned with our 2020 target. This is significantly lower than the industry average of 1.3%.³

1. We aim to achieve, by 2030, annual CO₂ emissions that are 3 million tonnes less than they would have been, had no reduction measures been implemented between 2017 and 2030. This includes the Norwegian Konkraft target amounting to 2 million tonnes of CO₂ per year by 2030 compared to 2020.

2. 2 tonnes gas flared per thousand tonnes of hydrocarbon produced.

3. 13 tonnes gas flared per thousand tonnes of hydrocarbon produced, IOGP 2016 data.

Continuous improvement of our facilities

> 300

Energy efficiency projects since 2008

3 million tonnes

Annual CO₂ emission reductions by 2030

3-4 years

Average payback time



An industry leader in carbon intensity

We will reduce the carbon intensity of our upstream oil and gas portfolio from 10 to 8kg CO₂ /boe by 2030.

We believe there is a significant correlation between cost and carbon intensity – and minimising both is crucial to ensuring that our portfolio is resilient as we move towards a low-carbon future.

We intend to reduce the carbon intensity of our oil and gas portfolio by prioritising high value exploration and development projects with a lower carbon footprint. This shift helps us to reduce the business risk associated with climate change. Oil sands and extra heavy oil do not have a place in our strategy.

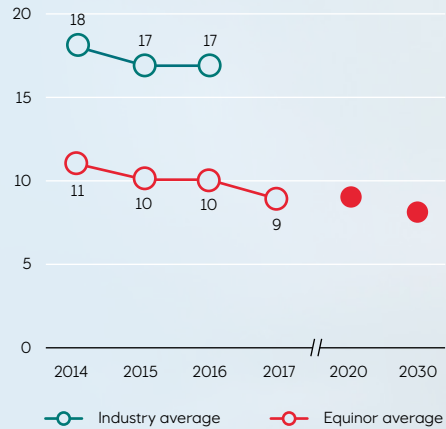
We aim to remain an industry leader in carbon efficiency: emitting as little carbon as possible from each barrel produced. The carbon intensity of our operated upstream production is currently around 10kg CO₂ per barrel of oil equivalent (boe), compared with an industry average of 17kg CO₂ /boe¹. We have already set ourselves an upstream target of reducing that to 9kg CO₂ /boe by 2020. We are now pursuing a broader ambition to reduce it to 8kg CO₂ /boe by 2030.

The 2030 ambition is based on production and emission forecasts, sensitivity testing and emission reduction targets for each business area. This is an ambitious target. We have a portfolio with many ageing fields, particularly in Norway, and the carbon intensity of a field increases as it gets older, since more energy is required to produce smaller amounts of oil and gas. Although our emission reduction ambition is challenging, we believe that sustaining our carbon leadership will strengthen our competitiveness.

1. Source: International Association of Oil and Gas Producers (2017), Environmental Performance Data 2016. Based on operatorship.

Upstream CO₂ intensity

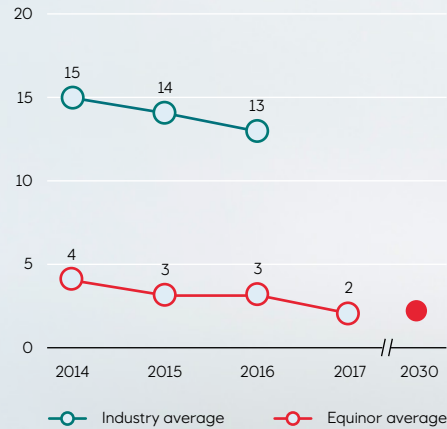
Kg CO₂/boe



Source: IOGP/Equinor

Upstream flaring intensity

Tonnes gas flared per thousand tonnes of hydrocarbon produced



Source: IOGP/Equinor



A long term perspective on improving our business

1991

CO₂ tax Norway

1996

Sleipner CCS

1997

Kyoto support

2004

Endorsing the
voluntary standard
for gas flaring
reduction

2000

First CO₂
reduction target

An aerial photograph of a winding asphalt road that curves through a dense, green forest. The road starts from the bottom left and winds its way towards the top right, disappearing into the trees. The background is a solid dark blue gradient.

2008

Commitment on industry leadership in carbon efficiency

Target to reduce emissions in Norway

2016

Annual emission reductions of 1.8 million tonnes CO₂ since 2008

2015

Commitment to support the Paris Agreement

Climate stress testing

2017

Climate embedded into strategy

Launch of Climate roadmap

CO₂ intensity 9kg CO₂/boe

650 000 homes powered by offshore wind

2020

25% of R&D on low carbon and energy efficiency

2030

8kg CO₂/boe

Reduce 3 million tonnes/year

15-20% of CAPEX in new energy

Minimising methane emissions

Methane emissions in the gas value chain from Norway to Europe are below 0.3% of gas delivered to the market.

Methane is the second most important greenhouse gas contributing to human induced climate change. It has a much shorter lifetime in the atmosphere than CO₂¹. While gas releases significantly less CO₂ than coal when combusted, methane emissions during production and distribution reduce its advantage. Minimising methane emissions is therefore essential.

A review of Equinor's reported emissions and third party studies² in 2017 showed that methane emissions in the gas value chain from Norway to Europe are around 0.2% of gas delivered to the market. At this level, the climate benefit of gas compared to coal is indisputable. For the upstream and midstream part of the value chain of piped gas to Europe which we control, the methane leakage rate is very low – only 0.02%³.

Emissions related to distribution to the final consumer represent around 80% of the total value chain emissions and the uncertainty in the numbers are high. That is why we are working with industry associations and initiatives, including the Oil and Gas Climate initiative (OGCI), to obtain higher quality data.

Measuring and reducing methane emissions from our US onshore operations is a key priority. In 2017 the methane emissions from these operations were around 0.08%, which is under 10% of the US industry average⁴.

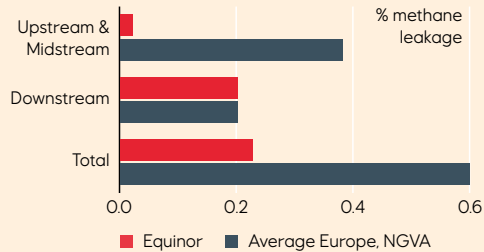
1. A global warming potential that is 25 times higher than CO₂ in a 100 year perspective is commonly used, aligned with the IPCC Fourth Assessment Report (AR4).

2. Exergica (July 2015); DBI (October/December 2016); Markogaz (February 2016)

3. M-515 (2016): Cold venting and fugitive emissions from Norwegian offshore oil and gas activities – summary report

4. NETL (April 2018). Industry partnerships and their role in reducing natural gas supply chain greenhouse gas emissions.

Greenhouse gas intensity of Norwegian piped gas is significantly lower than average



Sources: Equinor, NGVA/Thinkstep 2017, NETL 2018



We use infrared cameras and laser technology on drones to enhance our efforts.

Natural gas – part of the climate solution



During energy production, gas emits only half of the CO₂ of coal ¹

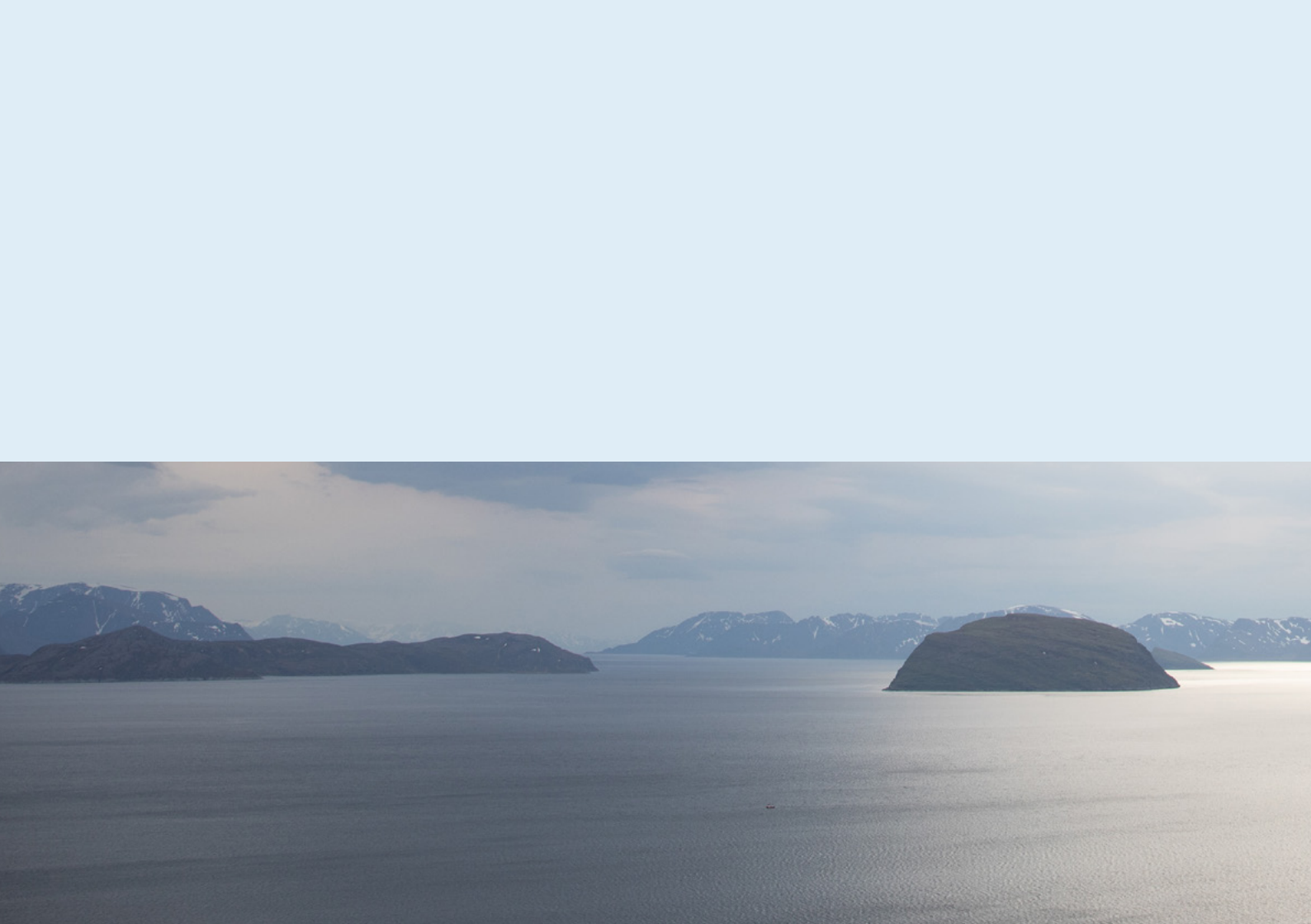


Gas provides stable base load to support new renewables



A significant, reliable provider of natural gas to Europe

¹ Source: National Energy Technology Laboratory (NETL). 2010.



Building on our oil and gas competence

We believe our oil and gas competence can be leveraged to create business opportunities in the transition to a low-carbon economy. We have a strong safety culture; capabilities to deliver large and complex projects; experience from maritime operations and maintenance; and focus on technology and innovation.





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Creating a material
industrial position in
new energy solutions



Scaling up investments

We expect around 15-20% of our investments to be directed towards new energy solutions in 2030, assuming we can access and mature profitable projects.

We are scaling up investments in new energy solutions, to gradually complement our oil and gas portfolio. That makes sense industrially, because we can use our competence from large, offshore industrial projects to create value in new areas. And it makes sense financially, because we see potential for profitable opportunities with an acceptable risk profile.

We currently focus on offshore wind, using our offshore experience to develop large-scale offshore wind parks. We have so far invested approximately USD 2.3 billion in offshore wind projects. Our wind farms are on track to deliver electricity to a million homes in Europe.

We expect our offshore wind portfolio to expand. Costs are decreasing while efficiency is increasing through larger wind turbines, better design and streamlined operations. We believe that our offshore wind projects will, over time, become commercial without support schemes.

With Hywind Scotland, the world's first floating wind farm, Equinor is unlocking the vast potential of floating offshore wind. We believe it's the next wave in renewable energy, as we can reach larger depths—further away from shore, which is ideal for our innovative solution, Hywind. As much as 80% of the of the total potential for offshore wind power is believed to be in deep waters.

We are also exploring opportunities in solar power. So far, we have made investments in solar projects in Brazil and Argentina.

Additionally, through our Equinor Energy Ventures fund, we plan to invest around USD 200 million in new energy solutions over the next 3-6 years.

Carbon capture, and storage (CCS)

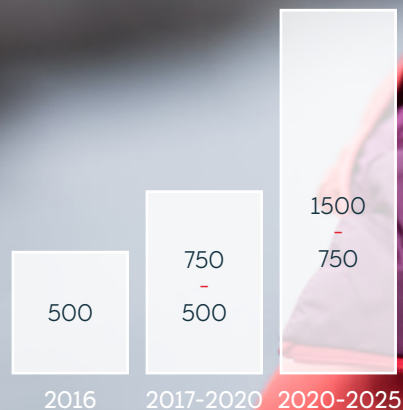
Investment in CCS is vital to reduce emissions from oil and gas and other sectors. Equinor has been a pioneer in CCS. We have captured and stored more than 23 million tonnes of CO₂ to date. Now we are trying to develop new business models to make CCS commercially viable.

Equinor is leading studies on behalf of the Norwegian authorities to develop full-scale CCS in Norway. The concept includes capturing CO₂ from onshore industry, transporting it by ships and injecting and permanently storing it 1000-2000 meters below the seabed.

Building a profitable new energy business

Indicative capex potential

USD million per year





Expanding within offshore wind

We operate three wind farms off the coast of the UK, and we are engaged in further large-scale wind projects offshore the UK, Germany, and the US. We're also pioneering innovation in floating offshore wind solutions for deeper waters. Hywind is at the forefront of this exciting new market.

Bottom fixed¹

Sheringham Shoal
In production

316 MW

Dudgeon
In production

402 MW

Arkona
In development

385 MW

Floating¹

Hywind demo
In production

2.3 MW

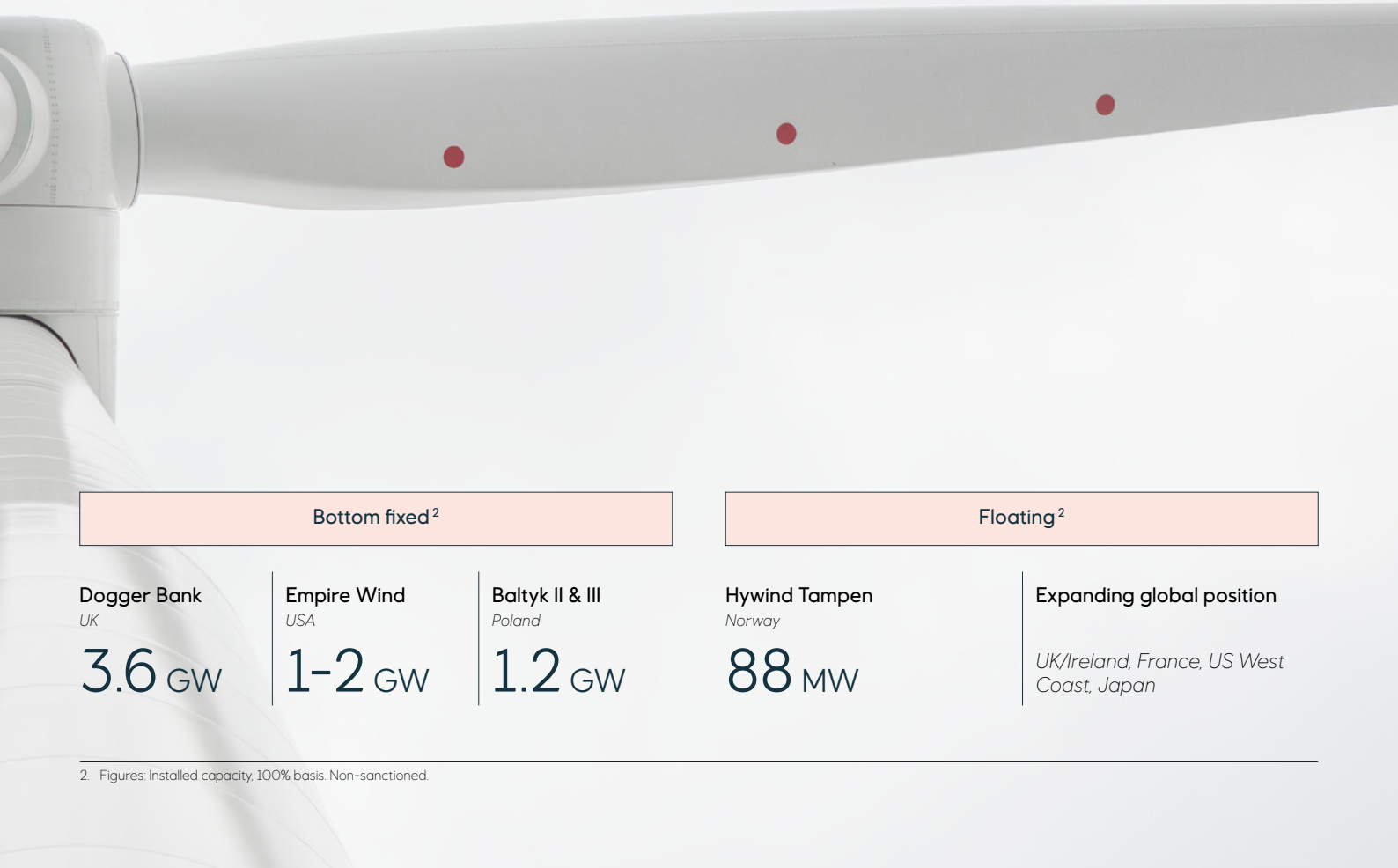
Hywind Scotland
In production

30 MW

Batwind
Installed

1 MW

1. Figures: Installed capacity, 100% basis.

**Bottom fixed²**

Dogger Bank
UK

3.6 GW

Empire Wind
USA

1-2 GW

Baltyk II & III
Poland

1.2 GW

Floating²

Hywind Tampen
Norway

88 MW

Expanding global position

UK/Ireland, France, US West Coast, Japan

² Figures: Installed capacity, 100% basis. Non-sanctioned.

Investing in low-carbon research and technology

We expect to devote up to 25% of research funds to new energy solutions and energy efficiency by 2020.

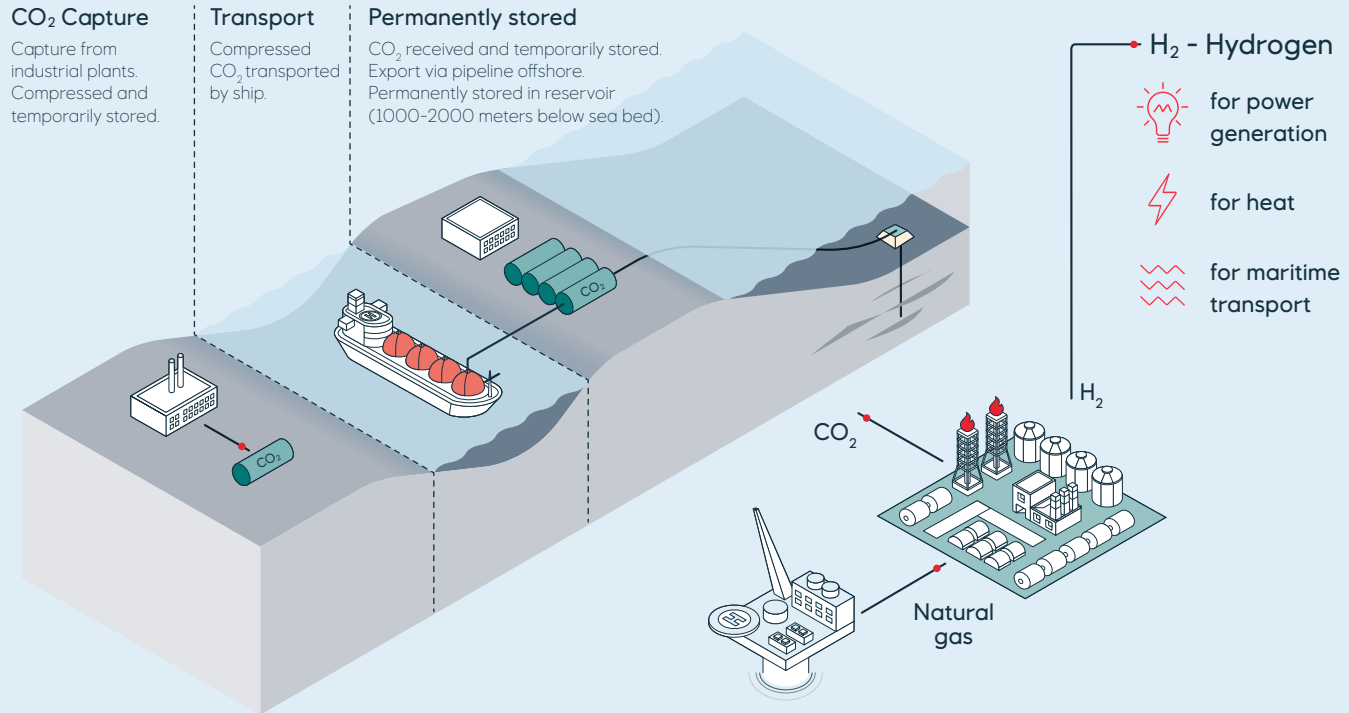
Leveraging our R&D and innovation capabilities will be key to developing new energy solutions at an acceptable cost. We are focusing on options to maintain the competitiveness of oil and gas in a low-carbon future, with efforts in the area of storage and utilisation of CO₂, decarbonisation of natural gas through hydrogen value chains, and low carbon fuel transportation solutions. We are also exploring synergies between renewables and oil and gas value chains.

By 2020, we expect to be devoting around 25% of research and development expenditure to new energy solutions and emission reduction efforts. Currently, around 18% of our R&D spending addresses energy efficiency, carbon capture & storage and renewables.

We are also looking into early stage opportunities for converting gas to hydrogen, while capturing and storing the CO₂, as a potential way to help our customers in the power and heating sectors to meet their climate targets. It is still early days for hydrogen, but we see this as an exciting opportunity for natural gas in the future. Currently, we are involved in a project in the Netherlands, looking at opportunities for converting a power plant run on natural gas to one run on hydrogen – which is decarbonised natural gas.

We are also working with the City of Leeds to look into the possibility of converting the gas distribution network so that the city can heat their homes and cook their food on hydrogen instead of natural gas. We believe liquid hydrogen can help decarbonize the heavier parts of transportation, such as shipping.

Long term potential: CCS as enabler for hydrogen production







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Accountability and
collaboration to amplify
climate action

Changing how we work

We have embedded climate into our strategy, incentives, reporting and decision-making. We have targets in place to measure progress and incentivise performance across the entire company – starting at the top. Climate performance (CO₂ intensity) is a key performance indicator and influences executive pay.

Climate risk and portfolio resilience

Our business needs to be resilient to the multiple risks – both upside and downside – posed by the response to climate change. These include potential stricter climate regulations, changing demand for oil and gas, technologies that could disrupt our market, as well as physical effects of climate change.

Climate-related risk and opportunities and the strategic response to these are discussed frequently by our corporate executive committee and board of directors.

We use internal carbon pricing, scenario analysis and sensitivity analysis to assess risk. We monitor technology developments and changes in regulation and assess how these might impact the demand for oil and gas, the cost of developing new assets and opportunities for low-carbon technologies.

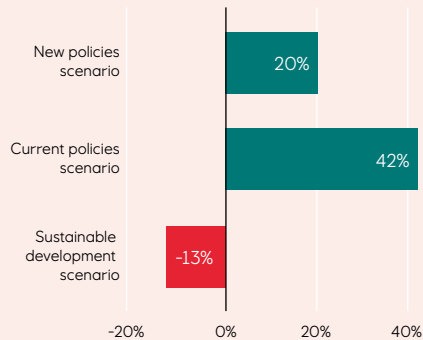
To keep our portfolio robust, we have introduced investment principles that take climate aspects into account. We require all potential projects to be assessed for carbon intensity and emission reduction opportunities, at every phase – from exploration and business development to project development and operations. For investment analysis, we apply an internal carbon price of at least USD 50 per tonne.

We stress test our project portfolio against the International Energy Agency (IEA) energy scenarios by replacing our own oil, gas and carbon price assumptions with those of the IEA scenarios, and assessing the impact on the net present value (NPV) of our portfolio. In our assessment, we see very little stranding of assets. This is because our portfolio has a high share of projects with a relatively low break even point and low carbon intensity. We also have significant capex flexibility going forward, enabling us to adapt our portfolio to changing circumstances.

Stress testing and flexibility

2017 Portfolio stress test

NPV impact on base case



Equinor's portfolio value is robust to stress tests.¹

CO₂ costs

included in all investment decisions



Using a minimum CO₂ price of 50 USD per tonne

2/3 of existing production subject to CO₂ tax²

Capex flexibility

Forecast investments in 2025 by maturity, share of total



60% of forecast capex in 2025 related to activities not yet sanctioned

1. Changes in the value of Equinor's project portfolio when replacing internal planning assumptions for prices of oil, gas and CO₂ with those from the IEA, as per its 'World Economic Outlook 2017' report

2. Equinor operated, 100% basis.

Delivering together

We engage with business partners and society as we work together to find solutions for the low carbon future.

We are committed to working with peers, suppliers, customers and governments to find innovative and commercially viable ways to reduce emissions across the oil and gas value chain.

In the "Oil and Gas Climate Initiative" (OGCI) we have teamed up with peer companies to help shape the industry's climate response. To spur technology development, we are a partner in the 1 billion USD OGCI Climate Investments.

In 2017, we joined the "Task Force on Climate-related Financial Disclosures (TCFD) Oil and Gas Preparer Forum", to identify efficient and feasible ways to implement the TCFD recommendations. The Forum's report was launched in 2018.

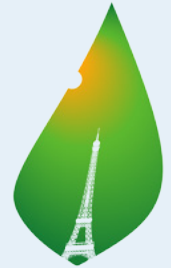
To enhance our work on reducing methane emissions, we have joined the "One Future Coalition", the "Climate and Clean Air Coalition Oil and Gas Methane Partnership" and the "Guiding Principles on Reducing Methane Emissions Across the Natural Gas Value Chain".

We are exploring ways to work with companies that use our products, since over 90% of the total emissions from oil and gas comes from their use rather than their production. Our pilot projects on hydrogen and CCS are examples of this. Through our green logistics programme, we collaborate with suppliers to reduce the emissions from our maritime operations.

We work with governments and other organisations to support carbon pricing and complementary climate and energy policies. Through these measures, we encourage fuel switching from coal to gas, growth in renewables, the deployment of CCUS and other low-carbon solutions, as well as promote efficient production, distribution and use of energy globally. Since 2000, we have been committed to long-term sustainable value creation in line with the principles of the United Nations Global Compact (UNGC). Equinor is a founding patron in the UNGC Action Platform for Sustainable Ocean Business.

To succeed, we want all our employees to feel empowered to make their contribution through technological, commercial and operational innovations. We also want to work together with our business partners, governments, research institutions and non-governmental organisations to maintain the momentum of change.

SUSTAINABLE DEVELOPMENT GOALS



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21•CMP11



Our Climate roadmap is a platform
– and an invitation – to work with us
to help shape the future of energy.

