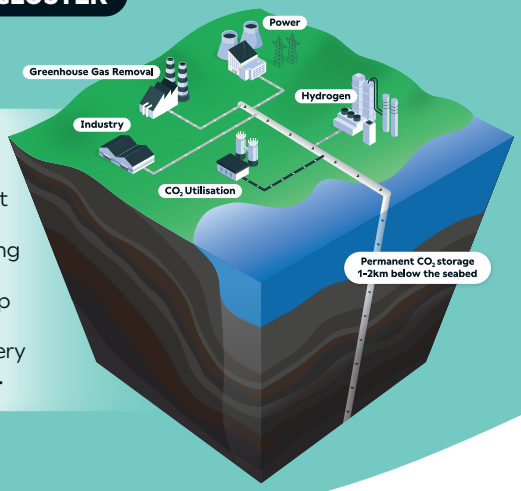
Carbon Capture, Utilisation and Storage in Teesside & the Humber

THE EAST COAST CLUSTER



A CCUS Cluster

Multiple industries sharing CO_2 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 (CO_2) from industry, power plants or even directly from the air. The process involves three key steps:

1. **Capture:** CO_2 capture technology captures CO_2 from industrial or energy-related emissions or directly from the air.
2. **Transport:** The captured CO_2 is compressed and transported by ship, road, rail or pipeline to storage sites.
3. **Storage or utilisation:** CO_2 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 CO_2 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 CO_2 during production.

Removing CO_2 from the air: Greenhouse Gas Removal (GGR) technologies actively remove CO_2 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 CO_2 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.

CCSA

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 CO_2 transport by ship, road and rail.
3. **Implement policies and regulations** to stimulate low carbon products, carbon removal and European-wide CO_2 storage markets to enable the transition to a self-sustaining market.

EAST CO_2AST CLUSTER

CCUS in Teesside & the Humber: The East Coast Cluster

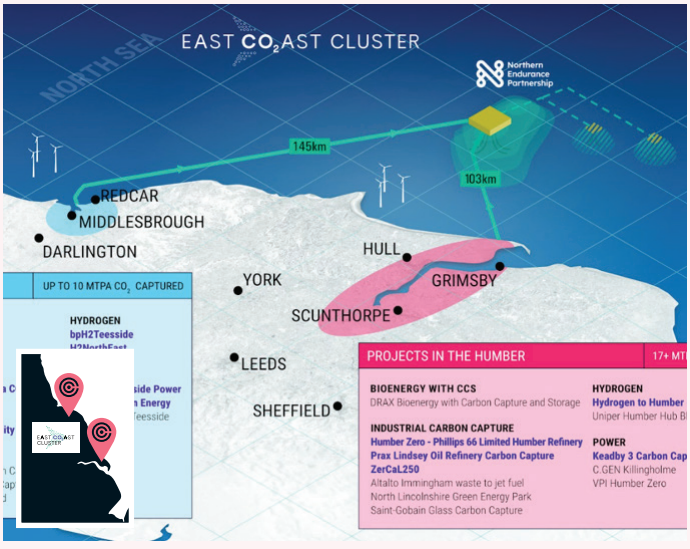
The East Coast Cluster covers Teesside and the Humber, two of the UK's biggest industrial regions, producing about half of the country's industrial emissions. The cluster includes industrial carbon capture, low-carbon hydrogen production, negative-emissions power generation and a power plant fitted with CCS.

The cluster is anchored by the **Northern Endurance Partnership (NEP)** – a joint venture between bp, Equinor and TotalEnergies – developing one of the UK's first CO_2 transport and storage networks, with permanent storage beneath the North Sea. NEP will initially store **4 Mt of CO_2 per year**, with capacity to grow as the cluster expands.

In October 2024, the Government committed long-term funding to support early CCUS deployment. **Net Zero Teesside Power** and **NEP** became the first UK CCUS projects to reach Final Investment Decisions and are now under construction, with start-up targeted for **2028**. Further expansion is expected following the Government's **Project Selection Process**, to be launched in early 2026.

Key benefits include:

- **CO_2 reduction:** Expected to capture around 23 Mt of CO_2 per year by 2035.
- **Job creation:** Will support an average of 25,000 jobs per year and a further 41,000 during peak construction.
- **Economic impact:** £4bn in construction contracts, adding around £2bn per year to the North East economy by 2050.
- **Low carbon power:** NZT Power could generate up to 742 Megawatts of dispatchable low-carbon electricity – enough for over 1 million homes.
- **Skills development:** Regional training initiatives - like the Tees Valley Net Zero Industry Scholarship - are building a long-term low-carbon workforce.



Project overview: The East Coast Cluster

Leading industry partners

bp, Equinor, TotalEnergies, Net Zero Teesside Power and Northern Endurance Partnership.

Related CCUS infrastructure in the Humber

The Humber is also served by **Viking CCS**, developing CO_2 transport and offshore storage from Immingham into the Southern North Sea. See the **Viking CCS factsheet** for more information.

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