CASE STUDY

Humber 2030 Vision projects

The Humber Industrial Cluster, the Midlands portion of which is located in North Lincolnshire on the south bank of the Humber, emits more CO2 than any other UK industrial cluster – 50% more than the next largest.

The Cluster was one of the first to be brought forward under UK Research and Innovation's industrial decarbonisation and carbon capture, utilisation and storage programme, and is working to reach net zero by 2040.

This competition saw six businesses awarded shares of £1 million to prepare for their journey to achieving low-carbon and net-zero industrial clusters. Decarbonising the Humber will be crucial not only to the UK achieving net zero, but also to economic growth. A number of nationally significant energy and decarbonisation projects are under development in the region.

These projects form the foundation of the Humber Energy Board's 2030 Vision for the Cluster. The Vision aims to reduce emissions by 80%, enabled by £15 billion in private investment. This will safeguard 1 in 10 regional jobs and has the potential to create thousands more. It is estimated that a full net zero transition could create more than 50,000 new roles across the region over the next decade.

The Humber Freeport is a central part of this. Spanning over 45km across both banks of the Humber, it is responsible for bringing around 7,000 jobs and helping to make the region a global gateway. It is centred around the ports of Hull, Goole, Immingham and Grimsby, which are responsible for 17% of UK trade. The Freeport has the potential to help the region realise global investment opportunities, in sectors including green energy, with the public and private sectors coming together to drive economic transformation.

There are several projects that fall within the Midlands Engine area, including H2H Production 2, which Equinor is developing. It is larger than H2H Saltend at 1.2GW and will include carbon capture. The low-carbon hydrogen it produces will be transported for use by industrial emitters across the region through infrastructure created by the Zero-Carbon Humber and East Coast Cluster network.

SSE has two projects in development, the first of which is the Keadby 3 Carbon Capture Power Station. This would be the first power station in the UK to be equipped with carbon capture technology by the mid-2020s. SSE Thermal is working with Equinor to develop the project, which will have an electrical output of 910MW, using natural gas as its fuel and offsetting an average of 1.5Mt of CO2 through carbon capture.

There will be times when renewable technologies are unable to produce sufficient power and alternative generation will be needed to secure supply. Both SSE Thermal and Equinor consider low-carbon gas-fired generation to be the most cost-effective, flexible and fastest solution to this.

Keadby 3 is expected to generate £1.2 billion for the UK economy over its lifetime, including £570 million in Yorkshire, the Humber and the East Midlands. SSE Thermal and Equinor expect the project to help secure a just transition for workers and communities across the region.

Keadby Hydrogen, once again being developed by SSE Thermal and Equinor, aims to be the world's first 100% hydrogen-fuelled power station. The 900MW facility is expected to help the UK secure supply and deliver on its long-term decarbonisation goals. It will step in and provide back-up low-carbon power when required. It is forecast to have a peak demand of 1,800MW of hydrogen. It will also connect to the shared infrastructure being developed by the East Coast Cluster.

This is a strong example of industrial decarbonisation and innovation coming together in one of the region's key clusters.

Credit: https://idric.org/stakeholders/humber-industrial-cluster/

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