



equinor

# Building a broad energy partnership with the UK



# Foreword

The UK needs energy that is affordable, reliable and low carbon. As the country's leading energy provider, Equinor is committed to playing a key role in delivering these needs and building a broad energy partnership with the UK. We have been here for over 35 years, investing in multi-billion pound projects and creating hundreds of jobs.

Today, our supplies from Norway meet more than one quarter of the UK's demand for natural gas and around one fifth of its demand for oil. And these supplies are produced with one of the lowest carbon footprints in the industry: for example, our new Johan Sverdrup field uses hydroelectricity to produce oil with emissions twenty times lower than the global average. And our reliable gas supplies have enabled the UK to phase out coal from its power mix and achieve greenhouse gas emission levels not seen since the 19th century.

We are one of the UK's most active explorers in the North Sea and we have three British projects that have all come onstream in the last few years: Mariner, the largest oil development in the UK for over a decade, as well as the Utgard and Barnacle projects. We are also moving forward with Rosebank, the largest undeveloped field in the UK, where we will leverage our unique engineering experience to increase the project's value and reduce emissions.

I am proud that the emissions from Equinor's oil and gas production are already at industry-leading levels. But to speed up the energy transition we need to see more substantial and rapid changes. That is why our ambition is to reach net zero emissions by 2050, through continuing our industry leadership in carbon efficiency, profitable growth in renewables, and accelerating decarbonisation. And by 2030 we're aiming for carbon neutral operations globally on

Equinor-operated projects.

The UK was a pioneer in setting a 2050 net zero emissions target. And because we believe that one of the most effective ways to reduce our net carbon footprint is to increase the share of low carbon products, we will play an active role in the UK's energy transition. Our two major offshore wind farms, Sheringham Shoal and Dudgeon, already comprise 155 wind turbines and we are now looking to double their capacity using newer turbines by the mid-2020s. In the seas east of Aberdeen, we run Hywind Scotland, the world's first floating wind farm - the first of many projects we believe will be capable of harnessing the potential of more powerful and reliable wind in deeper waters.

Building on this experience, we are now building Dogger Bank, the largest offshore wind farm in the world, with our partners SSE and Eni. Using turbine blades produced here

in the UK, it will provide enough power for 5 million UK homes, and represents a £9 billion investment in the UK.

For over 20 years we have been storing carbon dioxide into reservoirs deep under the Norwegian North Sea and producing hydrogen from natural gas and we are applying both together in the UK, helping to develop the East Coast Cluster into a global leader in low carbon technologies. We are working on this with our partners in Zero Carbon Humber, Net Zero Teesside and the Northern Endurance Partnership.

Our goal is that the East Coast Cluster is one of the UK's first to deploy carbon capture use and storage (CCUS), linking permanent storage under the North Sea to the Humber and Teesside.

And in the Humber we intend to build the UK's first large-scale low-carbon hydrogen

production plant, and, with our partner SSE, the UK's first power station entirely fuelled by hydrogen. We are also a partner in power

stations with carbon capture in the Humber, Teesside and in Scotland.



**Alex Grant**  
Senior Vice President  
and UK Country Manager

## At a glance



35+

year presence  
in the UK



650+

UK employees



700

suppliers  
working for  
Equinor in the UK



£5<sub>bn</sub>

in energy sales to the  
UK each year



20%

of UK gas demand  
met by Equinor



15%







of UK oil demand  
met by Equinor

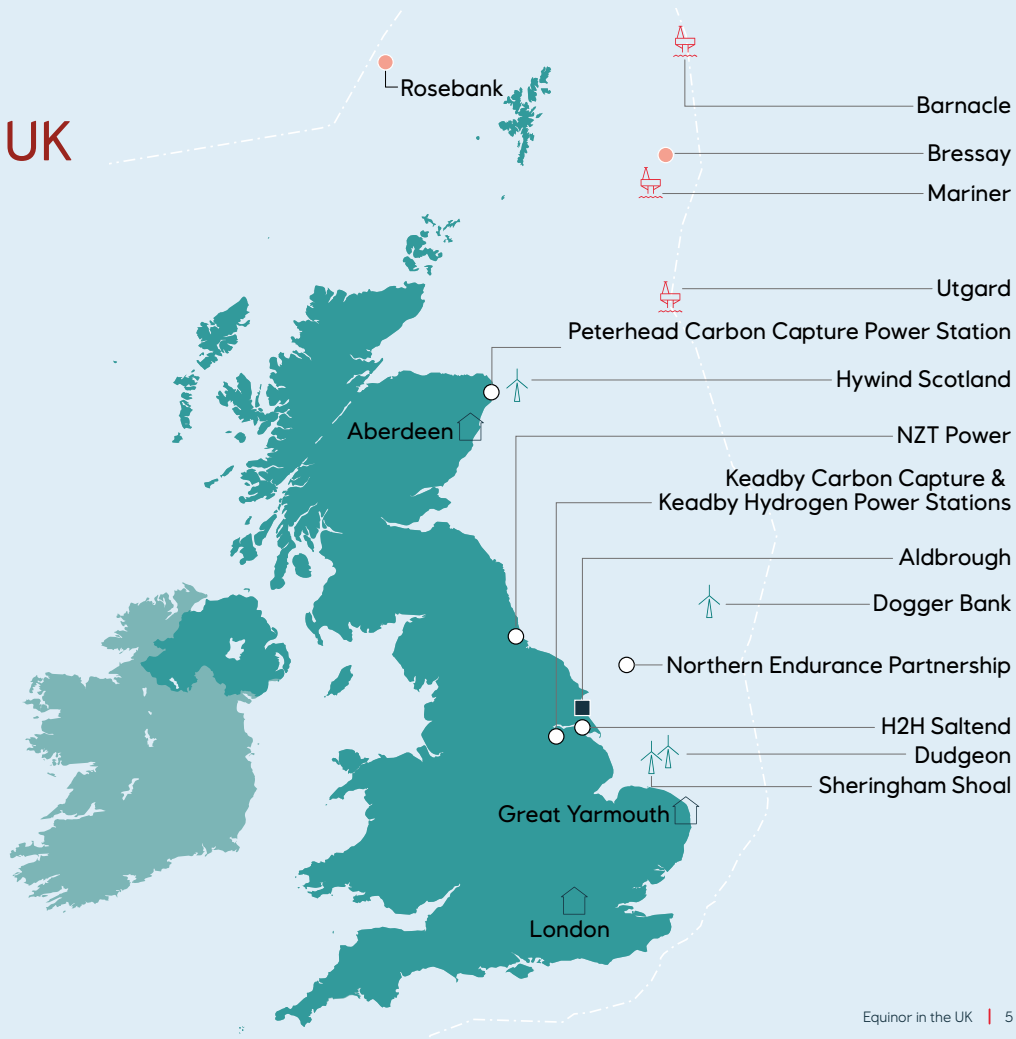


5

million homes  
powered by our  
UK wind farms by 2030

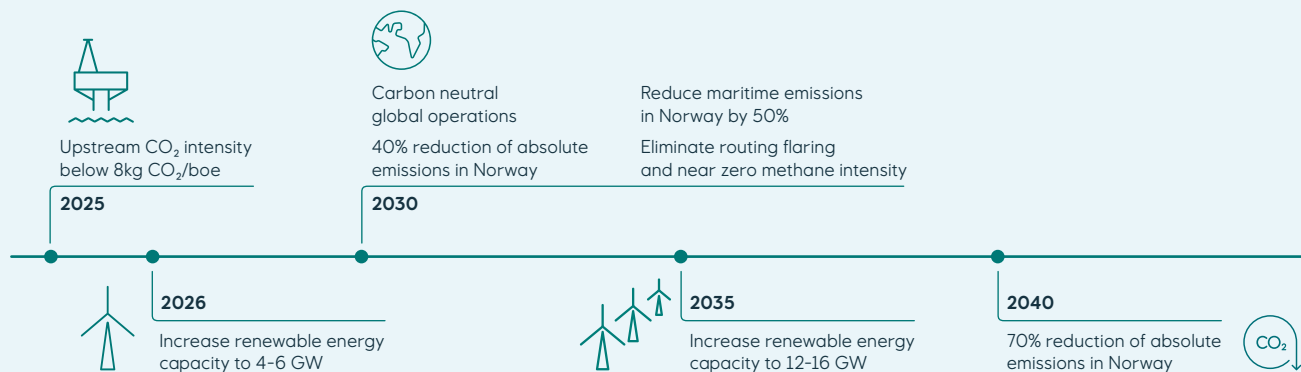
# Equinor in the UK

-  Producing field
-  Field development
-  Wind farm
-  Decarbonisation initiatives
-  Gas storage
-  Offices



### 5 ways we contribute to a net zero society:

1. We commit to reducing emissions from our production of oil & gas.
2. We accelerate our investments in renewable energy and grow a profitable renewables business.
3. We invest in new technology to create and build new low-carbon markets, value chains and industries.
4. We will invest in nature-based solutions.
5. We use our voice to support the goals of the Paris Agreement and policies that support net zero.



# Our climate ambition

Climate change presents a fundamental challenge to society, and we have to move faster towards net zero emissions. We aim to be a leader in the energy transition by building the energy industry of tomorrow and becoming a net zero company, helping the UK reach its net zero targets.

## Our climate policy position ahead of COP26

As a company with a net zero 2050 ambition, Equinor is committed to long-term value creation in support of the Paris Agreement.



Reduce maritime emissions globally by 50%

Reduce absolute emissions in Norway to near zero

100% net carbon intensity reduction

Net zero company



2050

Net zero implies a new partnership between business, society and governments. An increasingly important part of that partnership will centre on how we as industry and as a company use our voice on the issue of climate policy.

Speaking up on policy enables us to achieve two main objectives.

First, it shows we are a positive and proactive stakeholder in the energy transition. Governments are responsible for setting the framework conditions, but the private sector can provide valuable input and support to ensure that strategies and policies are feasible and sufficiently ambitious. Secondly, using our voice on policy enables us to signal to government ways in which they can maximise investments in low- and zero-carbon technologies and business models necessary to get society to net zero.



# Oil & Gas - Contributing towards reliable energy supplies

Equinor is taking a leading role in the energy transition by becoming net zero by 2050. By cutting emissions from oil and gas production, and developing new technology that accelerates decarbonisation, we can contribute to net zero.







Production  
started on  
Mariner

2019

Gross investment  
of more than

£6<sub>bn</sub>

Mariner  
supports  
over

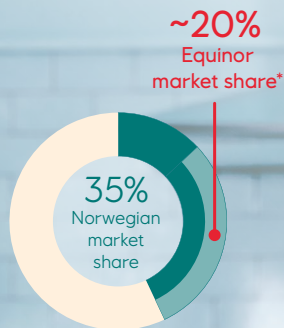
700<sub>jobs</sub>

Equinor is at the forefront of applying new technologies. In the UK, we are leveraging digitalisation to drive new ways of working with our offshore developments. Technology is providing new opportunities to keep people safe, create value and reduce carbon emissions.

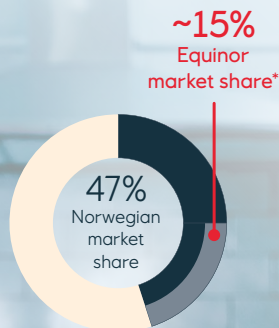
The Mariner field, our first operated development in the UK North Sea, is one of our most innovative offshore developments. We are testing new ground through our offshore digital workers, automated drilling and the use of Echo, a digital copy of the platform, to deliver safe and efficient solutions.

We are currently working with our partners to deliver Rosebank, one of the largest undeveloped discoveries in the UK. As operator, we are applying experience from the Equinor portfolio to create value and apply low carbon solutions. Equinor is fully focused in developing a robust concept and looking to apply digitalisation to support safe, efficient and low carbon operations.

Our cross-border developments connect fields and infrastructure between the UK and Norway across the North Sea, unlocking otherwise stranded resources to add value on both sides of the border. These include the Utgard and Barnacle developments that started production in 2019. The developments are possible through innovative commercial solutions and close collaboration between partners, regulators and authorities in both the UK and Norway.



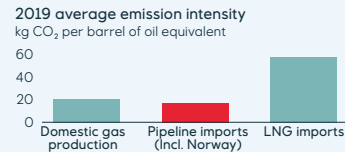
UK's **gas** market



UK's **oil** market

## Providing secure energy to the UK

As the UK has moved away from coal to cleaner energy sources, natural gas has played an important role in helping to reduce emissions while keeping the lights on.



**Source:** Oil & Gas Authority, 2018 emissions intensity value. Awaiting verification of 2019 figures. Gas imported via the Belgian and Dutch interconnectors cannot be traced to the point of origin therefore the intensity could be higher.

Natural gas is a key part of Norway's energy partnership with the UK. Last year, Norway supplied 43% of the UK's gas demand. It is also a key supplier of oil, providing around 45% of the UK's needs.

The reliability of natural gas is backed up by SSE and Equinor's Aldbrough storage facility in Yorkshire. The facility, opened in 2011, provides around 7% of the UK's total gas storage capacity.

Both our natural gas and our oil are produced with one of the lowest carbon footprints in the industry. In fact, natural gas from Norway is produced and supplied through pipelines to the UK with around one fifth of the emissions of liquefied natural gas.

# A global offshore wind major, with our roots in the North Sea

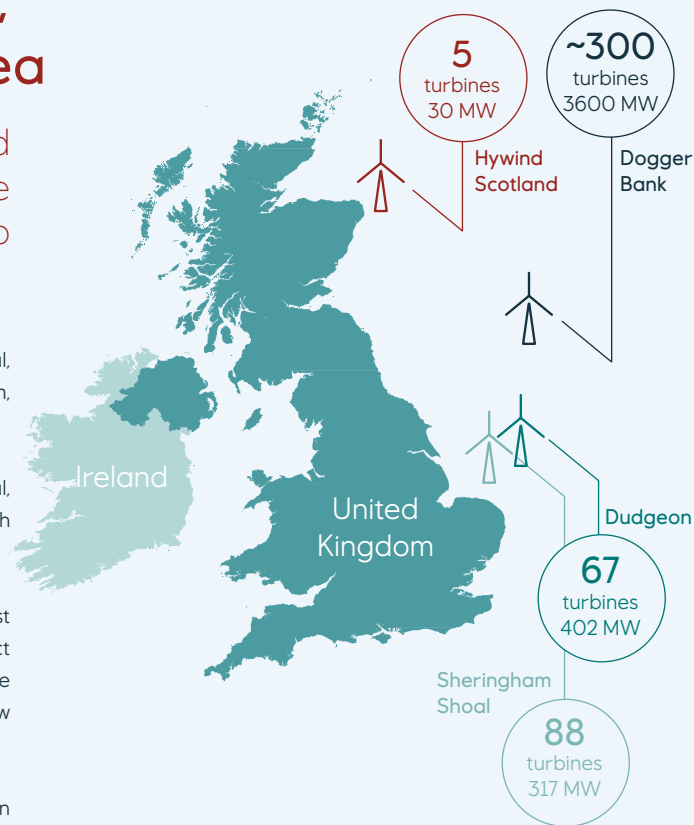
Equinor is a global leader in offshore wind and is using its expertise in offshore energy to drive forward innovation in the North Sea, and help the UK reach its net zero targets.

We operate three UK offshore wind farms; Dudgeon and Sheringham Shoal, off the Norfolk Coast, and Hywind Scotland, the world's first floating wind farm, off the coast of Peterhead, Scotland.

We're also developing plans to extend both Dudgeon and Sheringham Shoal, doubling our capacity in Norfolk to be able to provide 1.5 million homes with renewable energy.

Along with SSE Renewables and Eni, we are a partner in the world's biggest offshore wind farm, Dogger Bank. When complete in 2026 this 3.6GW project will be capable of providing around 5 million UK homes with renewable electricity. Equinor will be the operator for the wind farm's life from a new base at the Port of Tyne, creating around 200 jobs.

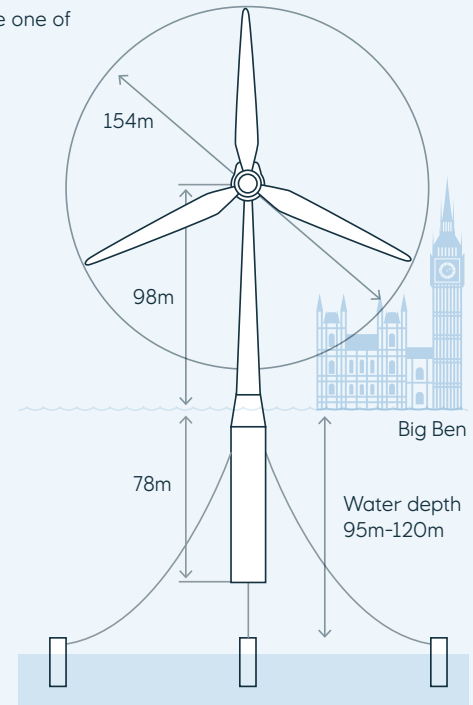
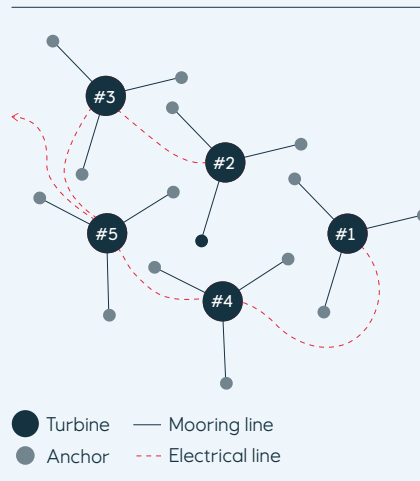
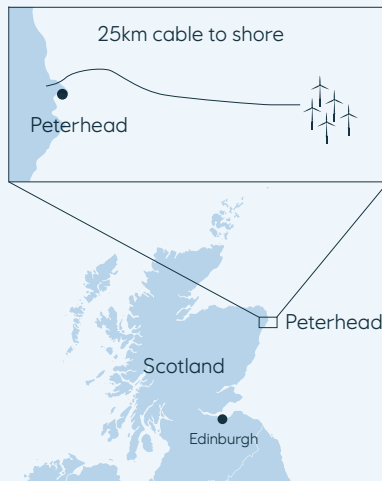
The North Sea region will play a key contribution in Equinor's global ambition to increase its renewables capacity to 12 – 16GW by 2035, around 30 times what it is today.



# Hywind - the global pioneer in floating wind farms

Floating offshore wind is an exciting technology with huge growth potential. The UK has become one of the first countries to set a formal target for floating offshore wind, committing to 1GW by 2030.

Hywind Scotland was the first ever floating offshore wind farm and since it started operations has consistently achieved the highest capacity factor of all UK wind farms.





Hywind Scotland's five turbines came online in 2017 and with 30 MW capacity they can generate enough electricity to power around 36,000 Scottish homes.

Partnered with Batwind, the world's first battery for offshore wind, Hywind Scotland demonstrates the global potential of floating wind in deeper waters – where wind speeds are stronger and more reliable, and where fixed offshore wind farms are not possible.

Hywind combines familiar technologies from the offshore and wind power industries into a new design. Hywind is a floating wind turbine design based on a single floating cylindrical spar buoy moored by cables or chains to the seabed. Its substructure is ballasted so that the entire construction floats upright.

We believe floating offshore wind is the next wave in renewable energy and, within the next decade, we aim to make it a competitive renewable energy source.







# Dogger Bank, the world's largest offshore wind farm

With our partners, we are building the world's largest offshore wind farm at Dogger Bank, off the North East coast of England.

Comprising three phases, the wind farm will generate 3,600 MW; enough to power around 5 million homes, roughly equivalent to around 5% of the UK's electricity demand. From first power in 2023, it will make a significant contribution to the UK's climate goals, and at record-low power prices for UK businesses and consumers.

The Dogger Bank wind farm is also pioneering new technology. It will be the first in the world to use GE's 13 and 14 MW Haliade-X turbines, the latest in turbine technology with blades 107 metres long. One rotation of the blades can generate enough electricity to power a home for over two days. Due to the distance from shore, it will also

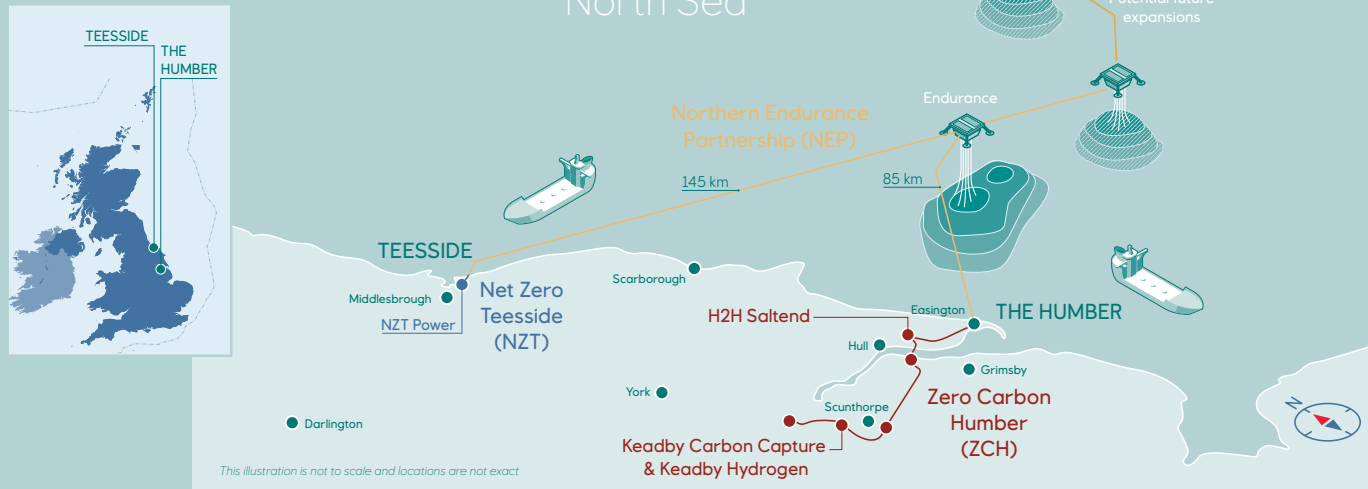
be the first wind farm in the UK to use high voltage direct current (HVDC) technology, which reduces electrical losses in transmission. We've used our expertise in offshore O&G to design the world's first unmanned HVDC substation, slashing the weight. These innovations pave the way for other large scale wind farms in the UK.

Equinor will operate the wind farm from a new base at the Port of Tyne. Around 200 roles will be created in the North East to operate and maintain this groundbreaking project, with thousands more jobs created as a result of its scale.

Dogger Bank A and B are owned by SSE Renewables (40%), Equinor (40%) and Eni (20%). Dogger Bank C is owned by SSE Renewables (50%) and Equinor (50%).

# Helping the UK to net zero

While renewable power continues to grow, most of the UK's energy system still relies on the high energy content of oil and natural gas. For the UK to meet its climate targets and reach net zero by 2050, these fuels must be replaced with lower or zero carbon alternative.



That is why the UK has set targets for the rollout of carbon capture use and storage (CCUS) and for low- and zero-carbon hydrogen. And it is why we are pushing ahead with projects that build on our 20+ years of experience in CCUS and hydrogen, helping the UK to reach its targets and ensure a just transition for workers and communities in the UK's industrial heartlands.

Underpinning these efforts are our role in the Northern Endurance Partnership (NEP) and our interest in Endurance, the UK's most developed storage site for CO<sub>2</sub> storage. NEP will develop the offshore CO<sub>2</sub> transport and storage infrastructure in the UK North Sea to serve the East Coast Cluster, comprising industry and power projects in the Humber and Teesside regions on the UK's east coast

In the Humber, the UK's largest region by emissions, we are a leading partner in the Zero Carbon Humber (ZCH) partnership that plans to decarbonise a mixture of power and industrial sites on both sides of the Estuary by rolling out hydrogen and CO<sub>2</sub> infrastructure, enabling each to fuel switch to hydrogen or capture their emissions.

The Equinor-led H2H Saltend hydrogen production plant will be the first to use this infrastructure, converting natural gas to low-carbon hydrogen and capturing at least 95% of the associated CO<sub>2</sub> emissions.

Coming onstream from the mid-2020s, the 600MW of hydrogen it produces will enable its customers at Saltend Chemicals Park to cut their emissions by 900,000 tonnes of CO<sub>2</sub> each year.

H2H Saltend is just the start of our ambitions for low-carbon hydrogen in the Humber, which together add up to 1.8GW of production to meet local demand using the ZCH infrastructure. In addition to this, we are developing projects in zero-carbon hydrogen (from water electrolysis using renewable power).

Also in the Humber, we are working with our partner SSE Thermal on two other ZCH projects that will start production from 2027. One will be a gas-fired power station with carbon capture, and the other will be the first power station entirely fuelled by hydrogen.

In Teesside, we are part of the Net Zero Teesside project to capture CO<sub>2</sub> emissions from local industry and from a gas-fired power station that will start operations in the mid-2020s. Like projects in the Humber, it will make use of the offshore CO<sub>2</sub> storage developed by NEP.

In Aberdeenshire in Scotland, we are collaborating with SSE Thermal to develop Peterhead Carbon Capture Power Station, a new gas-fired power station with carbon capture that is expected to start operations by 2027.

# Investing in future generations

Education in Science, Technology, Engineering and Maths (STEM) plays a vital role in equipping young people with the knowledge and skills needed to participate in and contribute to UK society and the future of the energy industry. Our sponsorships strengthen education in STEM, delivering on our commitment to host communities and to creating shared value in the UK.

We support Wonderlab: The Equinor Gallery at the Science Museum, which builds on children's natural curiosity in STEM to ensure long-lasting engagement. Together with the Science Museum, Equinor has created Young Imagineers, a nationwide competition to find Britain's most imaginative and creative young people.

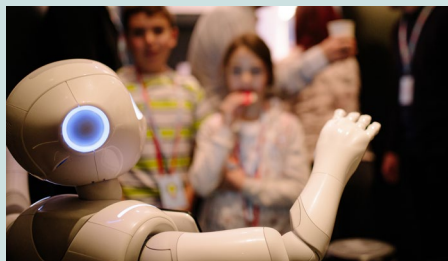
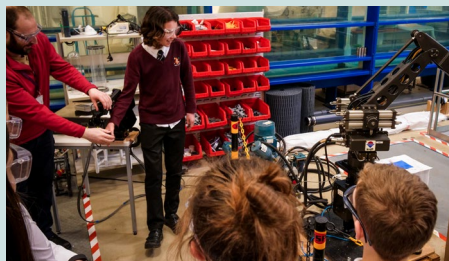
In Aberdeen, we are the Digital Futures partner of the Aberdeen

Science Centre, building visitors' understanding of digitalisation.

We also sponsor TechFest, and through our partnership, run an annual STEM workshop event reaching more than 400 pupils from across the North-east of Scotland.

With Aberdeenshire Council and Peterhead Academy, we have created the Hywind STEM Hub, which is building young people's skills and understanding of renewable technologies.

Alongside sponsorships, we are committed to the local communities where we operate. Through community funds we provide grants for community groups, including schools and NGOs, seeking financial assistance for local projects and initiatives.













# Our product may be energy. But our greatest resource is our people.

We are passionate individuals working towards one goal – to provide the world with the energy it needs, sustainably and responsibly.

**We're up for the challenge.**  
**Are you?**

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