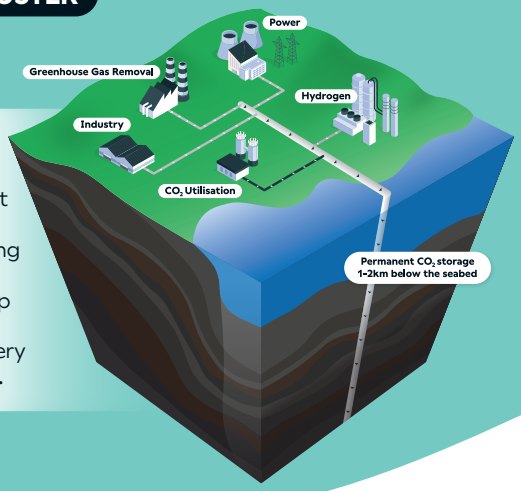
Carbon Capture, Utilisation and Storage in Scotland

THE SCOTTISH 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.

CCUS in Scotland: The Scottish Cluster | The Acorn Project

The Scottish Cluster is designed to decarbonise Scotland's heavy industries by capturing CO_2 and transporting it through repurposed oil and gas pipelines to facilities for long-term storage under the North Sea.

The Cluster brings together:

- **Acorn Transport & Storage network:** The pipelines and offshore sites that will safely transport and store captured CO_2 under the North Sea.
- **National Gas Transmission's SCO$_2$T Connect Project:** A project to convert an existing gas pipeline so it can carry CO_2 instead of natural gas, linking Scotland's Central Belt with the North-East.
- **A wide mix of businesses:** From heavy industry, power generation, hydrogen production, bioenergy (energy from plants and organic waste) and waste-to-energy (turning rubbish into usable energy).

Scotland has decades of expertise in the North Sea oil and gas sector. This means the workforce is equipped to transition to the CCUS sector to decarbonise businesses, sustain jobs and generate low-carbon power, as well as enabling businesses to compete in the global low-carbon products market.

Acorn provides the essential CO_2 transport and storage infrastructure for major projects like Project Willow at Grangemouth and Peterhead Carbon Capture Power Station.

In the June 2025 Spending Review, **Acorn secured £200 million in government development funding** to progress to a Final Investment Decision before the end of this Parliament – a major milestone for the project.

Key benefits include:

Decarbonisation potential: Could capture and store 5–10 Mt of CO_2 per year, delivering up to one-third of the UK's 2030 emissions reduction target and enabling industries to stay competitive in a low-carbon economy.

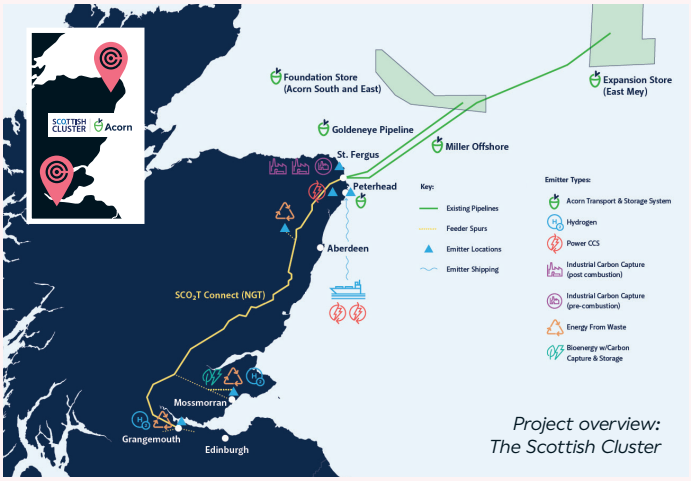
Job creation & protection: Supports 4,700 development/construction jobs, 2,300 operational jobs, and safeguards 12,100 existing jobs by enabling heavy industry to continue operating in a low carbon economy.

Economic boost: Could generate £17.7 billion for the UK economy by 2050 by leveraging Scotland's existing oil and gas infrastructure for new clean energy industries.

National impact: Links Scotland's Central Belt and North-East via repurposed pipelines, allowing CO_2 from across the UK to be stored in the North Sea and maximising the return on shared infrastructure.

Leading industry partners

Acorn Project, Harbour Energy, National Gas Transmission, North Sea Midstream Partners, Petrofac, Scottish Power, Snam and Shell UK.



Project overview: The Scottish Cluster

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