

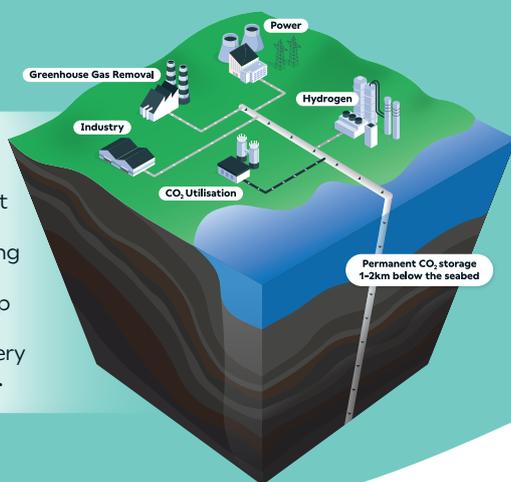
Carbon Capture, Utilisation and Storage in the North West & North Wales



HYNET

A CCUS Cluster

Multiple industries sharing CO₂ transport and storage infrastructure, enabling industrial and power decarbonisation, deep emissions reductions and supporting delivery of net zero pathways.



What is CCUS?

Carbon Capture, Utilisation and Storage (CCUS) captures carbon dioxide (CO₂) from industry, power plants or even directly from the air. The process involves three key steps:

- 1. Capture:** CO₂ capture technology captures CO₂ from industrial or energy-related emissions or directly from the air.
- 2. Transport:** The captured CO₂ is compressed and transported by ship, road, rail or pipeline to storage sites.
- 3. Storage or utilisation:** CO₂ is injected into geological formations offshore 1-2km below the seabed (e.g., depleted oil and gas fields or saline aquifers) or used in products like concrete or fuels.

CCUS industry is delivering in the UK:

CCUS is being developed in **regional industrial clusters**. The first projects are under construction in **Merseyside, North Wales and Teesside**, where industries share transport and storage infrastructure. Further projects are in development in the **Humber, Scotland, Derbyshire & Staffordshire, East Anglia, South Wales, the South Coast and Avonmouth**.



The UK Climate Change Committee highlights that CCS is essential to meeting the UK's climate commitments.¹

CCUS is a vital tool for:



Cutting emissions from foundational industries:

CCUS is the only realistic way to decarbonise industries like cement, chemicals and refining by capturing emissions created as a by-product of the production process.



Delivering deep emissions reductions:

CCUS can capture 50-60 million tonnes (Mt) of CO₂ annually by 2035 - a level the Climate Change Committee says is essential for meeting the UK's climate targets, equivalent to offsetting the carbon footprint of Greater London twice over.



Retaining UK industries:

CCUS enables industry to cut emissions, remain competitive the global low-carbon products market and supports up to 50,000 jobs by 2050.



Producing low-carbon hydrogen:

CCUS enables low-carbon hydrogen for industry by capturing CO₂ during production.



Removing CO₂ from the air:

Greenhouse Gas Removal (GGR) technologies actively remove CO₂ from the atmosphere, complementing decarbonisation efforts by helping address emissions from hard-to-abate sectors, such as agriculture and aviation.



Powering millions of homes:

Gas-fired power stations with CCUS will produce 2-7 Gigawatts (GW) of low carbon, flexible power by 2030, enough for up to 5.25 million homes and balancing the grid when renewables are not available.



Boosting the UK economy:

Building out CCUS will help unlock £26 billion in private investment by 2030, supporting a growing UK CCUS supply chain worth up to £2.6 billion by 2040, generating up to £30 billion in taxable revenue annually by 2050 and adding £94 billion Gross Value Added (GVA). With around a third of Europe's CO₂ storage potential, the UK is well positioned to lead in carbon storage and exports.

¹ Climate Change Committee (2025) The Seventh Carbon Budget (pg.14). Available [here](#).

What comes next?

The UK now has a credible pipeline of CCUS projects, but the next projects and clusters must move forward without delay. To secure a self-sustaining CCUS industry and realise its industrial, economic and climate benefits, the CCSA urges Government to:

1 Deliver the actions required to progress the build-out of the East Coast Cluster and HyNet as well as confirming the allocation of the development funding committed to Viking CCS and The Acorn Project.

2 Provide an allocation framework for government support contracts in the 2027 Spending Review and a clear nationwide route to market for CCUS deployment. This should include enabling Viking CCS, The Acorn Project, East Coast Cluster Humber Expansion and MNZ | Peak Cluster to reach financial

close within this Parliament, and supporting other projects and clusters to deploy, including those using CO₂ transport by ship, road and rail.

3 Implement policies and regulations to stimulate low carbon products, carbon removal and European-wide CO₂ storage markets to enable the transition to a self-sustaining market.

HyNet

CCUS in the North West and North Wales: HyNet

HyNet is the leading industrial decarbonisation project in the UK. It will contribute to transforming one of the most energy-intensive manufacturing districts in the North West of England and North Wales into one of the world's first low-carbon industrial clusters.

This initiative employs cutting-edge technology to capture CO₂ from a wide range of local industries, including the first two anchor emitters: **Heidelberg Materials' cement manufacturing plant (Padeswood)** and **Encyclis' energy-from-waste facility (Protos)**. Other emitters involved in HyNet include industrial activities spanning across low-carbon hydrogen production, energy from waste, bioenergy, refining and clean power generation.

Eni CCUS Holding's **Liverpool Bay Transportation & Storage Company (LB CCS Ltd)** – through new and repurposed infrastructure – **will ensure safe and permanent storage in Eni's depleted natural gas reservoirs**, located under the seabed in Liverpool Bay. The HyNet Cluster will help protect local industries, support UK supply chains and create thousands of new jobs. **LB CCS, Padeswood and Protos have already reached Financial Close with the UK Government and are currently under construction**, unlocking significant private investment in the area.

Key benefits include:

 **CO₂ reduction:** Aims to cut carbon emissions up to 10 Mt annually in the 2030s, targeting first CO₂ injection in Eni's depleted natural gas reservoirs in the Liverpool Bay area in late 2028/beginning 2029, in line with emitters' availability.

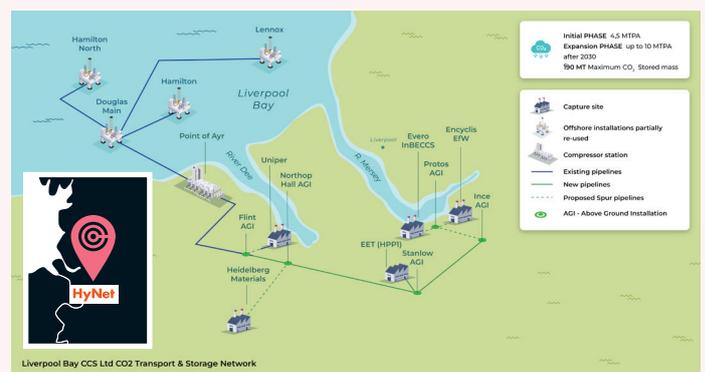
 **Job creation:** Aims to support tens of thousands of jobs across the UK by 2035, with ca. 6,000 positions in the North West.

 **Economic impact:** By 2050, HyNet could contribute up to £17bn to the local economy and £31bn to the UK economy.

 **Clean energy target:** HyNet will be instrumental for the UK to meet its CCS, low-carbon hydrogen and Clean Power targets by 2030.

Leading industry partners

Liverpool Bay CCS, Heidelberg Materials, Encyclis, EET Hydrogen, Uniper, Evero, Progressive Energy, EET Fuels, Viridor, enfinium, SSE Thermal, Inovyn, Fulcrum, encirc, Cadent, INEOS, ingevity, Pilkington, RWE, Novelis, ES3 and Knauf Insulation.



Project overview: HyNet North West and North Wales