centrica energy storage

equinor

H2H Easington

Transitioning a historic gas terminal to a low carbon hydrogen hub.

About Easington

The Easington Terminal has been one of the UK's main sites for receiving and processing natural gas since 1967. Currently up to one third of the UK's total gas supply enters via Easington, much of it by pipeline from Equinor's Norwegian facilities.

Natural gas is still very important to UK security of energy supply and therefore Easington will continue to be a key strategic hub in the UK energy landscape for decades to come. In addition, Easington is situated close to some of the world's largest offshore wind farm developments, offering huge potential for both blue and green hydrogen production. The area is also earmarked as the Humber landing point for the Northern Endurance Partnership's carbon capture pipeline, which would transport CO_2 for safe storage deep under the seabed as part of the wider East Coast Cluster.

Easington is therefore an important national asset and is a fantastic opportunity to transition its natural gas history into a future low carbon energy hub, whilst utilising, maintaining, and bolstering the skills and experience of the site's valuable workforce. This will enable energising a greener, fairer future, and ensuring a transition that works for everyone.

The evolution of H2H Easington

Ambition to expand to 1.0 GW Green Hydrogen + 1.2 GW Blue Hydrogen in future development phases.

In 2022 Centrica and Equinor signed a co-operation agreement to explore developing a low-carbon hydrogen production hub at Easington, further strengthening the Humber's decarbonisation ambitions and its growing status as the UK's foremost hydrogen region.

Proposals have since been developed for Hydrogen to Humber (H2H) Easington, an ambitious but deliverable multi-stage project which will scale-up over time as the hydrogen economy develops, whilst delivering a just transition for this historic and strategic energy site.

Significant detailed engineering studies have been conducted in collaboration with Wood to assess scaling the project up to 1.2GW of blue hydrogen production and up to 1GW of green hydrogen at Easington within the 2030s.

The completed studies have demonstrated that scaling-up is technically feasible, with the relevant gas, water and carbon capture facilities in place, allowing for economies of scale and driving down the cost of hydrogen.

As a first step towards achieving this larger ambition, proposals for a green hydrogen electrolyser have been submitted to Government as part of the second Hydrogen Allocation Round process. If successful, this initial electrolytic hydrogen system would be operational by early 2029 and would fuel switch off-takers within the Easington terminal, significantly reducing the site's CO2 footprint by over 100,000 tonnes per year by displacing current natural gas demand.

Equinor and Centrica are thereafter planning to scale up H2H Easington to 400MW in 2030, with the additional hydrogen utilised by other offtakers including potentially for Sustainable Aviation Fuel (SAF), which is key to facilitating the energy transition in the aviation sector.

Such a transition would also safeguard many of the existing jobs within this longstanding gas terminal whilst creating new jobs for the future. It is estimated that the 35-year economic impact of the green hydrogen proposals at Easington, including construction, operation and decommissioning of the facility, will be in the region of £1.5bn of gross value added, supporting thousands of jobs in the region.*

Humber Hydrogen Hub

As part of the wider Hydrogen to Humber (H2H) ambitions, the Humber Hydrogen Hub (HHH), under development by partners Equinor, Centrica Energy Storage and SSE Thermal, proposes a focused network of hydrogen producers and users in the Holderness region of East Yorkshire, connected by dedicated pipelines:

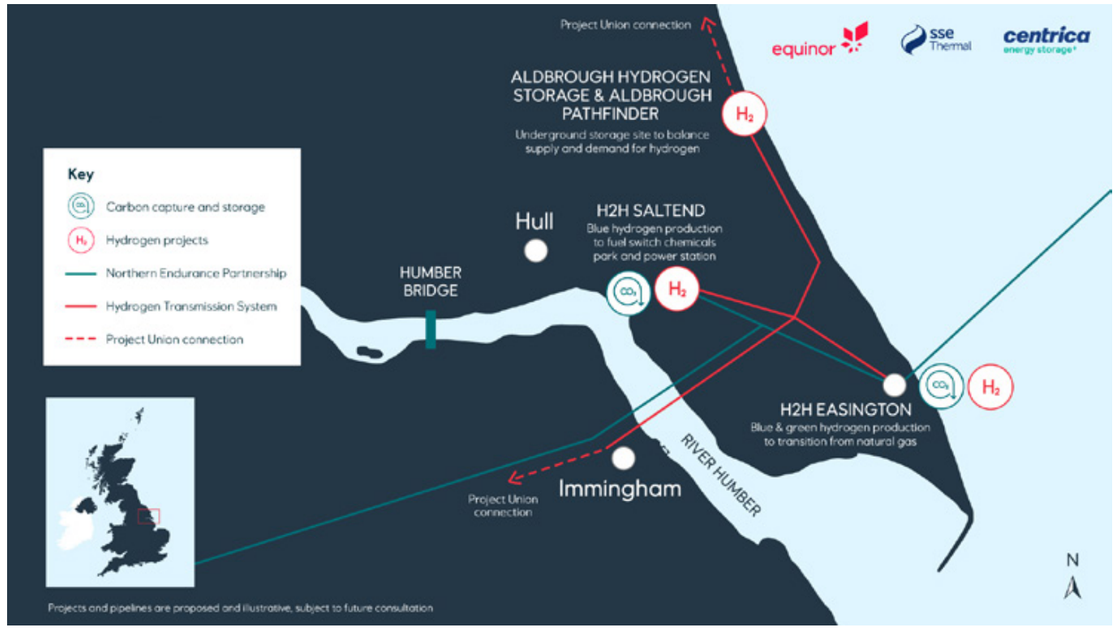
- H2H Saltend: Equinor's blue hydrogen production plant to fuel switch Triton Power Station and other local users, reducing emissions at one of the region's most carbon intensive sites.
- Aldbrough Hydrogen Storage: Equinor and SSE Thermal's project to use underground salt caverns to store blue or green hydrogen which could be produced and consumed locally, helping to improve energy security whilst balancing supply and demand in a future hydrogen economy.
- H2H Easington: New proposals from Centrica and Equinor to produce Gigawatt scale blue and green hydrogen.
- Hydrogen Pipeline: A pipeline, covering approximately 45Km will link Saltend, Aldbrough and Easington's planned large scale hydrogen projects in production, storage and usage. This system would be designed to be a standalone operational hydrogen network on the North bank of the Humber. This pipeline network proposal will also include a crossing of the River Humber to provide connectivity between the north and south banks of the Humber. In addition, the proposal also allows connection to the wider hydrogen economy via the proposed National Gas 'Project Union' and National Gas, Cadent and Northern Gas Networks 'East Coast Hydrogen Project' infrastructure.

HHH could help to meet the Government's UK-wide target of 10GW low carbon hydrogen by 2030 and demonstrate a model to be rolled-out in industrial regions throughout the world.

10GW
UK government target for low carbon hydrogen by 2030.

£1.5bn
gross value added by H2H Easington over 35 years*

2000+
jobs created by H2H Easington over 35 years*



* Results from an independent study performed by the University of Hull

Centrica Energy Storage +
Centrica Energy Storage + operates the Easington onshore gas processing terminal in East Yorkshire and the Rough gas storage facility in the Southern North Sea. Having restarted storage operations at Rough in 2022 to bolster the UK's energy security and help reduce consumer bills, it now provides half of the UK's gas storage, enough to heat 2.4 million homes over winter.

In addition to Centrica's plans to store both natural gas and hydrogen to bolster the UK's energy security, it also has ambitions for onshore and offshore hydrogen production and fuel-switching existing operations to hydrogen to minimise our environmental impact.

Equinor
Equinor is a major international energy company, headquartered in Norway, employing over 22,000 people across thirty-six countries.

It is the largest single supplier of traditional energy to the UK, where it has operated for 40 years. It provides 25% of the UK's gas requirements – enough to heat eight million British homes every day – primarily via pipelines from the North Sea to Easington on the East Yorkshire Coast.

The company has bold ambitions to be a net zero business by 2050, with half of its capital expenditure pledged to be invested in low carbon and renewables projects by 2030.

It's low carbon projects in the Humber include H2H Saltend hydrogen production facility, Aldbrough Hydrogen Storage (in partnership with SSE Thermal) and the Northern Endurance Partnership (in partnership with bp and TotalEnergies).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