# CCSA GGR & Carbon Markets Working Group

22/05/2025
11:00 (BST)

CCSA

# Agenda

| | Time | Topic | Speaker |
|---|---|---|---|
| 1. | 11:00 | **Introduction & CCSA competition law policy notice** | Greg Williams (convenor) |
| 2. | 11:05 | **GGR Review Call for Evidence**<br>• Call for Evidence Overview<br>• CCSA approach<br>• Addressing gaps | All |
| 5. | 12:10 | **AOB, next steps and next meeting date** | Greg Williams (convenor) |

# House keeping & Introductions

- Slides & Recording will be available for members after the meeting.
- CCSA Competition Law Policy notice is attached to the meeting invite and available on the CCSA website.
- If you are not speaking, please mute your microphone.
- Please **raise your hand** if you wish to comment, you will be invited to come off of mute, if you can also turn on your camera.
- Please also pose any **comments in the chat** and these will be picked up by the secretariat.
- **Introductions** of any new members joining the call.

# Independent Review of GGRs

- Terms of Reference published – Dr Alan Whitehead leading the Review.
- Will **inform how GGR technologies can assist in meeting the UK's net zero goals.**
- Current understanding is that this will **not** affect ongoing work in terms of GGR deployment, business model development or spending review.
- Will contribute to building a robust evidence base for 2035 onwards regarding GGR technologies' deployment pathway and Carbon Budget 7.
- Timeline:
  - Call for Evidence published – **closing 20 June 2025.**
  - DESNZ roundtables likely to take place.
  - CCSA-led roundtable: **TBC w/c 23 June**
  - To be finalised **by autumn 2025.**

# Call for Evidence Overview

**Closes: 20 June 2025**

5. What is the potential scale of GGRs in the UK?

6. What are the co-benefits of GGRs?

7. What are the barriers to and enablers of GGR deployment in the UK?

8. What is the economic cost of deploying GGRs?

9. What approaches are there for transitioning away from public investment and attracting private investment in GGRs?

10. What are the roles and options for all GGRs, domestically and internationally, to balance the UK's residual emissions?

11. How can GGRs contribute to security of supply, with respect to the UK's energy system?

## CCSA Approach

- Positioning the UK as a global leader in GGR deployment & first mover advantages
- Evidencing growth potential
- Export potential of GGR credits
- Drive forward market development for GGRs (e.g. public procurement options)
- Crowding in private capital

# Scale of GGRs

**CCSA Delivery Plan Update**
- Current knowledge is that there is a greater than 10 MtCO2 /yr pipeline of GGR projects.

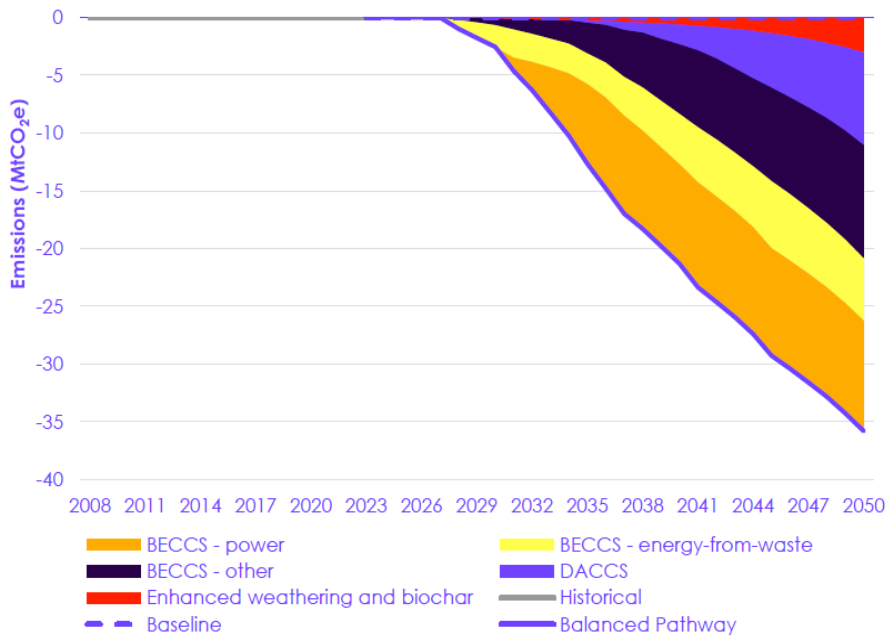
**CCC Carbon Budget 7**
- 35.8 Mt of Engineered removals in the Balanced Pathway in 2050. A further 29.9 Mt of negative emission from land use.
- More then half of this delivered by 2040.

**Govt. Biomass Strategy 2023**
- *"Engineered removals could be deployed at a scale of between 75 and 81 MtCO2/yr by 2050."*
- Net Zero Strategy set an ambition of at least 5 MtCO2/yr by 2030 and 23 MtCO2/yr by 2035.

*Other Data Sources:*

- **$CO_2$RE:** we understand has been commissioned to do further analysis on GGR deployment which we will feed into**.**
- **Green Gas Taskforce:** CCSA supporting report looking at GGR biomethane potential
- **Ricardo (2020)** BECCS potential for 20 - 70 MtCO2/year by 2050
- **ERM (2024)** CCS in EfW sector – 6mtCO2/ yr by 2035.
- **ERM and GFI (2025)** UK home to 80 CDR companies already.

Figure 7.12.1 Sources of abatement in the Balanced Pathway for engineered removals




**Description:** Engineered removals scale up from zero currently to make a steadily growing contribution in the 2030s and 2040s, with the largest contributions from BECCS (across a range of sectors), followed by DACCS.
**Source:** CCC analysis.

# Co-benefits (Q6) & Security of Supply (Q11)

BECCS and EfW provide **reliable volumes of net-negative power, and heat, to the energy system:**

Role of GGRs in a future and secure energy system evidenced in several other publications:

- **CB7:** shows that, across sectors, BECCS provides value both through its **contribution to energy or fuel production** (for e.g. firm electricity generation) as well as the **removals it generates.**
- **CP30 Advice (NESO) and Action Plan (DESNZ): 2 – 7 GW of Low Carbon Dispatchable Power capacity will be needed to deliver CP30 (**biomass, power BECCS, gas CCUS and H2P)
- **Future Energy Scenarios (FES) 2024 report**: BECCS delivers **33-44 MtCO2e of removal** across the pathways, and **up to 4.7 GW capacity** by 2050.
- **Biomass Strategy:** recognises BECCS is critical to meet net zero

- Use response to highlight EfW is not just a decarbonisation route for waste, but **cross-cuts several areas of the economy** and should be factored into long term strategies / plans.
  - Decarbonising waste management, contributing to a low-carbon energy mix, generating low-carbon heat, and generating negative emissions.
- **CCSA submission to the NESO on credible pathways** for the CP2030 programme – net-negative capacity (GW) for Power BECCS & EfW deployable by 2030, and soon after (2031/2)
- Co-products: emphasising **role of GGRs in SAF and low-carbon fuel production**

# Barriers & Enablers to Deployment

- 1/3 of GGR pipeline is at **particular risk of leaving the UK** as GGR technologies are more mobile and incentivised in other jurisdictions through attractive and accessible subsidy schemes.
- Barriers are policy-centric rather than technology-specific. **Long-term certainty** and **timely decisions** are crucial for projects to progress.

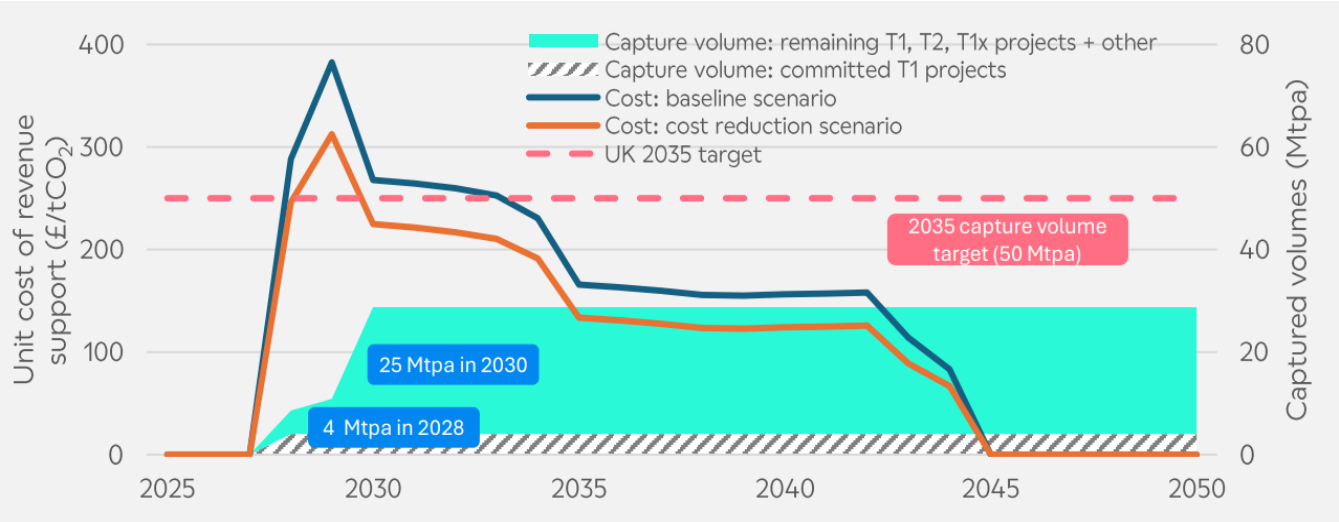
Uncertainty over when the availability for T&S networks prevents accurate business planning and **increases the risk of closure or relocation**. Policy action is needed now to overcome this key barrier for GGR deployment:

- **Provide long term certainty and funding commitments** to projects already selected in Track-1, Track 2, Track 1-expansion, alongside further CCUS cluster projects
- **Finalise the Power BECCS, and GGR business models** at pace and accelerate the integration of GGRs into the ETS. Address industry and investor concerns around proposed changes to the (Waste) ICC Business Models
- **Create a stable and predictable ETS carbon price,** aligned to net zero targets, that can drive private investment in CCUS& GGR technologies, coupled with an effective CBAM to protect from the risk of carbon leakage.
- **Accelerate the delivery of an effective VCM and ETS integration for GGRs,** including wider regulatory drivers for GGR demand such as mandates.
- **Enable NPT projects to bid into future CCUS allocation rounds**, especially given their ability to serve dispersed emitters which will include a significant number of power generators, including sustainable low carbon bioenergy sites.
- **Enabling a smooth transition from biomass to BECCS** will be critical to meet government's longer term policy ambitions, deliver negative emissions, support the energy system and maintain the UK's skills and supply chains.

# Costs of Deployment

- Sign-post cost curves from relevant consultancies.
- CCC use a cost per ton for BECCS of £325-349/ton 2030-250. Our estimates are below this.
- CSR Submission includes figures for £/tonne of capture from BECCS, EfW and GGR. These, however, are difficult to share.

*From CCSA CSR Submission:*
*Annual Revenue Support required to deliver remaining T1, T1X, T2 and further CCUS projects by 2030*




*Cost reduction includes cost reductions resulting from GGR credits, utilising governments ETS trajectory (Green Book).*

*We are looking at how we can segment data for BECCS, EfW and overall GGR.*

***GGR Credit demand***

- Looking for evidence of global credit demand.
- - Recent ERM and GFI (2025) study suggest Ave Credit price of $470/tonne (£350/tonne) for DACCS and $170/tonne (£125/tonne) for BECCS.

# Cost drivers for CCUS in the UK

## Cost drivers for project deployment

- Risk allocation in supply chain contracting
- Cliff-edge payment suspensions under capture business models
- Uncertainty and delays in permitting & planning

## Cost drivers from policy and market frameworks

- Lack of stable carbon price and market frameworks
- Barriers to full value chain collaboration
- Uncertainty in the negative emissions market
- Limited access to T&S networks



# Attracting Private Investment

Policy enablers to create **long-term certainty** that is a prerequisite to attracting private investment.

- Set out options for future business models and allocation frameworks (CCSA Report Summary).
- Increase market confidence by altering allocation framework.
- Importance of evolving allocation frameworks to deliver a self-sustaining market.
- Investors value continuity in business model and support allocation.
- Market integration between capture support and end markets should be improved.
- There is scope to enable greater commercial innovation for GGRs.
- The risk-return profile in CO2 transport and storage could be improved and, in turn, reduce government support.
- Investors want greater certainty on the frequency, timing and funding envelope for allocation and more streamlined licensing, permitting and planning.
- Effective GGR market which reduces reliance on Government support leading to a self-sustaining market and increasing investor confidence.
- What other blockers to private investment are there?

# Balancing Residual Emissions

- Set out why GGRs, including EfW negative emissions potential, are crucial to achieving net zero.
- Set out links with decarbonisation of hard-to-abate industries, including aviation and agriculture.
    - What data can we submit to support this?
- Carbon Budget 7 recommendations:
    - Clear recognition of the long-term role of GGRs
    - One of 5 key routes to deliver CB7
    - The CCC forecast the need for over 60MTCO2pa of GGRs in the UK by 2050, including **35MT of engineered removals**, with c. 50% being delivered by the mid 2030s
    - In CB7 engineered removals contribute **6% of emissions reduction by 2040**
    - This could be higher depending on whether the UK will achieve previous ambitious carbon budgets
    - By **2040, 80% of EfW plants have CCS**, rising to 100% by 2050.

# AOB & Conclusions

- Review actions arising from the meeting

- Next GGR Working Group Meeting: **1 July 2025**

- **GGR Call for Evidence Next Steps:**
  - 1st draft: 30 May
  - Member comments by: 6 June
  - 2nd draft: 12 June
  - Final comments by: 17 July

- **FYI:**
  - VCM Consultation 1st draft will be postponed to 6 June.
  - GGR Regulations Consultation Letter of Support will be shared next week for high-level comments only.

- AOB