

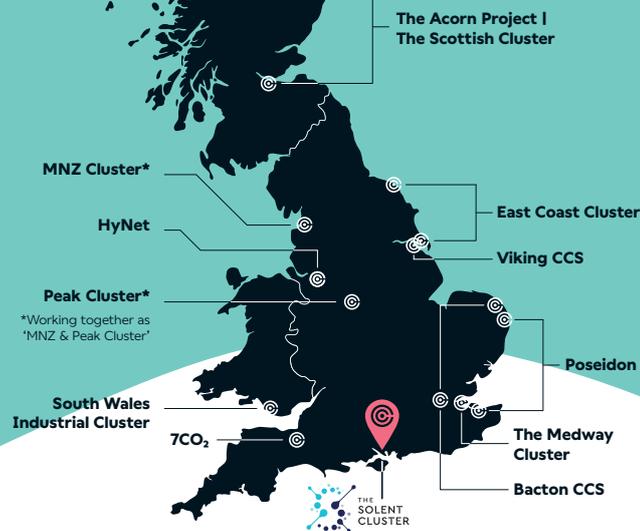
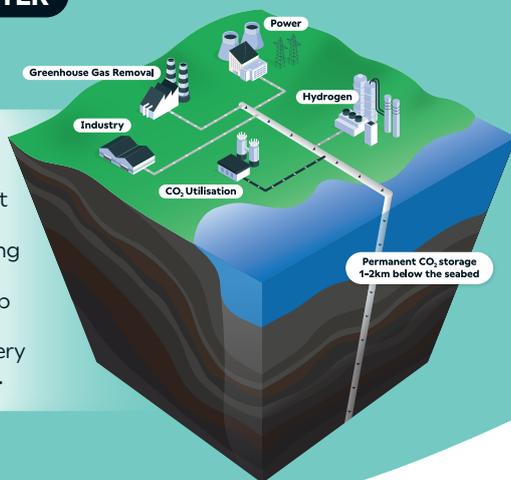
Carbon Capture, Utilisation and Storage in the South Coast



THE SOLENT CLUSTER

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.



CCUS on the South Coast: The Solent Cluster

The Solent Cluster is a partnership of different industries working together to cut carbon emissions along the South Coast of England, including the Solent area, by using solutions like CCUS and hydrogen.

Based in Southampton, the cluster includes some of the UK's most important industrial and transport hubs:

- **ExxonMobil's Fawley Complex:** The UK's largest petrochemical site, making the chemicals used in plastics, fuels, and everyday products.

- **The Port of Southampton:** Britain's leading port for exports and cruise ships.
- **Pipeline connections to Heathrow and Gatwick airports:** Helping supply fuel efficiently.

The region currently supports around 90,000 businesses and fuels a £50 billion economy, making it an important economic hub.

Key benefits include:

 **Decarbonisation potential:** Could cut emissions in the region by 99%, removing over 90 Mt by 2050. That's roughly equivalent to taking about 50 million cars off the road – helping the South Coast cut emissions and address climate change targets.

 **Carbon storage capacity:** A nearby saline aquifer (underground porous rocks filled with saline water that are capable of naturally trapping CO₂ for thousands of years) in the English Channel offers long-term, secure carbon storage.

 **Hydrogen production:** The Fawley Green Hydrogen Project will supply clean hydrogen by pipeline to local users, reducing reliance on fossil fuels for power, transport and industry.

 **Job creation & protection:** Could create 3,200 high-quality jobs and safeguard 2,500 skilled roles at Fawley, which supplies fuels to 70% of the UK population and 25% of Heathrow's jet fuel.

 **Economic boost:** Expected to add £2.7 billion to the economy by 2035, strengthen the local supply chain and attract further investment into the South Coast's clean energy sector.

Leading industry partners

ExxonMobil, SGN, SSE, RWE, Hynamics and Marchwood Power.



Project overview: The Solent Cluster