CCUS Policy Update for Biomethane

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UK Director

Green Gas Day 2025
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CCSA

About the CCSA

The Carbon Capture and Storage Association is unique in its representation of the entire CCUS chain of capture, transport and storage; bringing together end-users, technology developers and supply chain.

Our teams, based in London and Brussels, focus on:

1

Advocating for policy developments in UK, EU and internationally towards a long-term regulatory and incentive framework for CCS.

2

Raising awareness of CCS as a vital tool in fighting climate change and delivering sustainable long-term clean growth.

3

Driving progress on commercial-scale projects.

4

A technology neutral approach (geological CO_2 storage and utilisation, capture from industry, power, hydrogen production, bioenergy, direct air capture and different capture technologies).

Find out more at www.ccsassociation.org

CCSA members

CO_2 Storage

Power & Industrial

Carbon Capture Developers

Engineering & Equipment

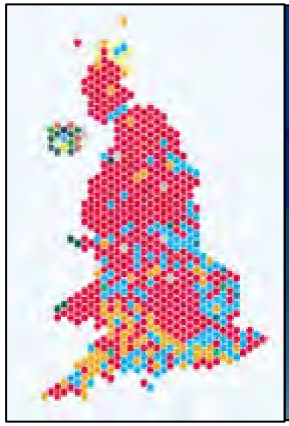
CO_2 Transport & Distribution

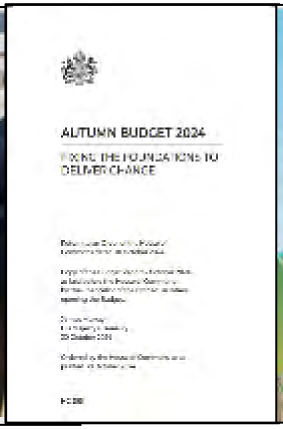
Financial, Consulting & Others

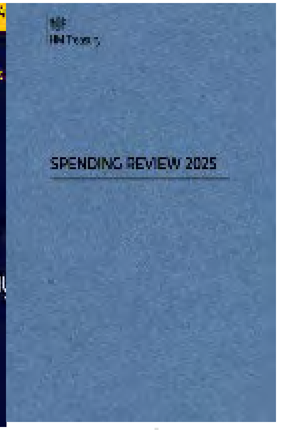
The UK's historical support for CCUS

Date	Support
2017	**CCUS at scale in 2030s** Establishment of Ministerial-led CCUS council & CCUS Cost Challenge Taskforce
2020	**10MtCO2/yr**. by 2030, £1bn for 4 CCUS clusters by 2030
2021	**20-30 MtCO2/yr** by 2030, **50Mt/yr** by 2035, with 10Mtpa for Track-2 clusters
Mar 2023	**£20bn** for early CCUS deployment
Oct 2023	Enabling legislation for CCUS business models
Nov 2023	**£4.5 bn** for strategic manufacturing sectors Budget **£960 million GIGA** supply chain
Dec 2023	Govt**. CCUS Vision** for a self-sustaining CCUS sector, **Track-1 expansion** at HyNet EOI, **Track-2 anchor phase** 2024

Key developments since the change of government







4 July: 2024 General Election – Labour majority of 411 seats.

9 July: Chris Stark appointed to **lead Mission Control for Clean Power by 2030**. **National Wealth Fund** launched - align the UK Infrastructure Bank and the British Business Bank.

4th October: £21.7bn funding committed to first CCUS projects

30th October
Autumn Budget and pretext to Spending Review: Spring 2025
and
New UK target to reduce emissions by 81% by 2035 @ COP29 (incl.CCUS)

10th December
Net Zero Teesside Power (NZT Power) and the Northern Endurance Partnership (NEP) have reached financial close and now move into execution phase

24th March 25
Eni Liverpool Bay Transport and Storage System reaches financial close moving into execution phase

11th June 25
£9.4bn confirmed to 'fill the existing stores' and provide development funding for two further T&S clusters – Viking and Acorn

5th August
Project Negotiation List.
5 Priority and 5 Standby Capture Projects.
Enter into negotiations with Government.

Status of UK CCUS

✓ **Hynet and ECC**

- *Oct 24: £21.7 billion, over 25 years, to support Hynet and East Coast Cluster.*
- Dec 25 – Apr 25 T&Sco Final Investmnet Decsions:
    - **Northern Endurance Partnership & Net Zero Teesside;**
    - **Eni Liverpool Bay**
- Jul 2025: market-sounding exercise connections to ECC
- Ofgem awarded DEVEX to NEP to carry out appraisal drilling and surveys for expansion stores

✓ **HyNet Expansion Project Negotiation List Published**

- 5 Priority and 5 Standby announced
- Range of CCUS applications taken forward
- Last week, final Govt. Contracts signed on capture plants:
    - **Heidelberg Materials' Padeswood cement works**
    - **Encyclis' Protos Energy Recovery Facility** (ERF)
- CCSA also pushing for clear connection pathway for standby projects.

Status of UK CCUS

✓ **Viking Project and Acorn CCS – Committed Development Funding**

- Development funding committed as part of £9.4bn at spending review
- Next steps being agreed in bilateral discussions with Government to enable continued Devex spending
- Lessons learnt process from Track 1 being developed to streamline process.
- Final investment decision this parliament, subject to readiness and affordability.

✓ **Peak Cluster**

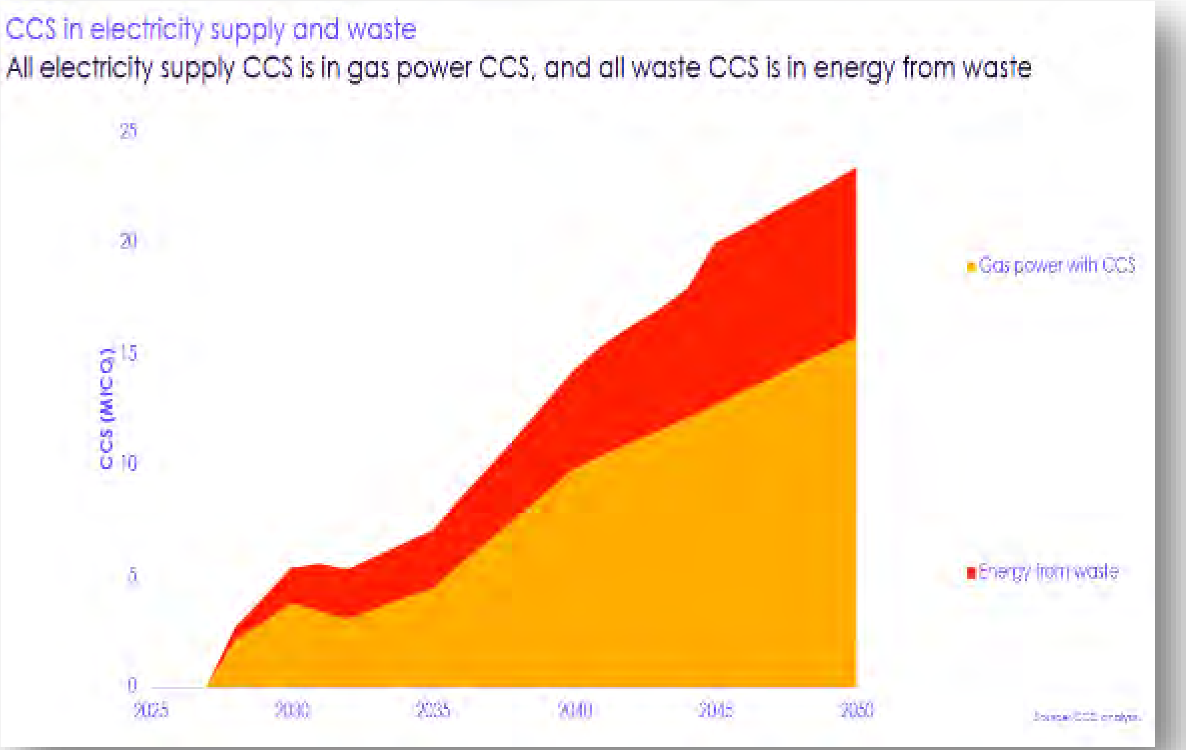
- National Wealth Fund invested £28.6 million in equity to support development of Peak Cluster's CO_2 pipeline to Morecambe Net Zero.
- Need route to Economic Licence with expected FID this parliament.

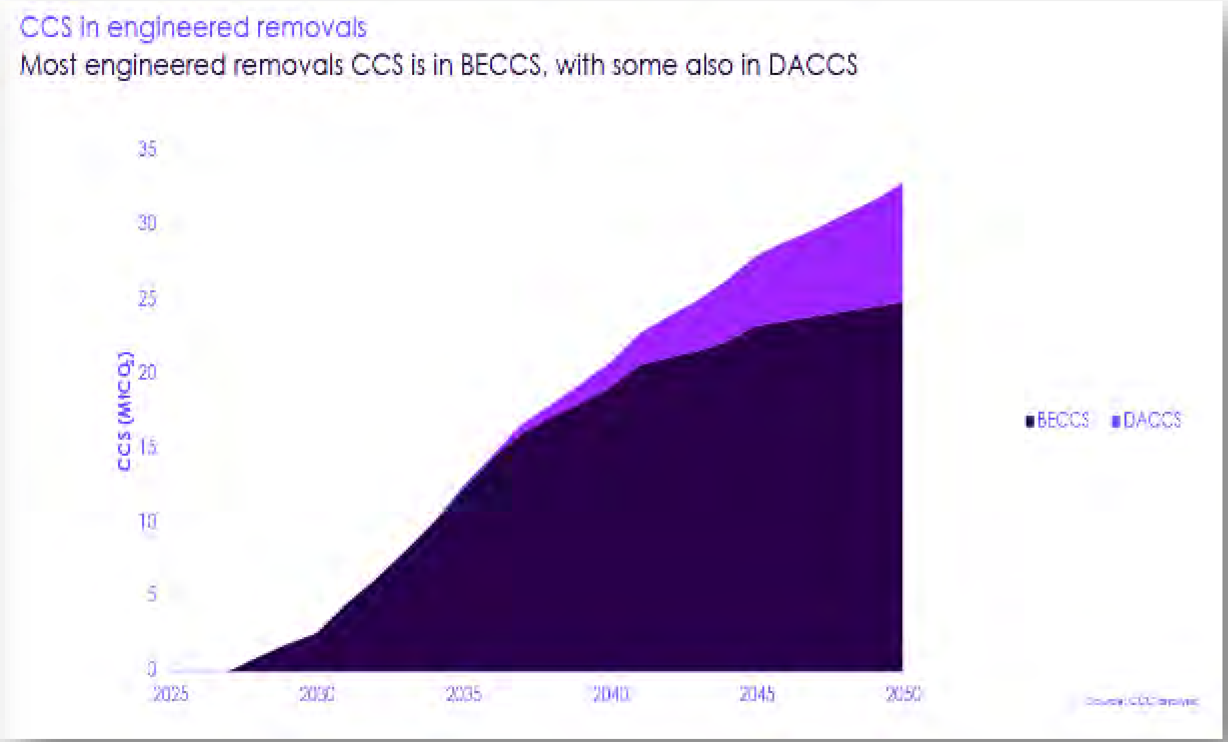
✓ **Other UK Clusters and Projects**

- Call for Evidence on Future Network Strategy and Economic Regulation of CO2 Storage.
- Third-party access consultation expected soon.
- Non-Pipeline Transport consultations expected in November.
- CCSA focus on development of supportive markets – cross border CO2, GGR, Low Carbon product, carbon markets.

We are in the process of updating our cluster map.

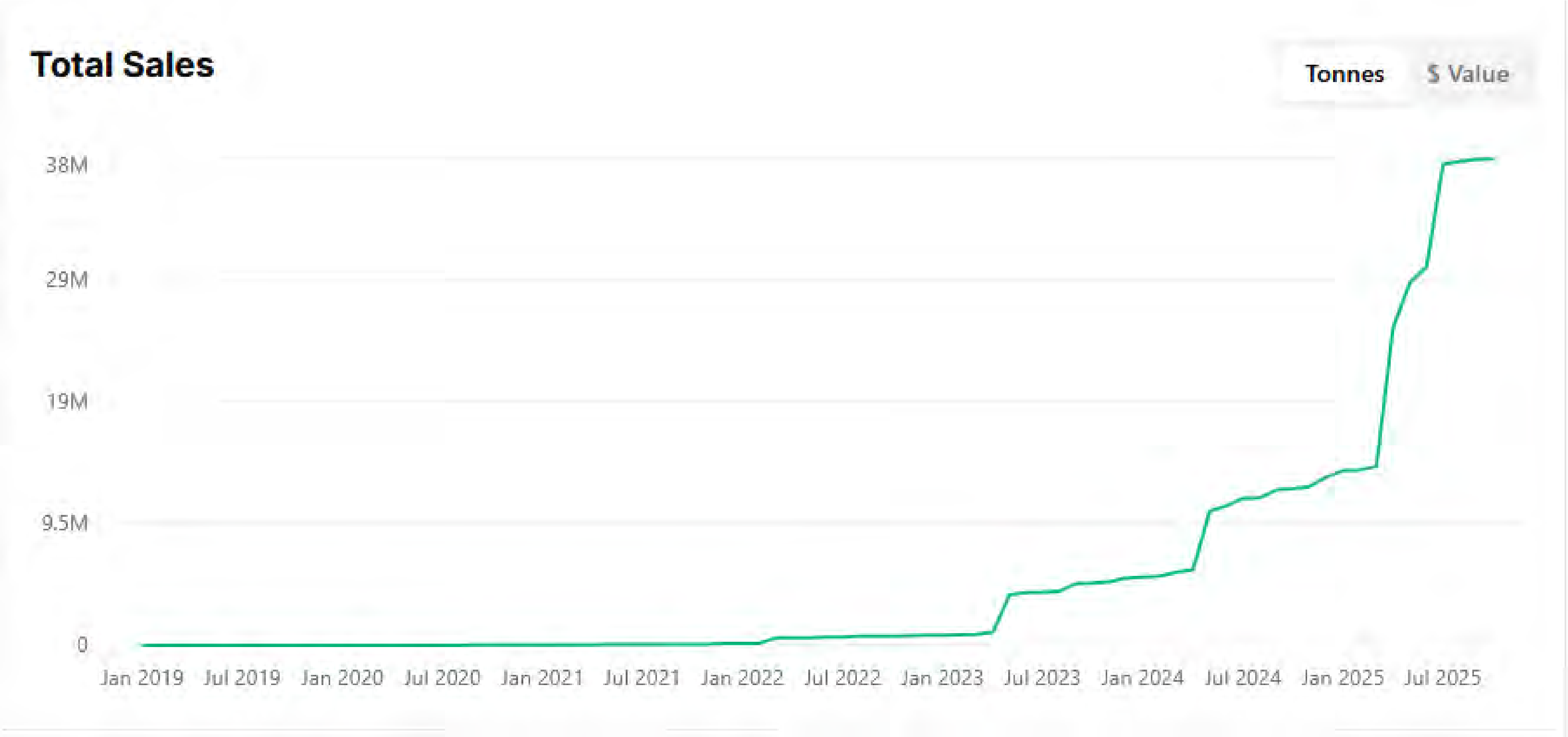
Importance of Power CCS and Green House Gas Removals in CB7





A Growing GGR (CDR) Global Market

A potential $1.2 trillion global market by 2050 (McKinsey)



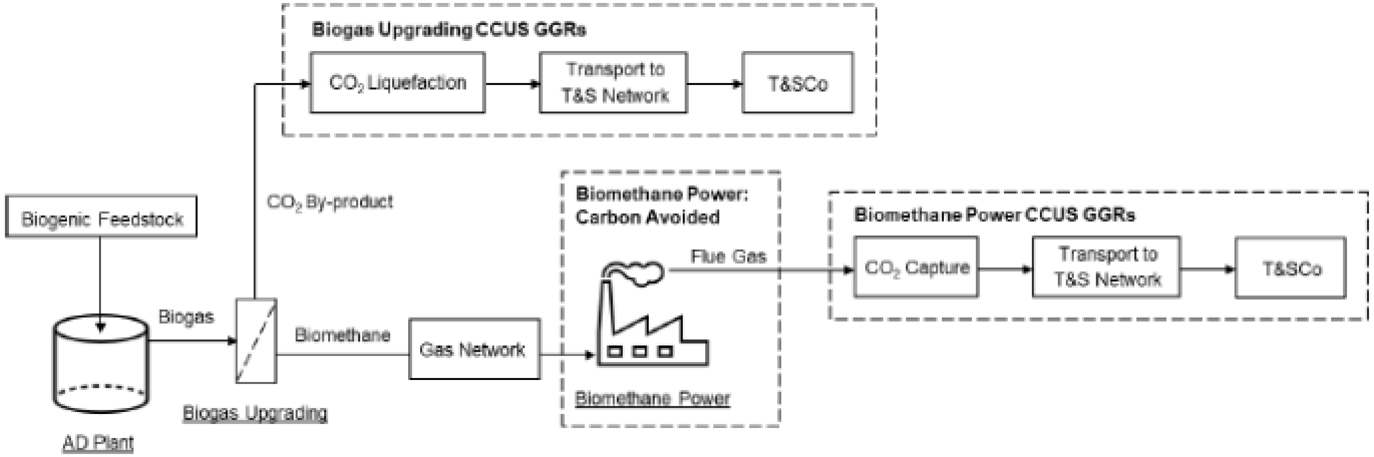
Source: CDR.fy

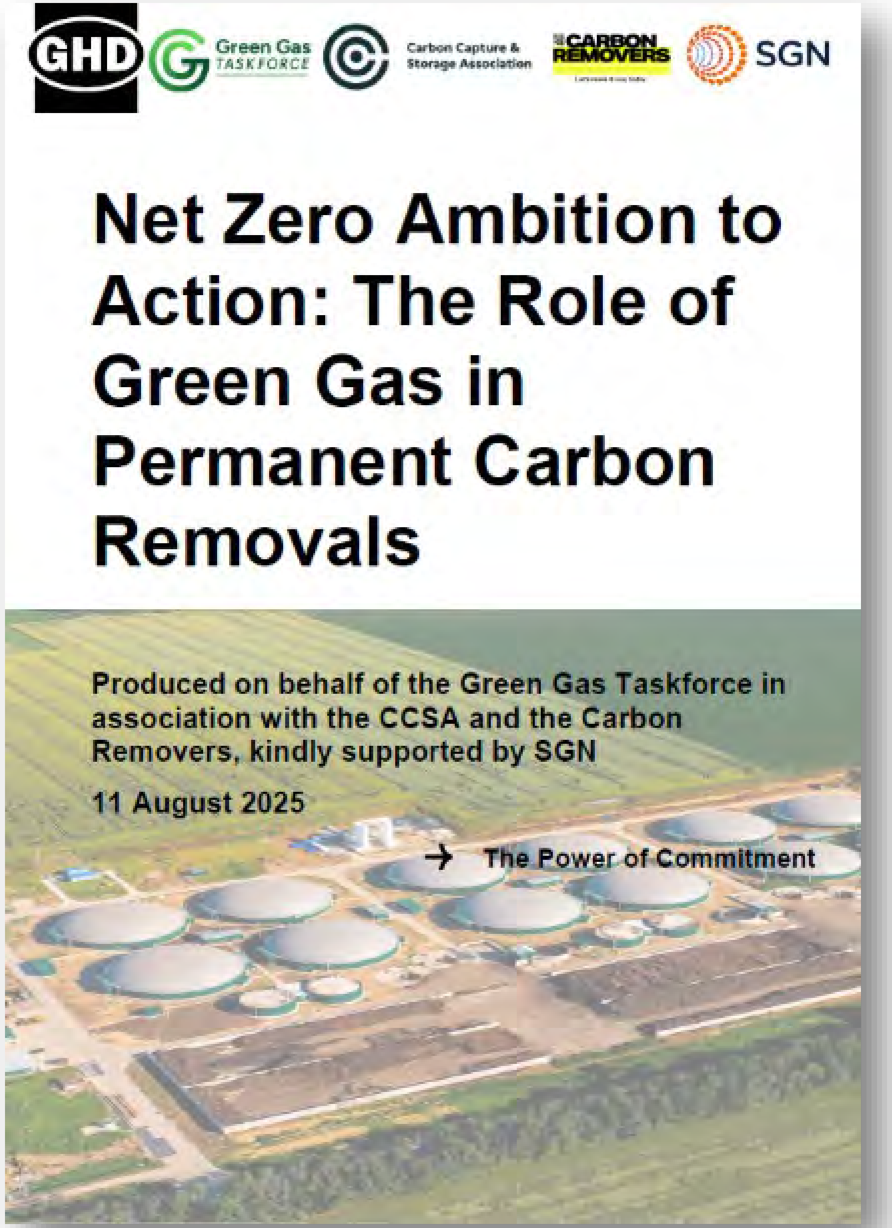
Determining the Potential for Biomethane CCUS

- Produced by GHD on behalf of the ***Green Gas Taskforce*** in association with the CCSA and the Carbon Removers, kindly supported by SGN

- Report was produced to feed into the Governments Independent Greenhouse Gas Removal Review – due to publish later this month.

- Report consider both primary GGRs generated through biogas upgrading with CCUS and potential of biomethane combusted in power or industrial installations fitted with CCUS





Key Findings

Biogas Upgrading CCUS

17.1 $MtCO_2$/year of GGRs by 2050
(22% of UK engineered removal Target)

£54 – 123 /tCO_2
(excluding profit margins and T&SCo costs)

Biomethane Power CCUS

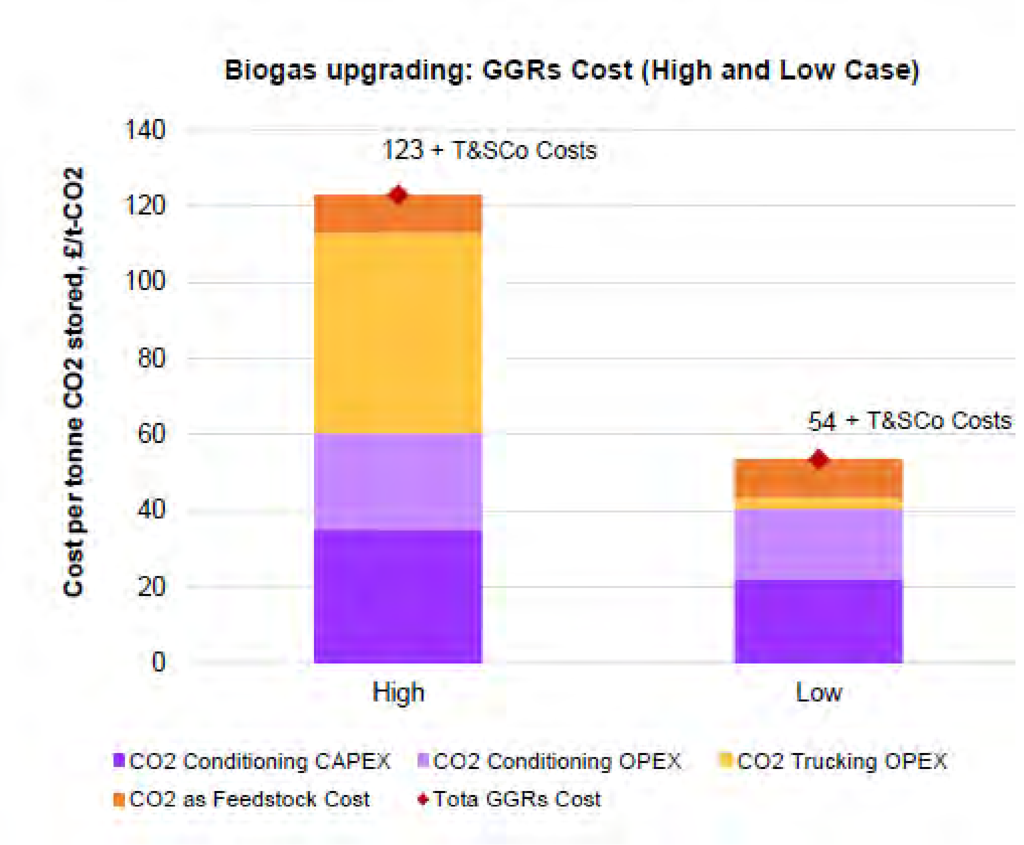
20.6 $MtCO_2$/year by 2050
(26% of UK engineered removal Target)

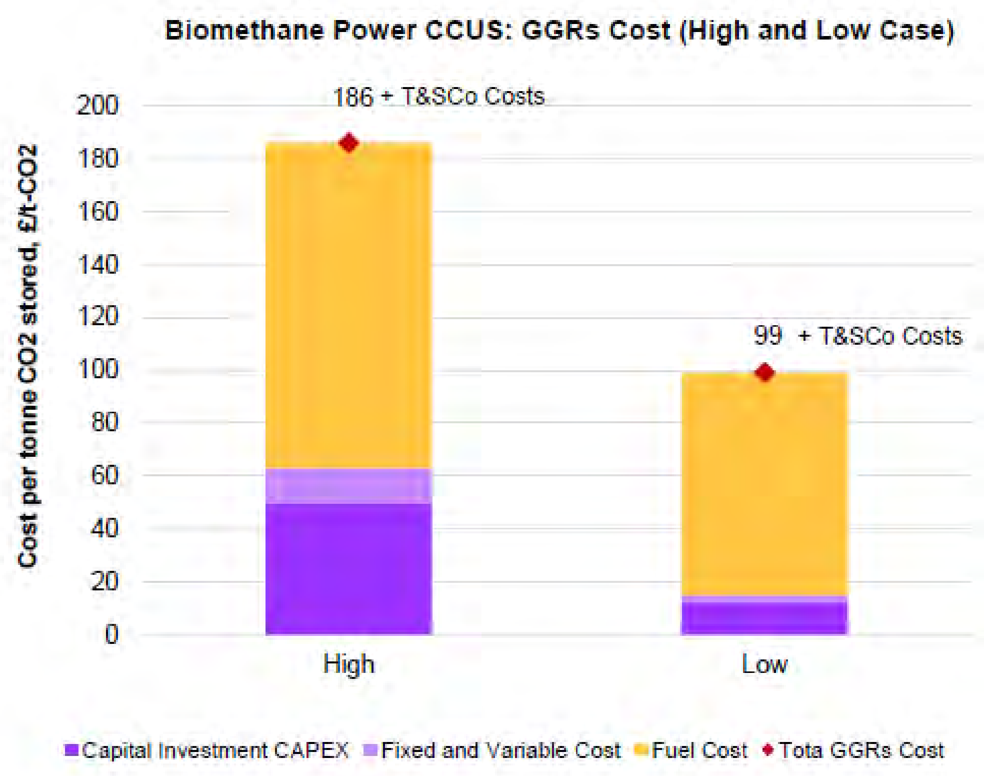
18.0 $MtCO_2$/year Carbon Abated by 2050 (*via natural gas power displacement*)

£99 – 186/tCO_2
(excluding profit margins and T&SCo costs)

100% of Low Carbon CB7 dispatchable power requirements
(in scenario that all biomethane went to power production)

Modelled Costs





Indicative Comparison CCC 7th Carbon Budget
Modelled Average for BECCS (inc. T&Sco) - £325/tCO2
Modelled Average for DACCS (inc. T&Sco) - £391/tCO2

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The Importance of Non-Pipeline Transport

Biomethane GGR Scale & Spread: relatively small (~3–25 ktpa) and dispersed sites make CO_2 pipelines uneconomic.

Transport Options: Trucking is the most practical near-term solution; rail and ship options may follow later.

Range & Coverage: Trucked CO_2 transport could reach most planned storage sites. Modelled economic viability of ≈350 km.

Cluster Readiness:

- HyNet & East Coast Cluster: Not initially designed for NPT, but future potential exists.
- Acorn & Viking CCS: Expected to enable NPT CO_2 from startup; biomethane integration will still need to be defined.

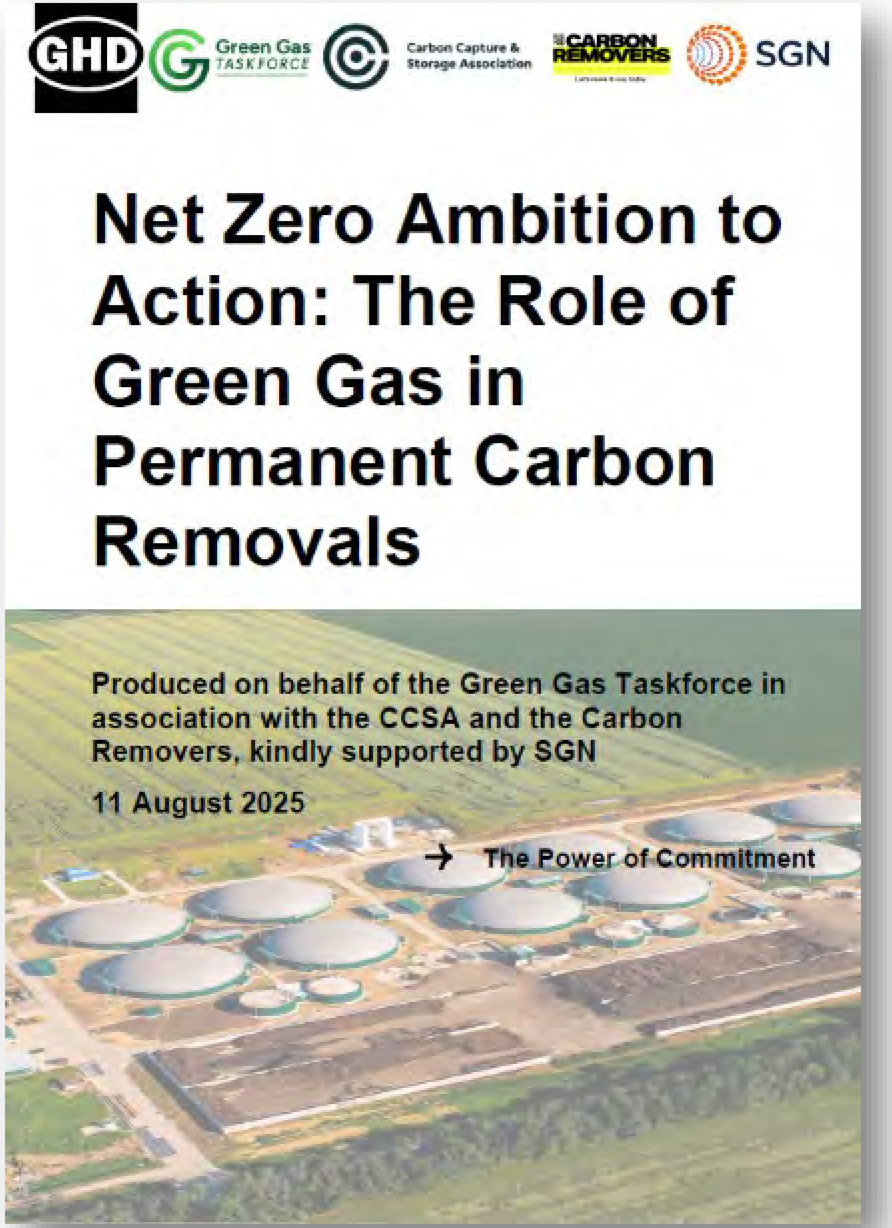
Future Outlook: Additional clusters post-2030 could further expand access.

Policy Requirement: Government must establish an NPT market framework to enable deployment

We are in the process of updating our cluster map.

Recommendations

- Evolve the GGR Business Model to support biomethane GGRs projects.
  - *Ensure Green Gas Support Scheme also supports GGR objectives*
- Expediate delivery of the NPT market framework
  – consultation expected in November
- Ensure development of Transport and Storage clusters, with third party access, to accommodate biomethane GGRs.
- Ensure inclusion of GGRs within both Voluntary and Compliance carbon markets, plus reinforcing the Carbon Border Adjustment Mechanism. Required to create a viable long-term CCUS market, reducing reliance on Government support
- Ensure the cost competitive nature of biomethane GGRs are recognised and supported.



CCSA

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The Carbon Capture and Storage Association (CCSA) is the trade association focused on accelerating the commercial deployment of carbon capture, utilisation and storage (CCUS).

We work with our members, governments and other organisations to ensure CCUS is developed and deployed at the pace and scale necessary to meet net zero goals and deliver sustainable growth across regions and nations.

The CCSA has over 100 member companies who are active in exploring and developing different applications of carbon capture, CO_2 transportation by pipeline, ship and rail, utilisation, geological storage, and other permanent storage solutions, both end-users of the technology and those in the supply chain, as well as members from management, legal and financial consulting sectors.

www.ccsassociation.org