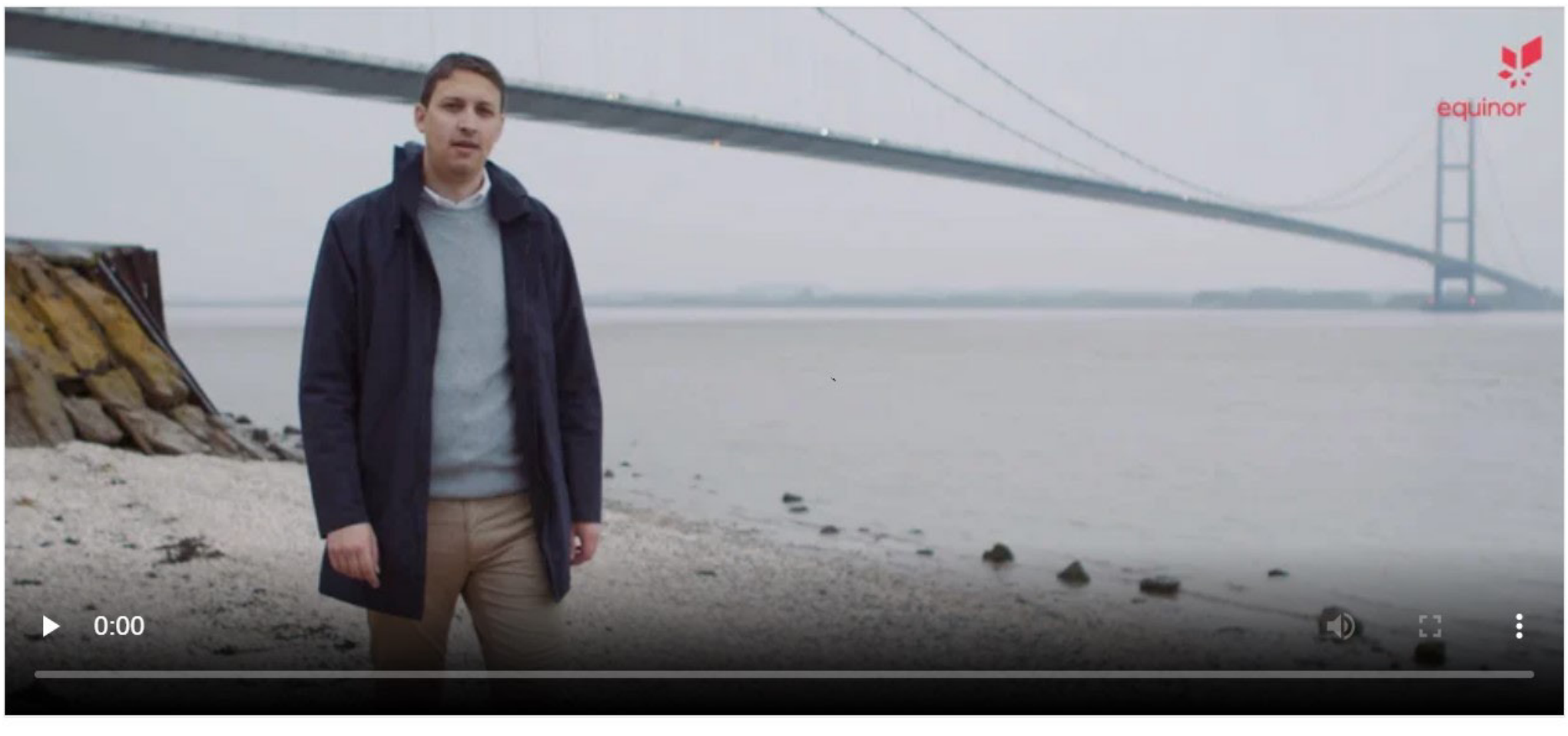
Welcome to the Equinor H2H Saltend Public Consultation 2021

Thank you for visiting Equinor's first public consultation on H2H Saltend.

This is the first event in our programme of ongoing consultation activity, providing members of the public and wider stakeholders with the opportunity to learn more about Equinor's proposed H2H Saltend low-carbon hydrogen production facility in the Humber.

We are engaging virtually for the benefit of the wellbeing of our stakeholders, but we look forward to meeting you in-person in the near future. We are always available to answer questions or provide further information, so please don't hesitate to get in touch with us.



Find out more

Explore our consultation boards to discover more about:

- Equinor and our role as the UK's leading energy provider
- How Equinor is at the forefront of the low carbon energy transition
- Our experience in low carbon solutions, such as hydrogen and carbon capture and storage (CCS)
- The proposed H2H Saltend facility and the planning and permitting processes which support it
- Equinor's emphasis on safety and sustainability
- How Equinor engages with our stakeholders
- Further information for suppliers.

Feedback

We value your feedback and are committed to an open dialogue with all our stakeholders. Please let us know what you think, ask questions or leave comments through our feedback form located in the virtual consultation room.

Instructions

Click the **Menu** button (at the top of the screen) at any time to see a menu of available pages.

Use your mouse, touch, or the control buttons on the bottom center of the screen to look around the room:

Click on objects in the room (banners, kiosks, etc.) to view more information:

Click on this button in the bottom right corner of the screen to open this page again:

Click the Close button below to get started:

close

The UK's Leading Energy Provider

Equinor in the UK

Equinor has been operating in the UK for over 35 years. Headquartered in Norway, the company employs 22,000 people globally, and over 650 people in the UK. We are the UK's leading energy provider and support the UK economy by investing billions in crucial energy infrastructure, working with over 700 suppliers across the country. We look forward to investing in the Humber, supporting its vision of delivering net zero and generating jobs for local people.

35+
year presence in the UK

20%
of UK gas demand met by Equinor

700
suppliers working for Equinor in the UK

5
million homes powered by our UK windfarms by 2030

8-11
GW of installed net capacity in offshore wind by 2030

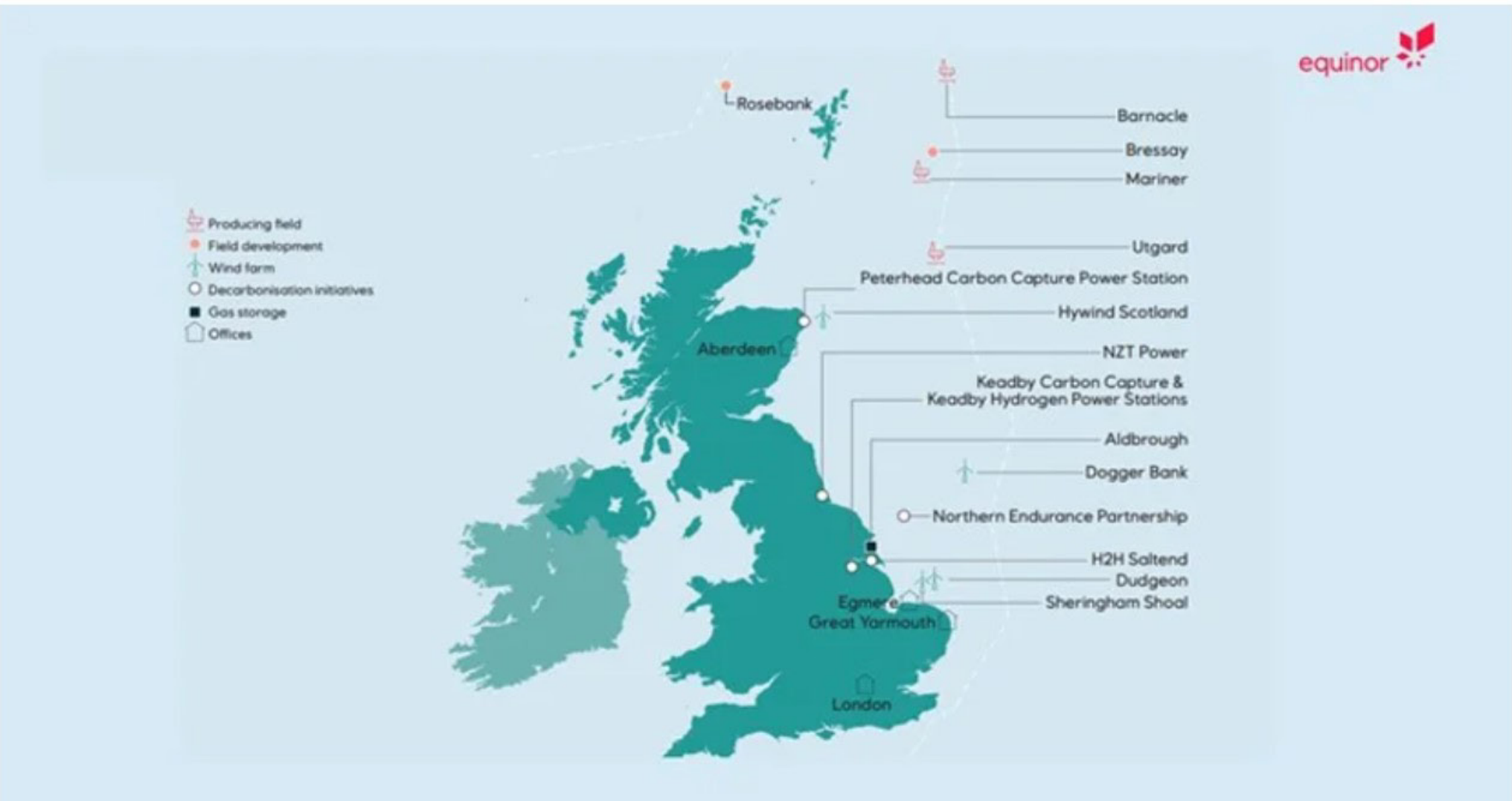
650+
UK employees

Our operations across the UK

We currently provide for more than one quarter of the UK's demand for natural gas and around one fifth of its demand for oil, both produced with one of the lowest carbon footprints in the industry. We are also a major provider of renewable energy in the UK. We currently power around 750,000 homes through our three wind farms at Sheringham Shoal and Dudgeon, and the world's first floating wind farm, Hywind Scotland.

In partnership with SSE Renewables and Eni, Equinor is also building the largest offshore wind farm in the world, Dogger Bank, off the North East coast of England and developing plans to extend both the Dudgeon and Sheringham Shoal wind farms.

H2H Saltend is at the forefront of our rollout of carbon capture storage (CCS) and hydrogen technology in the UK.



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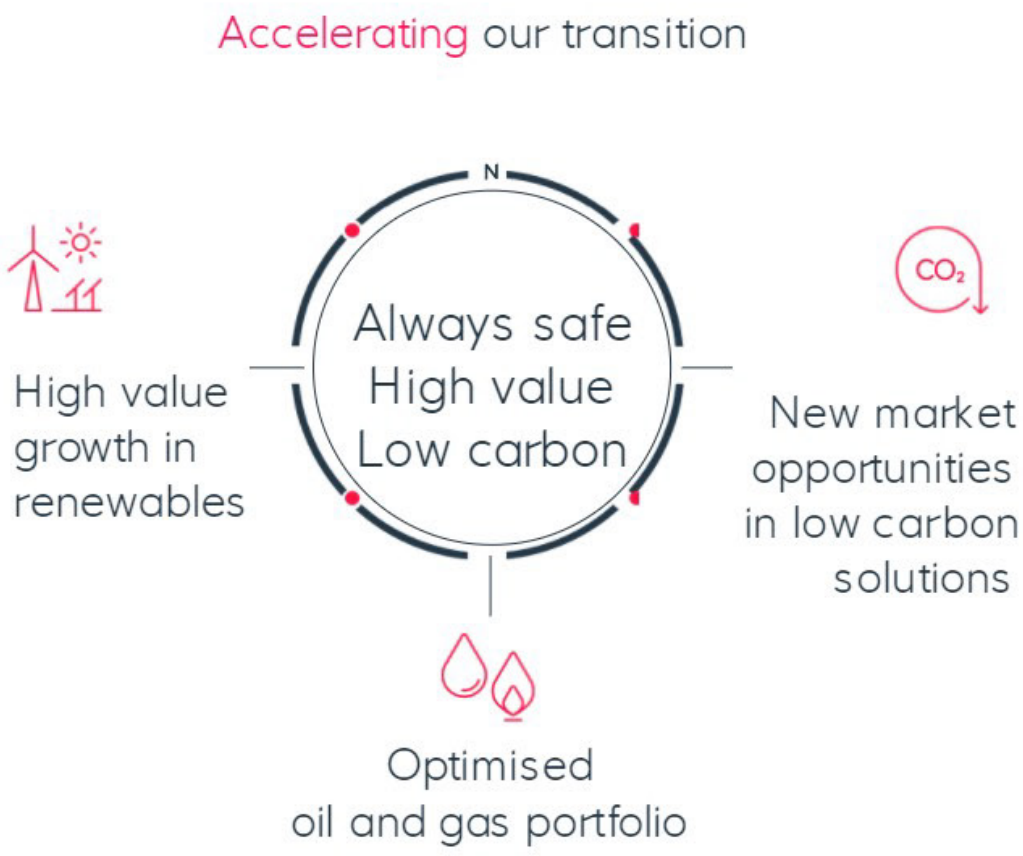
At the Forefront of the Energy Transition

Our Role in the UK's Low Carbon Energy Transition

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 are an experienced low-carbon operator and a values-driven organisation committed to turning natural resources into energy for people and progress for society. We believe the energy transition requires investment, innovation and a broad mix of energy sources to safeguard and create jobs and to assure reliable, affordable and sustainable energy.



Decarbonising the region

One of the key means by which the UK will achieve its ambition of net zero by 2050, is the decarbonisation of industrial clusters and their significant single source emitters, through low carbon technology.

Equinor is a leading partner in the Zero Carbon Humber Partnership which, alongside Net Zero Teesside and Northern Endurance Partnership, make up the East Coast Cluster– a project to decarbonise industrial emissions around the Humber and Teesside. The cluster has been selected as one of the UK's first carbon capture usage and storage projects, following a successful bid to the Department for Business, Energy and Industrial Strategy (BEIS).

By building upon the Humber's existing skills and infrastructure, the wider East Coast region could establish itself as a global leader in decarbonisation, create a cleaner environment, deliver new jobs and develop export opportunities for British businesses. The region will develop skills, knowledge and technology that can be exported around the world and place the Humber and wider East Coast region at the centre of decarbonised economies. Key benefits from the East Coast Cluster are illustrated below:

25,000+ jobs up to 2050 (average per annum)

~41,000 Jobs peak in 2026

Construction: 9,400 direct jobs/year; 12,300 indirect jobs/year

Operations: 2,200 direct jobs/year; 13,300 indirect jobs/year

50% of CO_2 emissions from East Coast to be removed

£2bn + average gross value added up to 2050

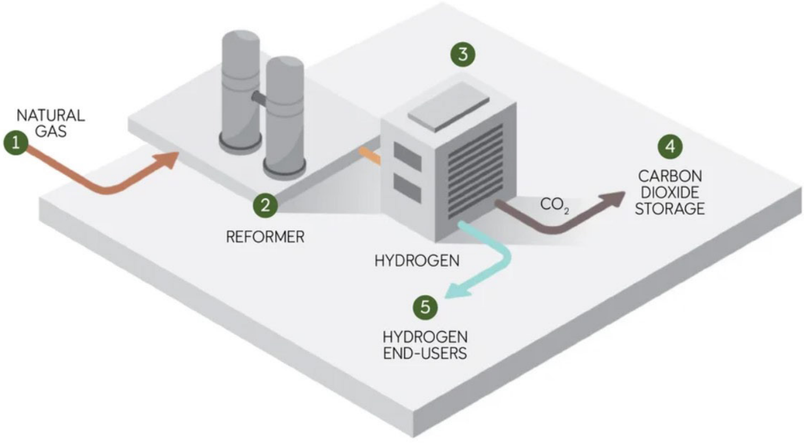
close

Hydrogen: Delivering Net Zero

What is Hydrogen (H_2) and why is it low carbon?

Hydrogen (H_2) is the simplest, lightest and most abundant element in the universe. It is mostly non-existent in its free form but found in many different compounds such as water and fossil fuels. It can either be used as an energy carrier (by burning it to release heat or converting it into electricity using fuel cells) or as feedstock for industrial/chemical processes. There are different classifications of H_2 depending on production method. H2H Saltend will produce what is known as 'Blue Hydrogen' which is sourced from fossil fuels, mostly natural gas, and uses carbon capture and storage (CCS) to capture and store the CO_2 emitted.

H_2 can be produced at scale by splitting natural gas into H_2 and CO_2. The graphic below shows the process in which H_2 is produced from natural gas.



1. Natural Gas is fed into a reformer
2. A partial oxidation reaction takes place, with the output flowing through a catalyst bed which performs the reformation
3. The synthetic gas produced is then separated, creating pure streams of hydrogen (H_2) and carbon dioxide (CO_2)
4. The CO_2 is transported by pipeline to be permanently stored under the southern North Sea
5. The hydrogen is transported for use in power, industry, heat and transport

At the forefront of investing in Hydrogen

H2H Saltend is the first of its kind in the UK but H_2 production and Carbon Capture and Storage (CCS) technology have been successfully developed in Norway for over 20 years. To date, Equinor has safely captured and stored over 23 million tonnes of CO_2 as part of multiple projects.

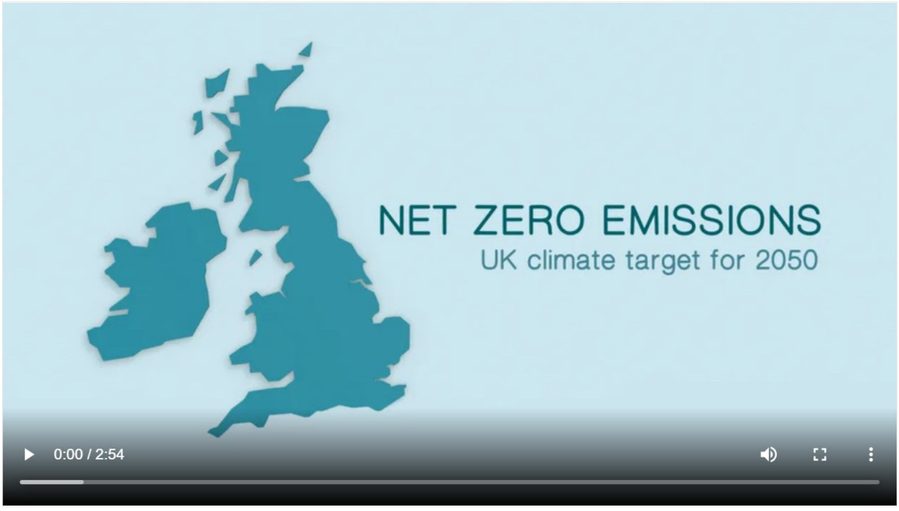
Equinor is also at the forefront of investing in new hydrogen research and collaborations across the UK, Norway and rest of Europe. The Northern Lights project, Equinor's recent venture with Shell and Total, is a ground-breaking project that brings viable commercial CO_2 storage a step closer to realisation and could be replicated in the Humber.

Equinor is confident it can apply its expertise from these projects to the Humber, supporting the East Coast Cluster's ambition to become the UK's and the world's first decarbonised industrial cluster.

← Carbon Capture & Storage →				← Hydrogen →			
Transport & Storage			Post Combustion	Blue and Green			
Norway 2024	UK 2026	Equinor 2026 >	UK 2026	Norway 2024 >	UK 2026	EU 2027/2028	The Netherlands 2027
Northern Lights	Northerns Endurance Partnership (NEP)	North Sea Basin	Net Zero Teesside	Hydrogen Norway	Zero Carbon Humber	NW Europe	NorthH2
CCS for industry Transport of CO_2 by ship Open/flexible Phase 1 approved (1..5 Mt/y) Phase 2 (5 Mt/y) progressing	Pipeline transport Storage for Humber and Teesside	General screening Future scale-up Saline formations and depleted reservoirs	Post-combustion CCS power generation CCS for industry	Liquid hydrogen for maritime Distribution of H2 Later integration with onshore plants	Hydrogen for industry Chemicals Synthetic fuels BECCS Hydrogen to power Blue Ammonia	Hydrogen for industry (H2morrow steel) Hydrogen to power/industry (Magnum) Flexible back-up for intermittent renewables Market based H2 approach	Hydrogen production from offshore wind H2 for industry Back-up renewable intermittence

Hydrogen in the Humber: decarbonising the UK's largest industrial emitter of CO2

Please click on the video below to understand more about Equinor's strategy for the region.



This content was paid for and produced by Equinor in partnership with the commercial department of the Financial Times.

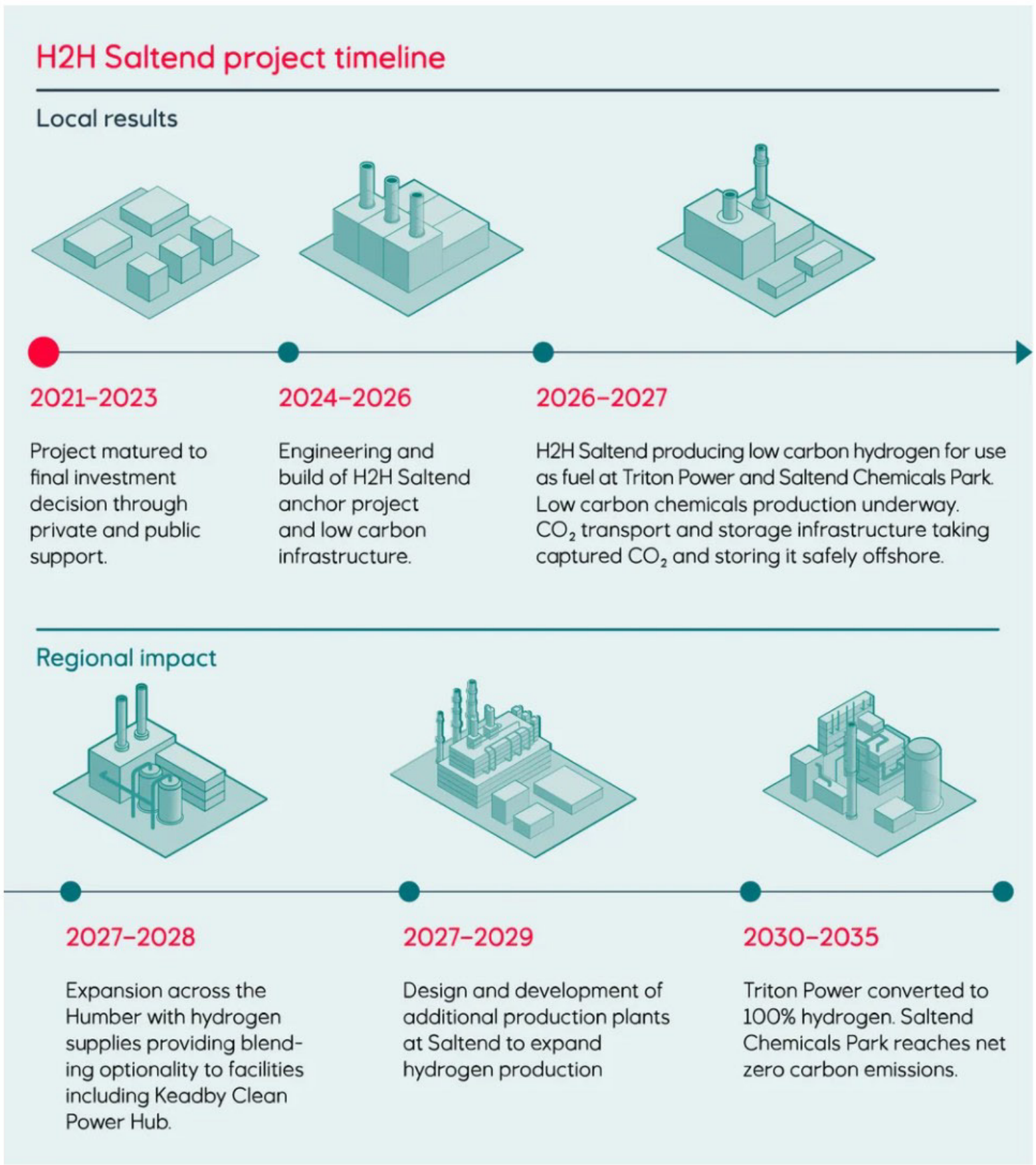
The H2H Saltend Project

About the Project

The H2H Saltend Project is a flagship project for the region. The proposed H_2 production facility will be the largest in the world and will convert natural gas to H_2, whilst capturing at least 95% of the associated CO_2 emissions.

The CO_2 produced will be captured and transported by pipeline to Easington (~25km away) and then to offshore storage in the Endurance aquifer (located 1km below the seabed) in the Southern North Sea. Endurance is one of the best understood options in the UK for CO_2 storage.

Equinor will mature the project towards its final investment decision during 2023, commence construction in 2024 and look to have H2H Saltend operational in 2026-2027.



Highlights of H2H Saltend

Operational by 2026.	✓
H_2 at scale by 2030.	✓
Low carbon flexible power generation to complement renewable power.	✓
Costs significantly lower through the sharing of low carbon infrastructure.	✓
Potential for low carbon maritime fuels in line with international targets to half shipping emissions by 2050.	✓
Opportunity for UK leadership in technologies, services and markets to products.	✓
A low carbon economic recovery with sustainable jobs in the UK.	✓

1st Low carbon infrastructure for hydrogen and CO_2 emissions in UK.

1st At scale production of low carbon chemicals.

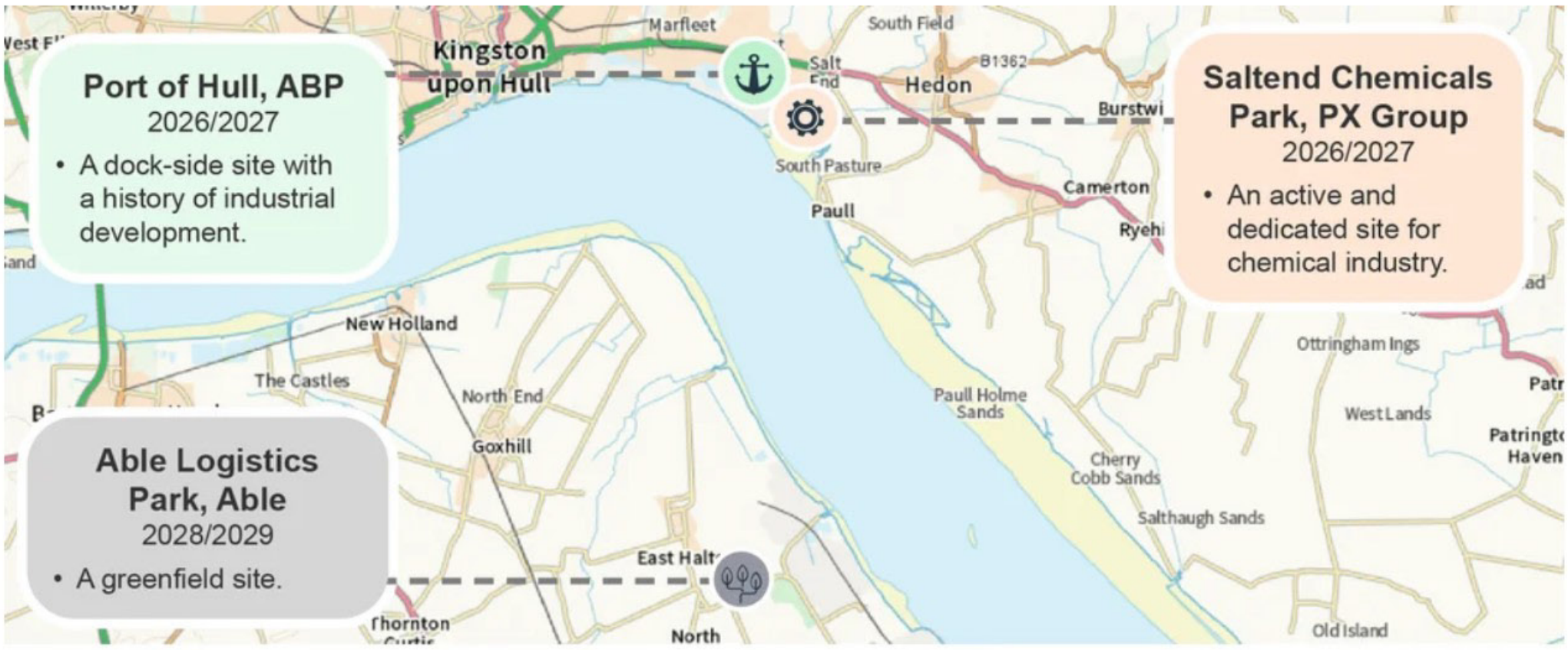
1st Demonstrator of hydrogen at scale switching industry to low carbon fuel.

close

Where will H2H Saltend be Based?

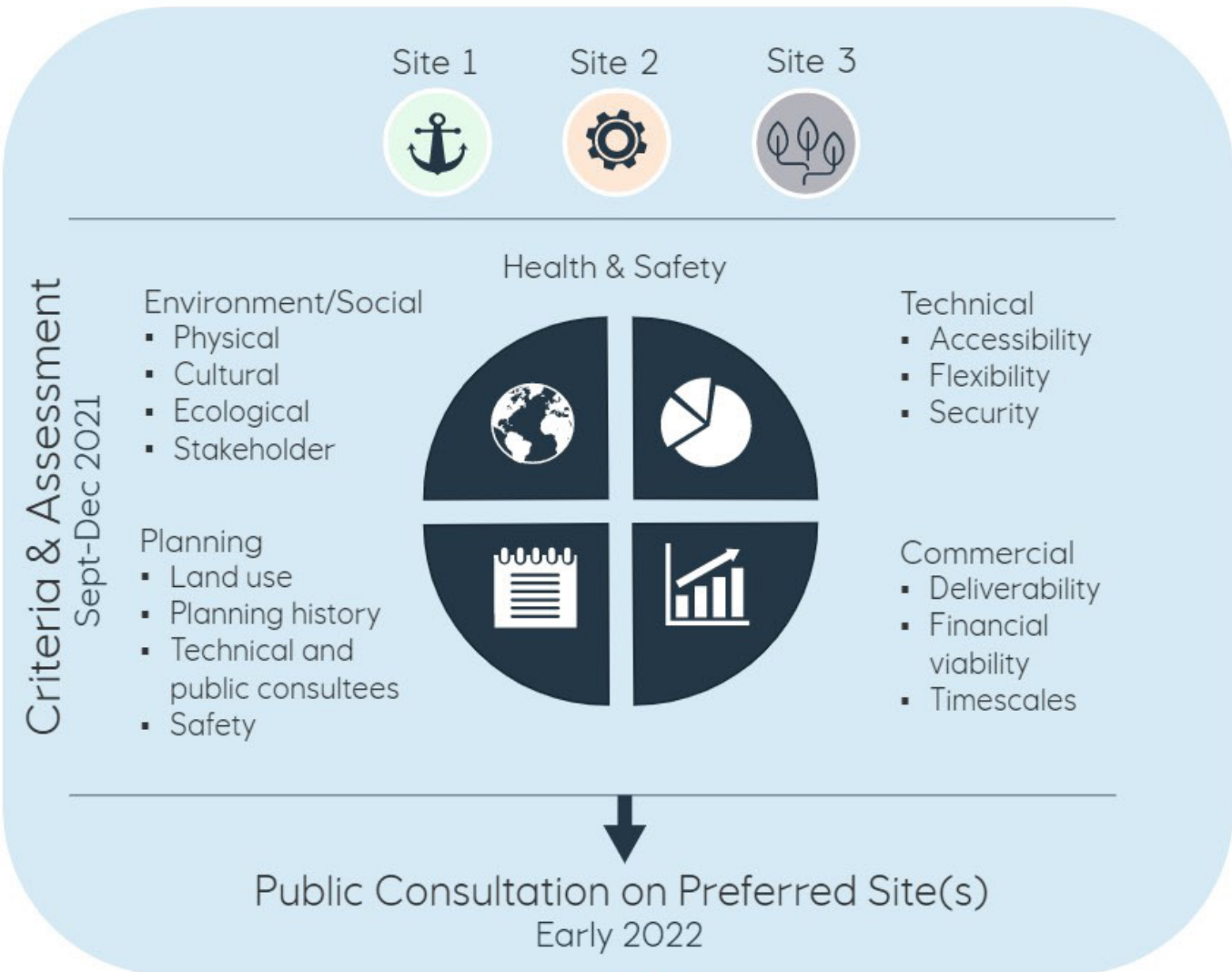
Finding the right location

It is important that we find the right location for the Project to be successful. Three sites are currently being considered for this phase and subsequent phases of the Project, as illustrated in the map below. These sites span very different physical environments but are all potentially viable locations for the Project.



Site evaluation

Each site is undergoing a rigorous evaluation process involving a multidisciplinary assessment across the criteria listed below. The assessment is being undertaken by environmental, stakeholder, engineering, planning, property and commercial teams. As the evaluation process develops, we will go back out to public consultation with detailed information on the emerging preferred sites in early 2022.



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Safety is Our Priority

Always Safe

We will operate in accordance with industry best practice, to deliver the highest standards of safety for the project. At Equinor, we aim to continuously develop a proactive culture where safe and secure operation is incorporated into everything we do. Our priority is "Always Safe".

We follow industry best practice and are committed to sharing our learning and experience via the Always Safe web platform to make our industry safer.

Safety through world class technology

Equinor has selected three front-end engineering and design contractors, with recognised world class expertise in H_2 and ammonia technologies. The depth of experience which these contractors bring in delivering H_2 projects, will ensure H2H Saltend benefits from industry leading knowledge in optimising safety through design, operation and maintenance. One contractor will be selected in Q3 2022 up until the operational phase of the Project.

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BOC
Member of The Linde Group

AIR PRODUCTS

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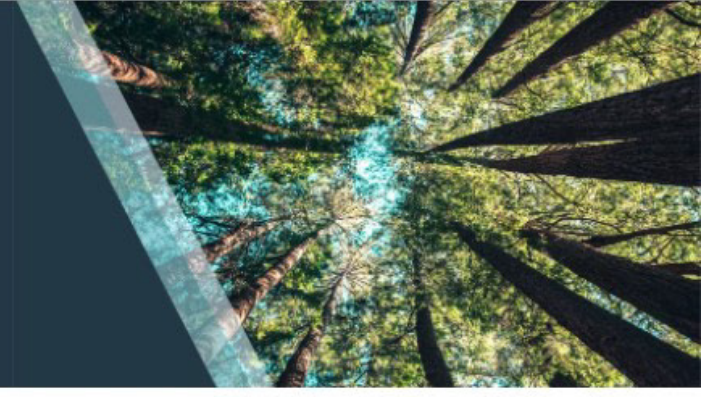
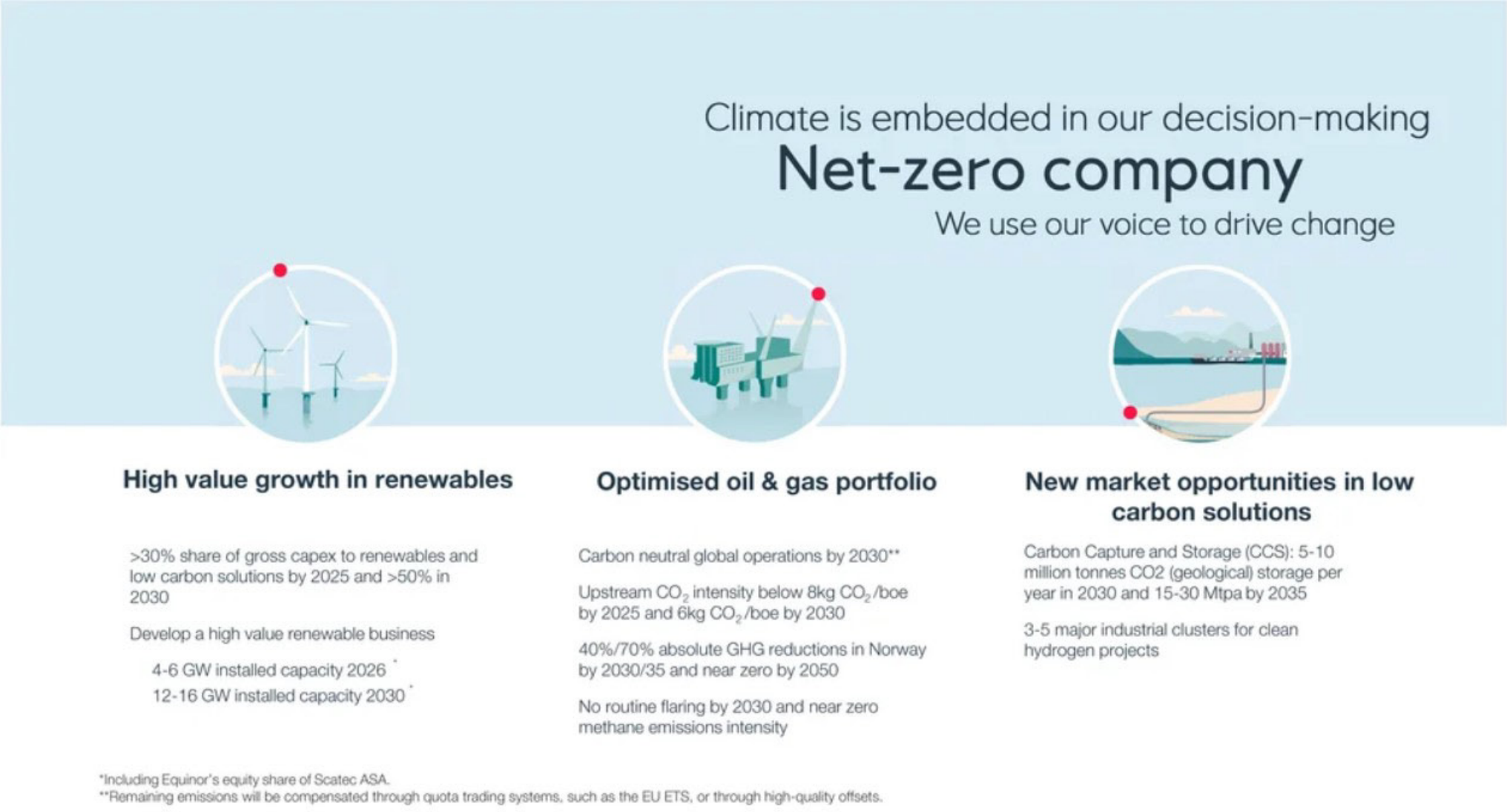
Sustainability at Equinor



We believe that businesses must do their part

Our vision is to be a leader in the energy transition, supporting and driving the energy industry of tomorrow. We have set out our climate roadmap which will deliver our ambition of being a net-zero company by 2050, through a strategy of investment in renewables, carbon efficiency and accelerated decarbonisation.



Sustainability is at the heart of our business. It is embedded in our corporate strategy and governance, operational, and supply chain management. Our Sustainability Report offers an overview of how we are working on our most material sustainability impacts. Below are some highlights from our report.

Sustainable Development Goals

Equinor supports the Sustainable Development Goals. Our actions have most impact on the following goals:

- Quality Education
- Affordable Clean Energy
- Decent Work and Economic Growth
- Climate Action
- Life Below Water
- Partnerships for the Goals

Respecting Human Rights

We understand and manage risks to avoid harm to people, in line with the United Nations Guiding Principles (UNGPs) on Business and Human Rights, the ten principles of the Global Compact and the Voluntary Principles on Security and Human Rights.

Responding to Climate Change

Equinor aims to become a net zero emissions energy company by 2050. This ambition will contribute to the dual societal challenge of providing energy and reducing emissions.

Creating Shared Value for Society

We create long-lasting shared value through:

- Driving innovation, research and development of new technologies to better society,
- Creating jobs and promoting diversity and inclusion in our workforce, and
- Ensuring robust management of social impacts and outcomes and contributing to economic ripple effects.

Biodiversity

We collaborate on programmes of importance to biodiversity, including:

- The working group on biodiversity and ecosystem services in IPIECA and IOGP,
- The Proteus partnership with the UNEP World Conservation Monitoring Centre,
- MARAMBS (Marine Animal Ranging Assessment Model Barents Sea), and
- SEATRACK, a seabird tracking programme in the North-East Atlantic.

Local Community Impact

We aim to create thriving local supply chains for regional economies. To date over 80% of contracts supporting the Mariner operations have been awarded to UK-based suppliers. Continued support from the UK supply chain will be needed over the 30-year Mariner field-life.

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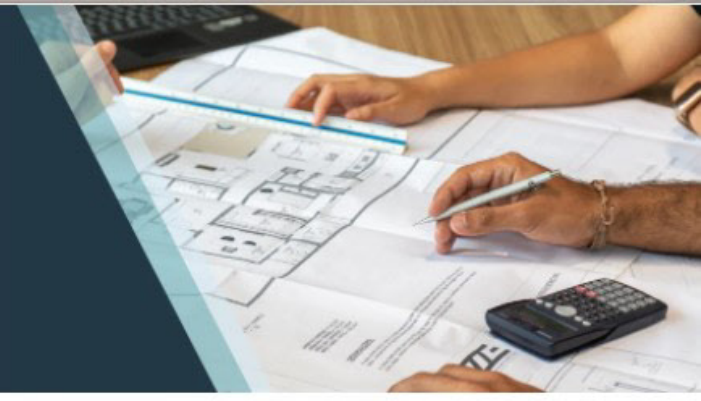
Planning and Permitting



Detailed assessment and ongoing engagement

A planning application and environmental permit will be required to enable the project to operate. Detailed assessment and studies will be undertaken to support this. We will continue to work closely with key stakeholders such as the local councils, Environment Agency, Natural England, and the Health and Safety Executive, amongst others.

The planning process

The planning application will be made to the relevant Local Planning Authority (LPA) under the Town and Country Planning Act (TCPA) 1990, as amended. The planning application will be supported by additional documents including an Environmental Statement prepared in accordance with the Town and Country Planning (Environmental Impact Assessment (EIA)) Regulations 2017. The EIA is a structured and detailed assessment of the impact of the project across a range of key environmental topics, such as air quality, biodiversity, climate change, geology, the historic environment, landscape, water and waste.

The permitting process

The Project's emissions will comply with the requirements of the Environmental Permitting (England and Wales) Regulations 2016, as amended. This will require an application for a new Environmental Permit and compliance with established and emerging Best Available Techniques (BAT) conclusions and guidance. Detailed engagement will be undertaken with the Environment Agency to support this process.

Timeline for planning submission

SEPT 2021

Scoping of the EIA
- Scoping of the EIA to understand the potential effects of the project on the environment.
- Preparation of the permit application for the project will also commence.

Baseline Data Collection
- Start of surveys and wider data collection to inform our understanding of baseline environmental conditions.

Assessment of PotentialEffects
- An assessment of the potential effects and mitigation measures of the project will be undertaken. Public consultation and the feedback will inform site selection and project design evaluation.

Environmental Statement and Planning Documentation
- As the assessment concludes, the environmental statement, planning documentation and environmental permit will be prepared.

Submission of Planning Application and Ongoing Preparation of Permit
- The next stage will involve submission of the planning application and ongoing preparation of the environmental permit.

SEPT 2022

close

Engagement with Stakeholders

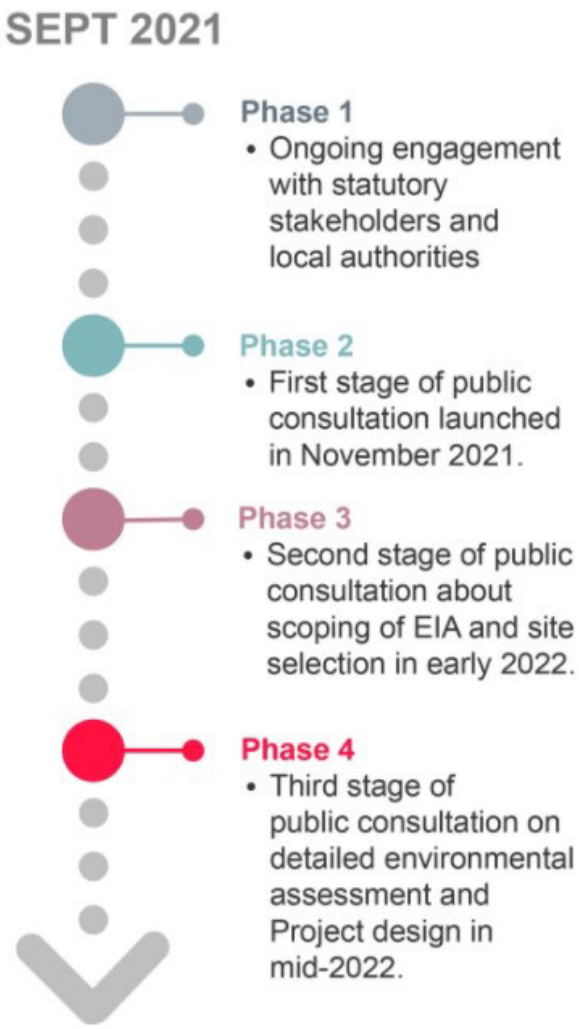
Engagement and consultation

We are committed to an open and ongoing dialogue with our stakeholders. Engagement is already underway with key stakeholders such as local authorities, statutory stakeholders for the planning and permitting processes, and wider technical bodies.

Programme of engagement

This event represents the first in what will be a programme of engagement with the public over the H2H Saltend Project. As we develop our understanding of the best location for the project, events will be held to enable members of the community and wider public to understand more about the project, what this means for them and how we will manage our environmental footprint responsibly.

We will continue to consult with the public and wider stakeholders at key stages of the development of the Environmental Impact Assessment and planning process. We want to ensure that consultation is accessible to all and welcome your feedback on how best we can achieve this.



Get in touch with us...

If you would like more information or would like to get in touch with us about any wider issues, please contact us at:

Email: equinoruk@equinor.com

Website: equinor.co.uk

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Interested in Opportunities?

Register as a supplier of goods and services

Equinor is committed to creating opportunities for local people and businesses in the region, as we have already done through out operations across the UK.

Our intention is to contribute to socio-economic development in communities where we operate. This contribution may include local procurement of goods and services, direct and indirect local employment, local infrastructure development and local capacity development.

Supplier events

In partnership with the University of Sheffield AMRC and the Supply Chain Network, Equinor is hosting H2H Supplier Events which it invites all suppliers to attend. Details of these events are below.

- 25th November at the Aura Innovation Centre, Hull
- 26th November at the Catch Stallingborough, Grimsby

To attend these events, please register at:

https://www.thesupplychainnetwork.co.uk/eventInfo/597857/H2HSupplierEventVirtualInvitation

Equinor will use the details you provide to also notify you of future events. Please note that by completing this form, you consent to Equinor safely storing your details on our Supplier Database. All information will be held in strictest confidence and will not be shared with third parties.

For further information on our procurement processes and working with us, please visit:

https://www.equinor.com/en/supply-chain.html

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