

# CCSA All Member Forum

28 March 2024

11:30 – 13:00 (GMT)

12:30 – 14:00 (CET)

# Contents

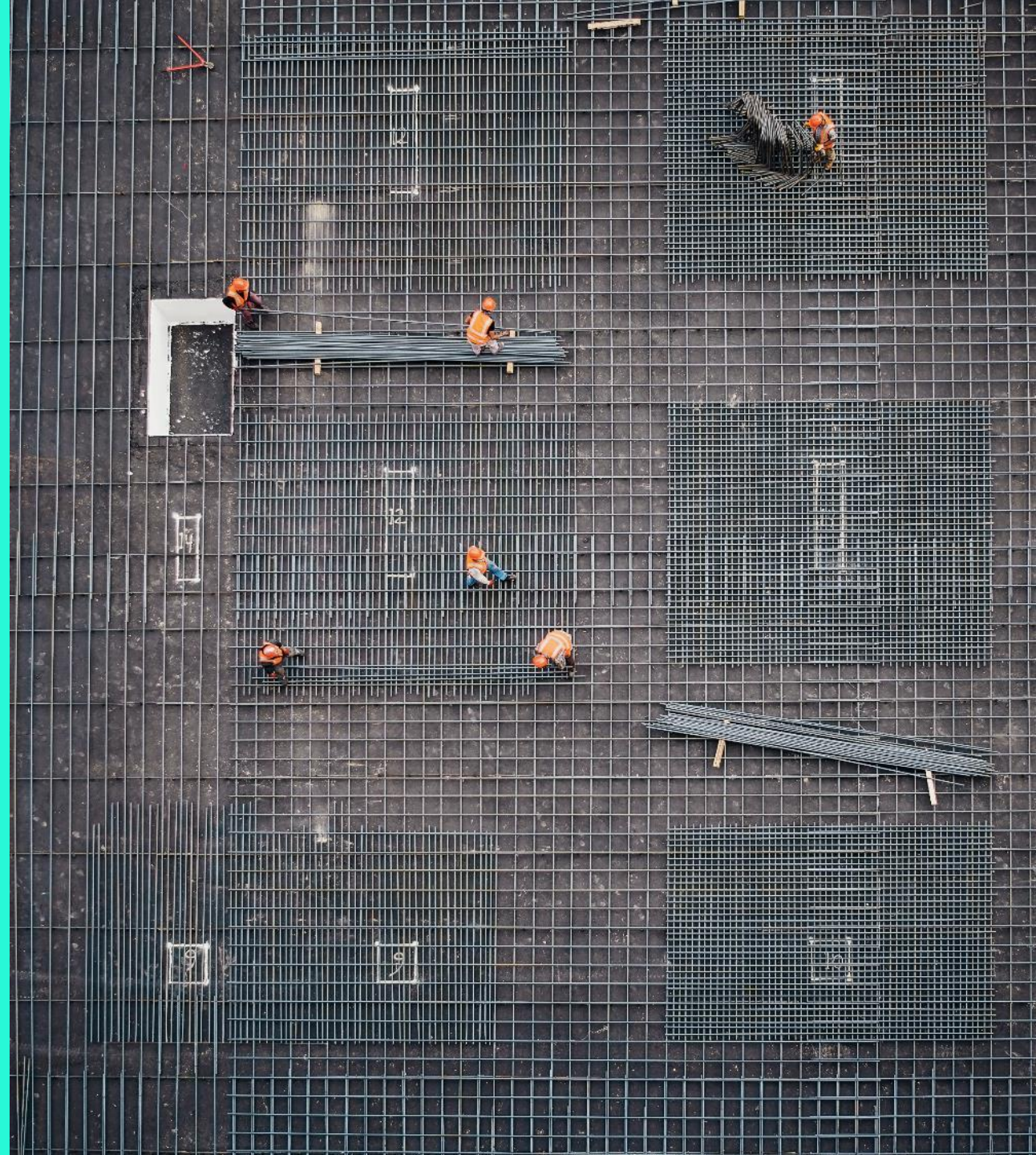
No.	Time GMT	Time CET	Item
1	11.30	12.30	<i>Welcome</i>
2	11.35	12.35	<b>2024/25 - the year ahead</b>
3	11.40	12.40	<b>UK Highlights</b>
4	11:50	12.50	<b>EU Highlights</b>
5	12.00	13.00	<b>Work Programme</b>
6	12.10	13.10	<b>Communications and External Affairs Working Group</b>
7	12.20	13.20	<b>Regulation and Policy Working Group</b>
8	12.30	13.30	<b>Technical Working Group</b>
9	12.40	13.40	<b>Supply Chain Working Group</b>
10	12.50	13.50	<b>Research and Projects</b>
11	13.00	14.00	<i>Close</i>



# The year ahead – 24/25

**Ruth Herbert**  
**CEO**

(11:35 GMT/12:35 CET)



# 2024/25 - the year ahead

## Objectives:

- 1) Advance carbon capture, utilisation and storage (CCUS) in the UK
- 2) Accelerate deployment of CCUS within Europe
- 3) Promote CCUS internationally

The Strategy includes an overview of our work programme for the next two years, with the balance of effort on objectives 1) and 2).

To fund the increased focus on objective 2), the board made a one-off investment from CCSA's reserves, as well as increasing fees for large, full members by 25%.

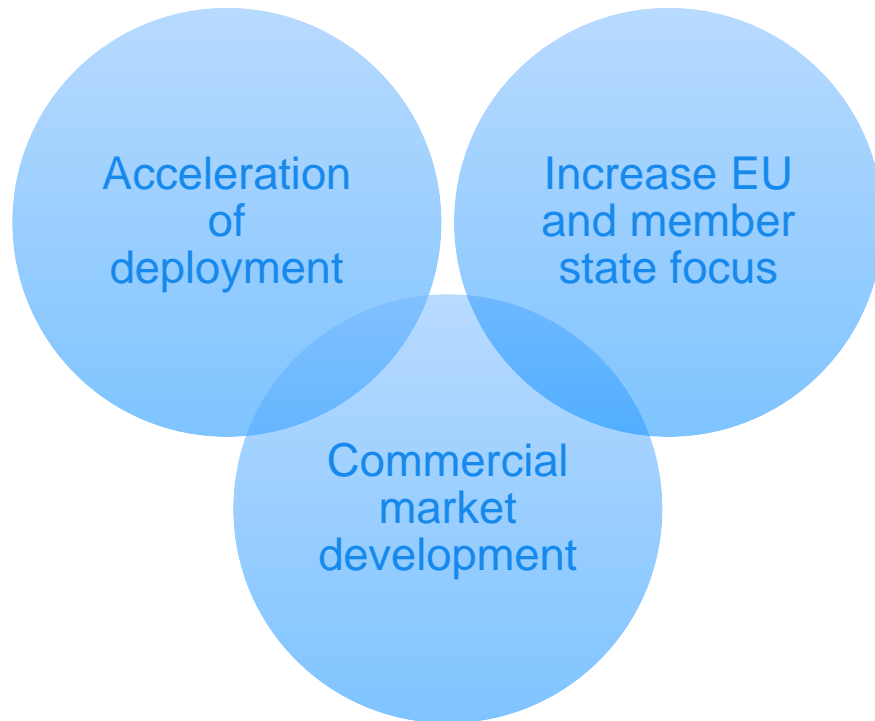
Future growth of EU based activities is expected to be funded by growth in EU focused member subscriptions and revenue generating activities.



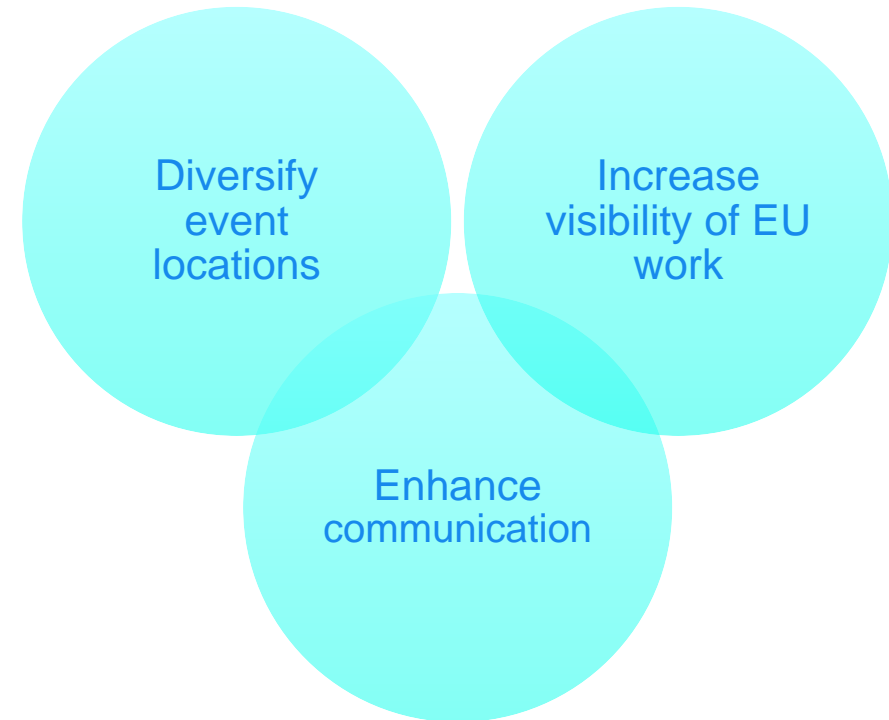


# 2024/25 Member survey feedback

Where the CCSA should focus:

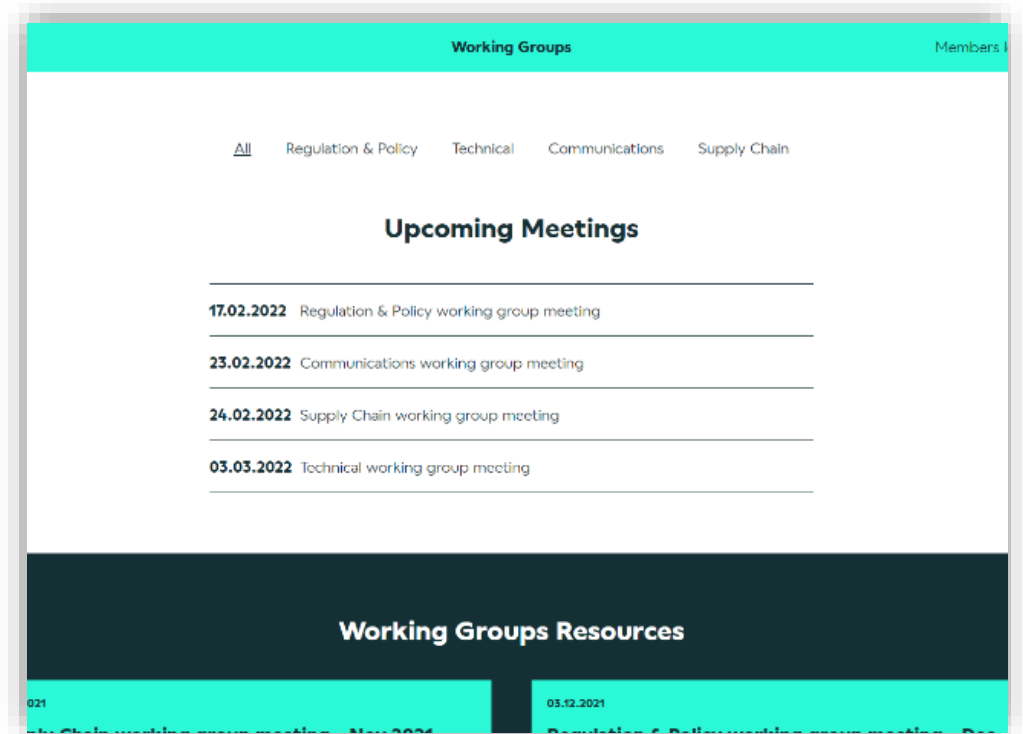


What the CCSA should improve:



# Getting involved in the work programme

- **Full CCSA Member** - you and colleagues can join any number of Working Groups and Task Subgroups
- Field people that fit best with each group. E.g. communications experts to play an active role in the Communications Working Group
- Encourage new full members to join all **quarterly Working Group meetings** to get an idea of what each one is working on.
- **All Member Forum** provides an excellent opportunity to hear an overview of the outputs and workplan for each Working Group and Task Subgroup.
- To update your company contacts at the CCSA please contact [membership@ccsassociation.org](mailto:membership@ccsassociation.org)



Working Group Meeting dates and materials can be found on the CCSA website [here](#)



# CCSA Members



## CO<sub>2</sub> Storage



## Power & Industrial



## Carbon Capture Developers



## Engineering & Equipment



## CO<sub>2</sub> Transport & Distribution



## Financial, Consulting & Others



## New members

A big welcome to new members who joined the CCSA since the last All Member Forum on 14 December 2023

- GRTgaz
- DEML
- Climeworks
- Victaulic
- CNOOC Petroleum Europe
- Holcim

## Renewals

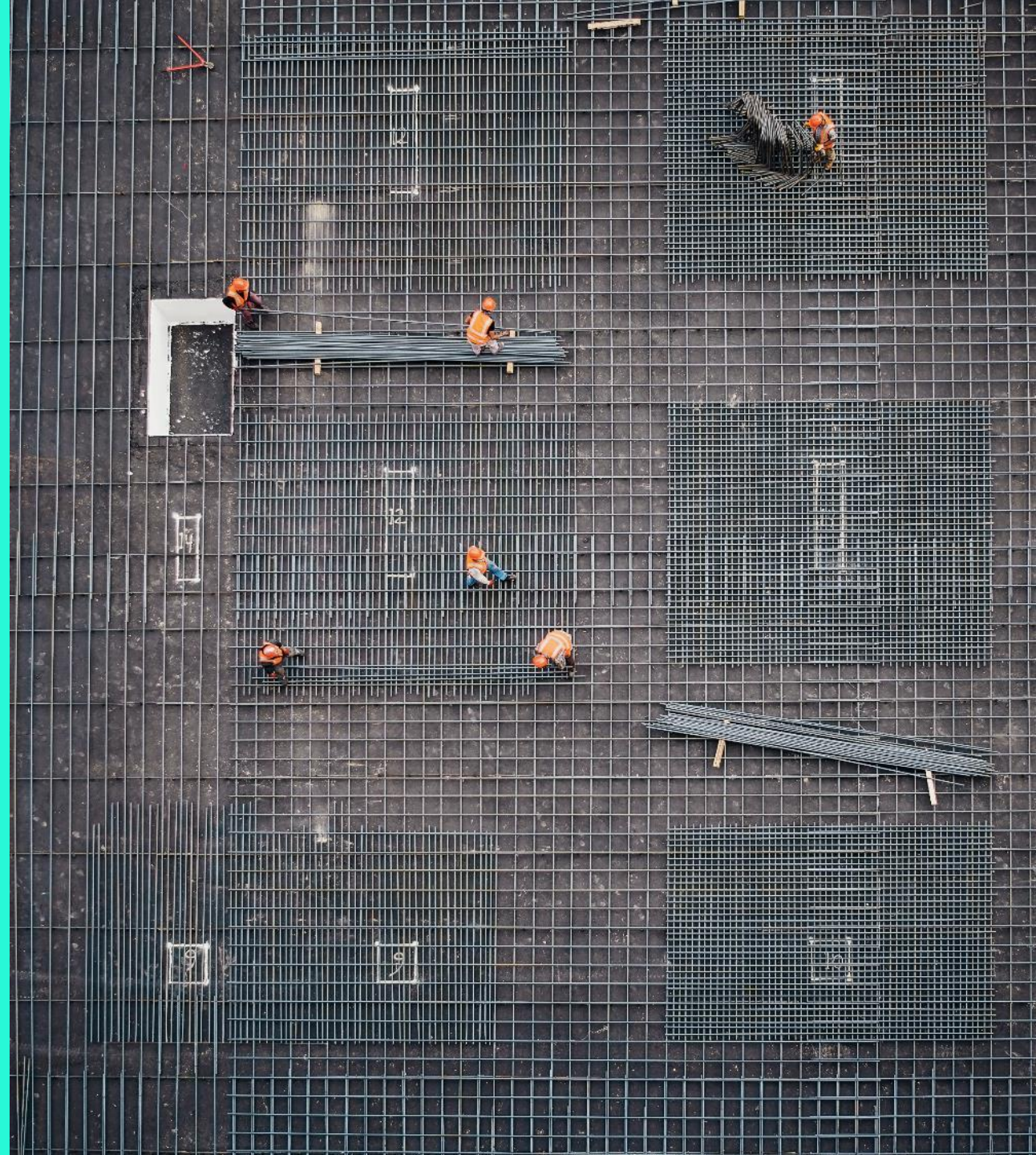
- Thank you for those that have completed the renewals form.
- Invoices will be sent w/c 2 April.
- Thank you for renewing.



# UK Highlights

**Olivia Powis**  
**UK Director**

(11:40 GMT/12:40 CET)





# UK Cluster Sequencing

## Track-1

- **Phase 1:** 2 clusters selected November 2021
- **Phase-2:** 8 projects selected from 41 to enter final negotiations to access Track-1 CO<sub>2</sub> infrastructure in March 2023
- Aim to be operational by end-2027
- **FIDS – aiming by September 2024**

## Track-1 Expansion

- Announced March 2023
- HyNet December 2023 (incl. GGRs)
- ~16 applications so far – closes **28 March (today)**
- Due diligence & negotiations from Autumn 2024
- Further details expected for East Coast Cluster ‘early 2024’

## Track-2

- Launched March 2023; 2 T2 clusters >10Mtpa CO<sub>2</sub> by 2030
- Scottish Cluster & Viking confirmed
- Plan for anchor project selection expected early 2024 (targeting deployment from 2028-2029)

## Spring/Autumn Budget 2023

- **£20bn** for early deployment of CCUS in March 2023
- Autumn Budget **£960 million** GIGA funding to support clean energy manufacturing

## Spring budget 2024

- GIGA was increased to **£1.1bn**

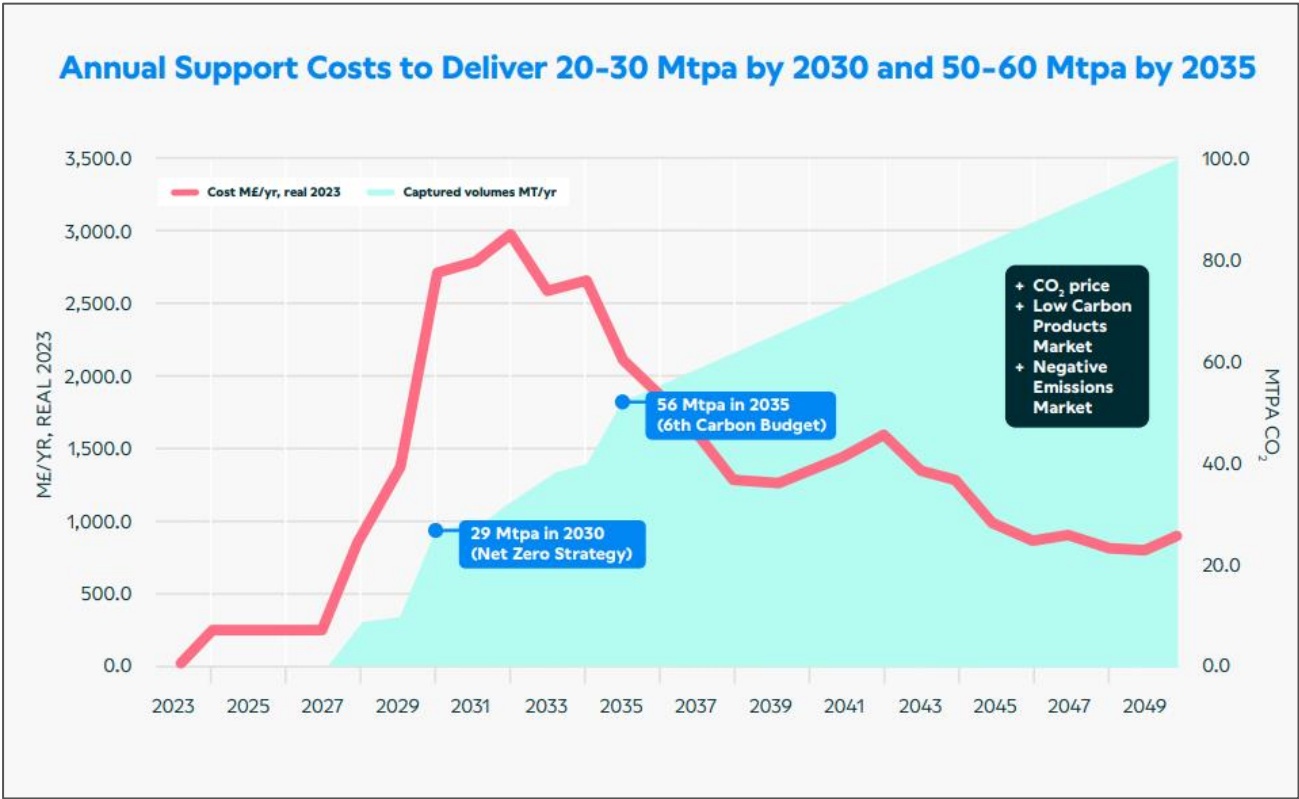




# CCSA Spring Budget Submission 2024



Revenue Support Envelope Matched to Government Targets  
Annual revenue support envelope from 2028 of £2-3bn



### Spring Budget Submission 2024

The UK's pathway to decarbonise industry, create jobs and boost our economy with CCUS.

- Aim to repeat success of £7.6bn/yr in the 2011 Levy Control Framework for renewable energy
- £30bn of private sector capital by 2030
- From 2032, annual revenue support could start to fall rapidly
  - CCUS clusters are running at capacity
  - Carbon price is sufficiently high in mandated and voluntary markets
  - New low carbon products and carbon removal credits

# CCUS vision – CCSA support

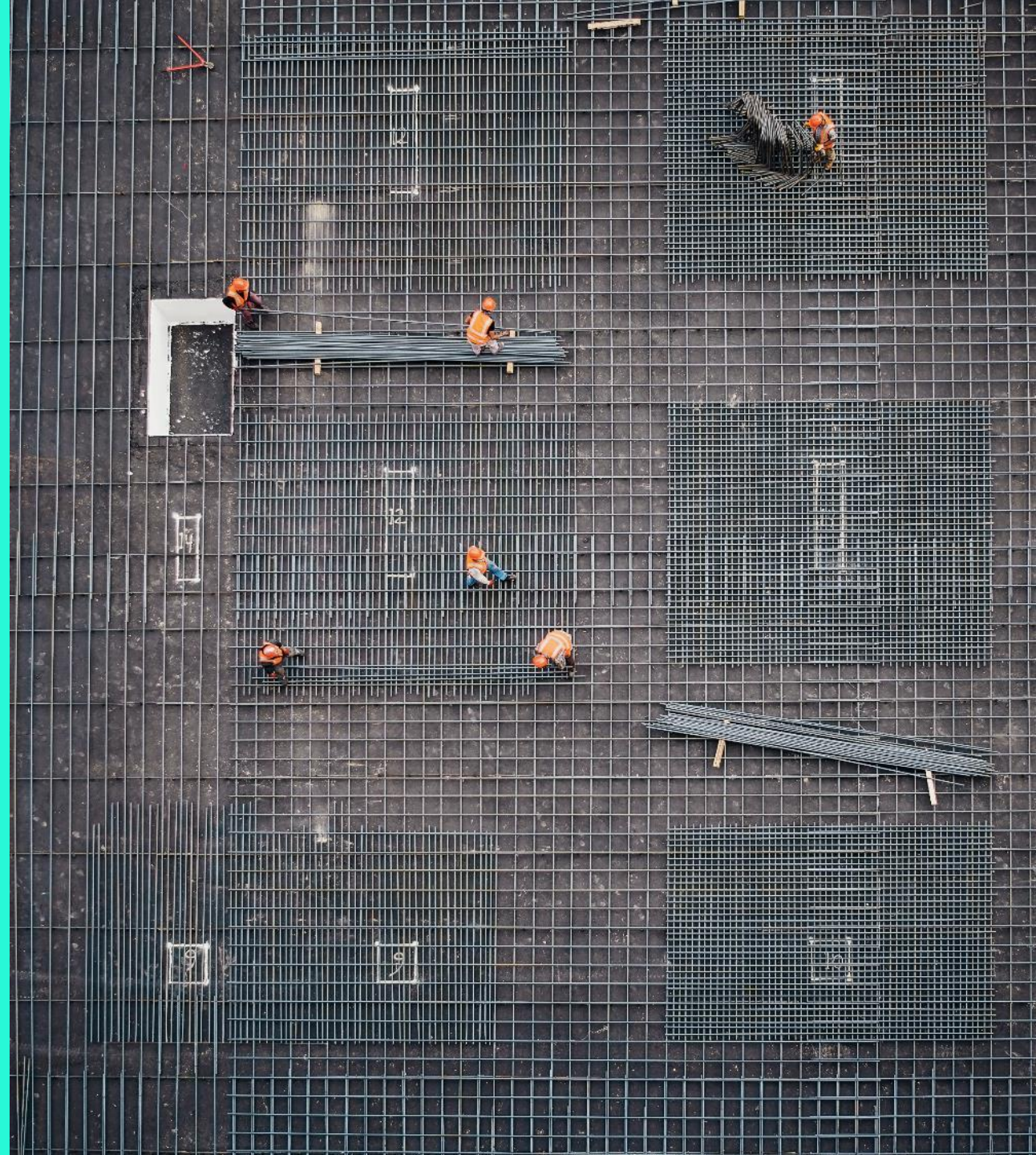
	Work Package as set out in CCUS Vision	CCSA Delivery Group
1.	<b>New Market Framework</b> - design of an enhanced competitive allocation process for capture contracts and Process for allocation of economic licences for CO <sub>2</sub> T&S	<ul style="list-style-type: none"> <li>• <i>New* Regulation and Policy sub-group</i></li> <li>• <i>Legislation Subgroup</i></li> </ul>
2.	<b>Capture Strategy</b> - How allocation process could work for CCUS and how this works with all part of the value chain and interactions of CCUS with wider policies in each sector	<ul style="list-style-type: none"> <li>• <i>New* Regulation and Policy sub-group</i></li> </ul>
3.	<b>CO<sub>2</sub> Storage Strategy</b> - Develop policies to secure sufficient subsurface storage capacity	<ul style="list-style-type: none"> <li>• <i>CO<sub>2</sub> Subsurface group</i></li> </ul>
4.	<b>Non-Pipeline Transport</b> – respond to Call for Evidence	<ul style="list-style-type: none"> <li>• <i>NPT sub-group</i></li> </ul>
5.	<b>Cross-border</b> –enable a new commercial framework to support international imports	<ul style="list-style-type: none"> <li>• <i>Cross-border subgroup</i></li> </ul>
6.	<b>Future Networks</b> - Consider the strategic direction for CO <sub>2</sub> transport networks, including potential role for the FSO	<ul style="list-style-type: none"> <li>• <i>Regulation and Policy Working Group</i></li> </ul>
7.	<b>Unbundling</b> - consider opportunities, pros/cons and potential blockers to enable different entities to operate separate parts of a wider network	<ul style="list-style-type: none"> <li>• <i>Regulation and Policy Working Group</i></li> </ul>
8.	<b>3<sup>rd</sup> party access</b> - Review regulations regarding 3 <sup>rd</sup> party access to infrastructure	<ul style="list-style-type: none"> <li>• <i>Legislation sub-group</i></li> </ul>
9.	<b>Cost Reduction Review</b> – demonstrate industry cost reductions over time	<ul style="list-style-type: none"> <li>• <i>CCSA led</i></li> </ul>
9.	<b>CCUS Strategy and Policy Statement</b> - Consider what industry needs from a CCUS SPS and a spatial plan for energy infrastructure	<ul style="list-style-type: none"> <li>• <i>Regulation and Policy Working Group</i></li> </ul>
10.	<b>CCU</b> - Consider the role of Carbon Capture and Usage within the CCUS Framework and establish role of CCUS in production of low carbon fuels	<ul style="list-style-type: none"> <li>• <i>CCU sub-group</i></li> </ul>
11	<b>Freeports</b> - Ensure investors are aware of benefits of Freeports	<ul style="list-style-type: none"> <li>• <i>Regulation and Policy Working Group &amp; existing investor roundtables</i></li> </ul>



# EU/EEA Highlights

**Stefano Miriello**  
**EU External Relations Manager**

(11:50 GMT/12:50 CET)





# EU/EEA highlights – 2024 a crucial year

Industrial Carbon Management Strategy  
published by the European Commission  
on the 6th of February 2024

## EU Industrial Carbon Management Strategy – published 6 February 2024

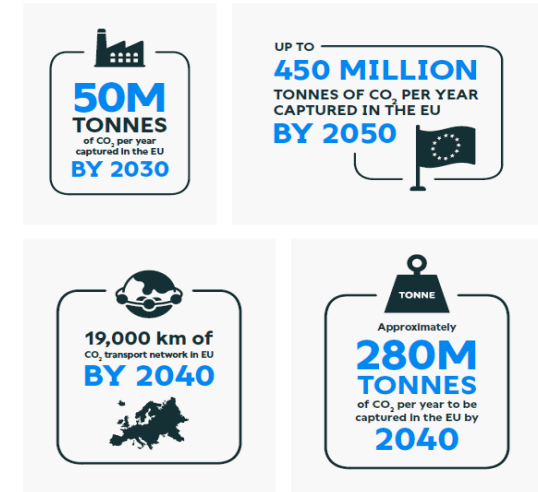
- CCSA Position on Advancing the ICMS
- CCSA EU Manifesto
- It is not a legislative proposal but acts as a guide for the next EU Institutions

## Net-Zero Industry Act – support strategic net-zero technologies

- **EC proposal 16 March 2023**
- **Interinstitutional negotiators agreement on 6 February (final vote in EP Plenary in April)**
  - CCUS and transport of CO<sub>2</sub> included: focus on technologies and storage, planning
  - 50 Mtpa by 2030 CO<sub>2</sub> storage capacity objective – Oil&Gas obligation
  - Member States to build up capacity: Reporting on storage and project progress, accelerated permitting process
  - Expected to be adopted in June by Member State

CCSA EU Director participated in three **EC Clean Transition Dialogues** with President Von der Leyen, EVP Sefcovic and EVP Vestager

**CCUS Forum in Pau, France - 10-11 October 2024**



# EU/EEA highlights – 2024 a crucial year

## Carbon Removal Certification Framework

- Covers **3 types of activities**:
  - Permanent carbon removal
  - Temporary carbon storage in long-lasting products
  - Carbon farming (soil emissions reduction)
- Sets **4 quality criteria** for each category
- Methodologies future established by delegated acts.
- **Does not apply** to emissions falling within the scope of the **EU ETS**.

## Key points of the German CCUS Strategy

- Prioritise deploying CCS in **hard-to-abate industries**.
- Allow CCS on **gas and biomass** power plants (exclusion of coal-fired plants).
- **Allow offshore** storage of CO<sub>2</sub> in the German North Sea – onshore storage remains prohibited.
- Ratification of the **London Protocol amendment** on CO<sub>2</sub> export and offshore storage.

## National Energy and Climate Plans end-June

## France and Austria to further work on a CCUS Strategy



26/02/2024 PRESS RELEASE Climate Change Mitigation

**Minister Habeck intends to make it possible to use CCS: “Without CCS, there is no way we can reach our climate targets.”**

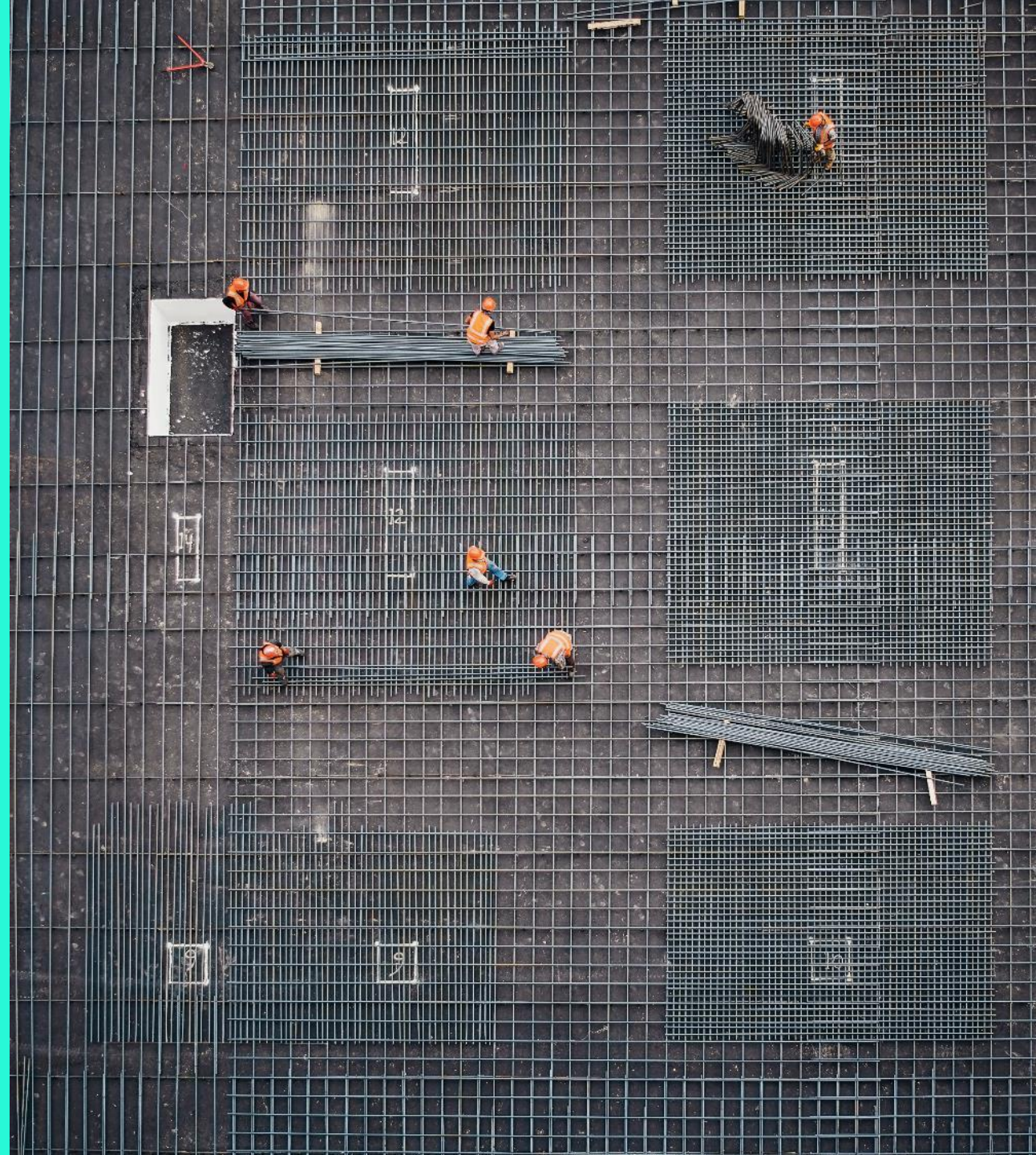
Economic Affairs and Climate Action Ministry presents key principles for a Carbon Management Strategy and a draft revision of the Carbon Storage Act



# Work Programme Updates

**Olivia Powis**  
**UK Director**

(12:00 GMT/13:00 CET)



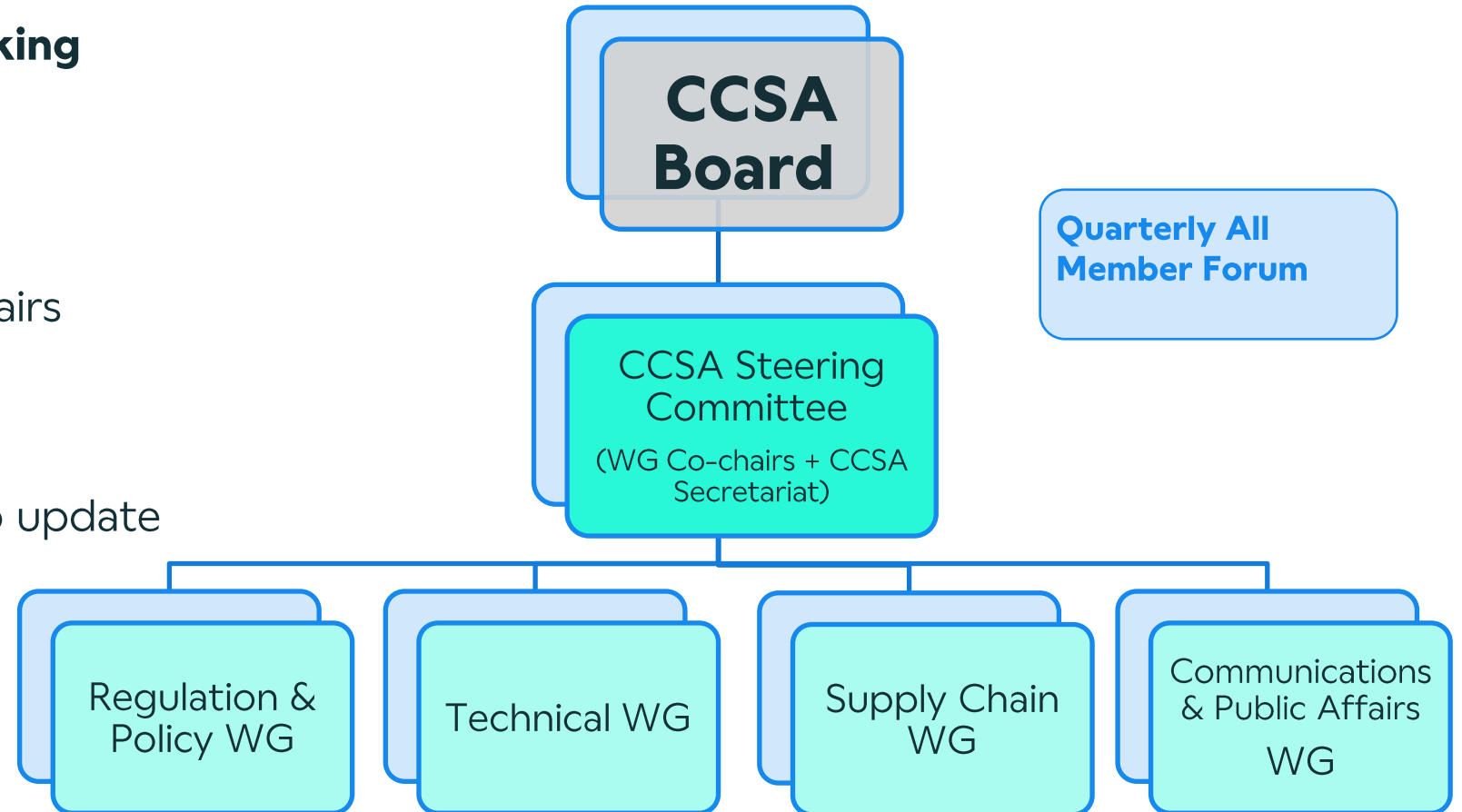
# Our organisation

The **CCSA strategy** is in the Member Administration area and includes an **overview of planned business activities**.

## The CCSA currently has 4 Working Groups:

1. Regulation and Policy
2. Technical
3. Supply Chain
4. Communications & Public Affairs

**All Member Forums** are used to update the wider membership.

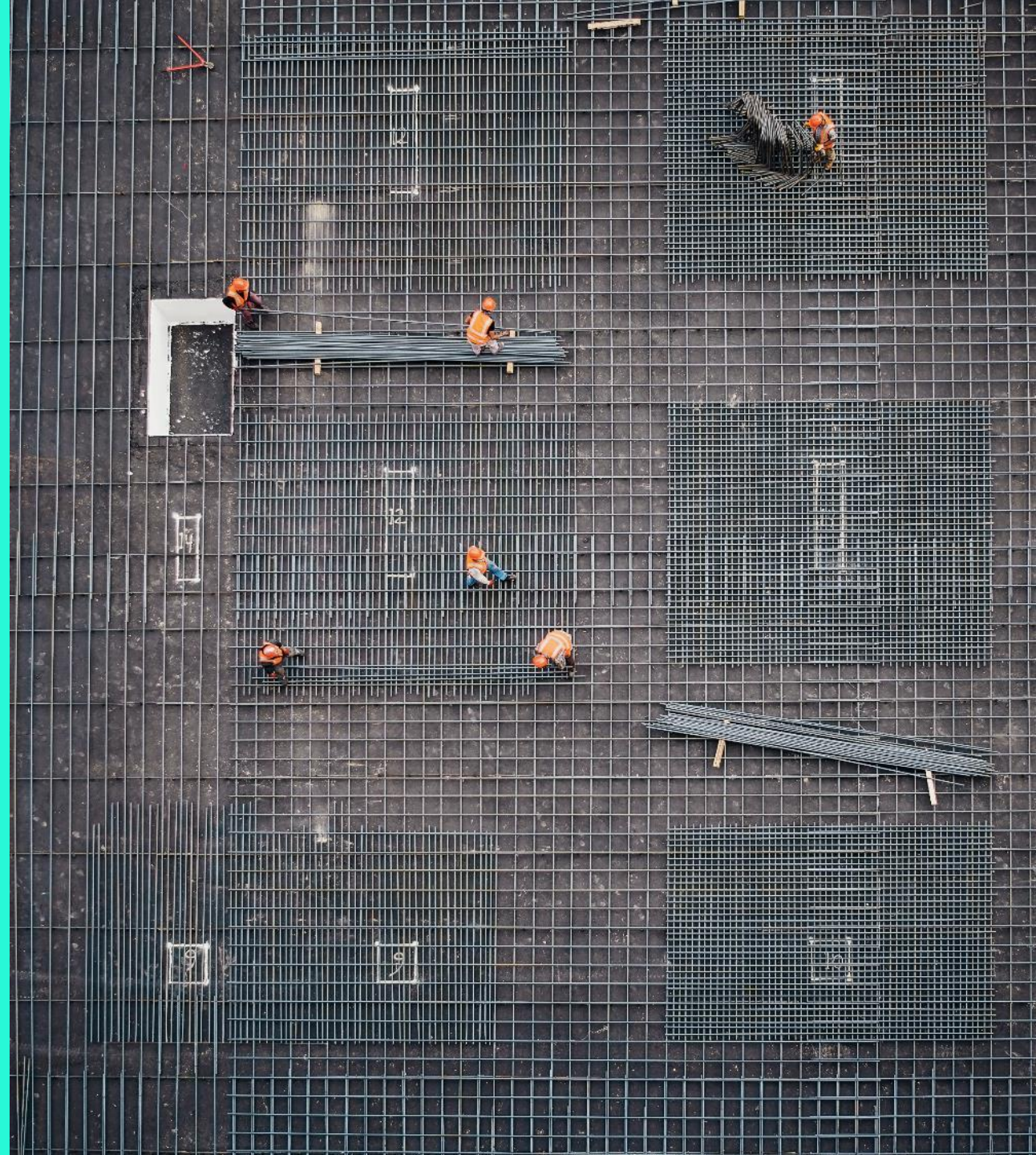




# Events & External Affairs

**Joe Butler-Trewin**  
**Stefano Miriello**  
**Judith Shapiro**

(12:10 GMT/13:10 CET)





# Communications & Public Affairs Working Group update



**Previous Meeting:** 7<sup>th</sup> February 2024

**Next Meeting:** 8<sup>th</sup> May 2024

## Outcomes of the last working group:

- Ratification of the new working group name and co-chairs
- Creation of **EU External Affairs & Conference Advisory subgroups**
- Increased focus on **public affairs workstreams**, building on ad hoc public affairs meetings
- Increasing **EU activity** and independent external affairs workstreams coming out of the CCSA EU team
- More diverse membership and increasing press and public interest in CCUS mean the group has a more integral role to play in the CCSA's strategic development
- Agreement to create new CCSA '**Public Perception**' workstream – next steps on this project to be decided at the next meeting

## Newly elected Co-chairs:

- Callan Tree, Phillips 66
- Joanne Herridge, RWE

# UK Comms & Public Affairs



## Parliamentary

- Published Spring Budget submission public document and engaged with HMT, DESNZ
- Coordinated letter of support for CCUS from Conservative MPs on further investment in CCUS
- Co-hosted Solent Cluster's economic report launch in parliament (Minister Callanan & Alan Whitehead MP)
- Hosted 'CCUS: State of Play' Parliamentary Event

## Labour and Trade Unions

- Letter to Rachel Reeves MP on Labour's Green Prosperity Plan (follow-up meetings arranged)
- Met Andy Prendergast, National Secretary of the GMB (meetings with TUC, Prospect and Community arranged)
- Secured member sites as a key targets on Labour general election site visit 'master list'

## Visits

- Organised visit to Humberside and Teesside with EU Government representatives
- Organised visit to Humberside and Teesside with Jonathan Brealey, CEO of Ofgem

## Recent Press and Media activity:

- FT, New Statesman and Politico - Ruth Herbert interviewed on Spring Budget submission
- New Statesman (due 29<sup>th</sup> March) - Profile on Ruth Herbert
- Yorkshire Evening Post - Ruth Herbert op-ed on opportunities of CCUS in the region
- Reactionary press release - DESNZ CCUS Vision publication
- Joint op-ed & letter (CCSA, GIIA & Make UK) - need for further investment in CCUS
- Joint op-ed (James Fann), CEO of CCS Knowledge Centre (Alberta)

## Upcoming priorities:

- Engagement with DBT and Treasury
- Engagement with the Labour Party, specifically ESNZ and Business teams
- Engagement with Devolved Administrations and Unions



# EU External Affairs & Communications

## **New!** EU External Affairs subgroup

**Previous meeting:** 28<sup>th</sup> February 2024

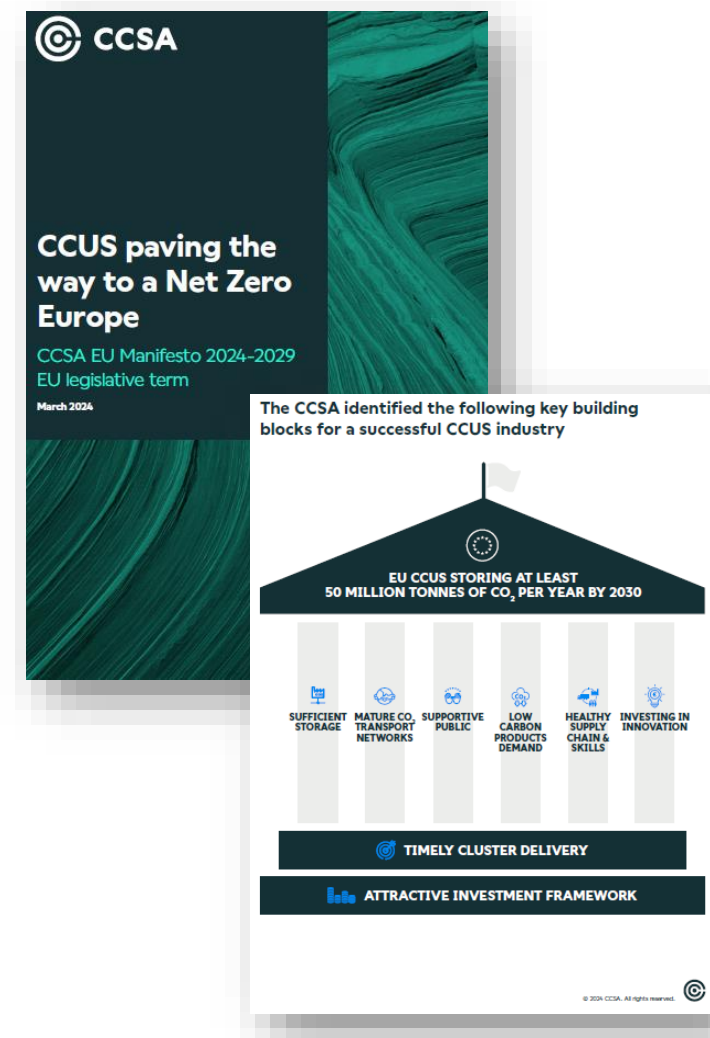
**Next meeting:** 24<sup>th</sup> April 2024

## **Recent Public Affairs engagement:**

- CCSA CEO & EU External Relations Manager met **Cabinet EVP Sefcovic**
- CCSA EU Director participated in three **EC Clean Transition Dialogues** with President Von der Leyen, EVP Sefcovic and EVP Vestager
- Regular engagement with **European Commission** (DG Ener, DG Clima, DG RTD)
- Publication of **first CCSA EU Manifesto** – EU Legislative term 2024-2029
- Contributing to **EU Strategic Agenda 2024-2029** with 2-pager on CO2 infrastructure developments
- CCSA joining the **European Energy Forum** – main European Parliament forum for industrial stakeholders & MEP (ITRE & ENVI)
- CCSA contributing to **EU Institutions legislative process** on:
  - **Net Zero Industry Act** (trilogues phase)
  - Position on advancing the **Industrial Carbon Management Strategy**
- CCSA EU presence at national events in Netherlands, Germany, Norway & Denmark
- Recent engagement with key **European business organisations** in different sectors such as hard-to-abate, power and infrastructure

## **Next steps:**

- [CCSA EU Conference: 3 July, Brussels](#)
- Engage with the newly elected European Parliament and



The infographic titled "CCUS paving the way to a Net Zero Europe" outlines key building blocks for a successful CCUS industry. At the top, it states the goal: "EU CCUS STORING AT LEAST 50 MILLION TONNES OF CO<sub>2</sub> PER YEAR BY 2030". Below this, six pillars are listed: SUFFICIENT STORAGE, MATURE CO<sub>2</sub> TRANSPORT NETWORKS, SUPPORTIVE PUBLIC, LOW CARBON PRODUCTS DEMAND, HEALTHY SUPPLY CHAIN & SKILLS, and INVESTING IN INNOVATION. These pillars are supported by two foundational elements: "TIMELY CLUSTER DELIVERY" and "ATTRACTIVE INVESTMENT FRAMEWORK". The infographic is dated March 2024 and includes the CCSA logo.



## LinkedIn – over the past 12 months

Followers	Number	Percentage Increase (%)
Current Followers	30,756	25.3

Visitors	Number	Percentage Increase (%)
Page Views	20,308	34.6
Unique Visitors	8,468	40

Content	Number	Percentage Increase (%)
Reactions	11,398	63
Comments	231	79.1
Reposts	244	-30.7

## Top Performing Posts

**Carbon Capture and Storage Association**  
30,820 followers  
2mo • Edited •

Yesterday the CCSA was delighted to visit the Viking CCS and East Coast Cluster sites with Ofgem CEO Jonathan Brearley.

The visit to the Viking CCS site included a tour of the CATCH industrial training facility, which is a focal point for job creation and industrial skills development in The Humber.

The East Coast Cluster and Viking CCS Cluster are key to the decarbonisation and regional development of The Humber and Teesside, and we are pleased to see the continued interest in the Clusters and their associated regional benefits from national organisations such as Ofgem.

Read the Ofgem press release here: <https://lnkd.in/dx5zj9J>

#NetZero | #CCUS | #CarbonCapture

**Carbon Capture and Storage Association**  
30,820 followers  
1mo • Edited •

The CCSA is delighted to see that CCSA members RWE have filed the first planning documents for a gas turbine and carbon capture project, poised to power over one million homes in Stallingborough, UK.

- This project has the potential to create 50 full-time operational jobs and drive economic growth in construction and the supply chain.
- Pending approval from the Secretary of State, the proposed development aims to harness a combined cycle gas turbine plant capable of generating up to 900MW.
- CO<sub>2</sub> emissions will be captured, compressed, and stored below the seabed, contributing to emissions reduction efforts.

Read the full story here: <https://lnkd.in/eUEu--bH>

#CCUS | #CarbonCapture | #NetZero

Stallingborough carbon capture and gas turbine scheme outlined  
bbc.co.uk • 1 min read

**21,819 Impressions**

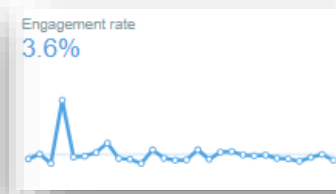
## X (Previously Twitter) – 28 day summary

Visitors	Number	Percentage Increase (%)
Profile Visits	622	8%
New Followers	477	22
Tweet Impressions	13,400	25

**CCSA @The\_CCSA · 22h**  
CEO @RuthHerb2021 & Graeme Davies from @vikingccs both stress the need for continued Government support to provide investor certainty beyond current UK #CCUS projects. There is little room for delay on CCUS, which is essential for #NetZero. Read the full article below. [twitter.com/ftenergy/statu...](https://twitter.com/ftenergy/status...)

View post activity

**500 Impressions**



**Please follow the CCSA and repost and amplify our messages**

# Forward events plan (UK and EU) - 1



## April:

- **17<sup>th</sup>**: CCUS NGO Forum [hybrid]
- **22<sup>nd</sup>**: Launch event for the Green Jobs Delivery Group/CCS Task & Finish Group report “CCS Labour Market Assessment” at CATCH Facility [Grimsby]
- **23<sup>rd</sup>**: Member Showcase – Ingersoll Rand [online]
- **31<sup>st</sup> – 1<sup>st</sup> May**: CCSA exhibiting at Innovation Zero [London]

## May:

- **15<sup>th</sup>**: Peak Cluster/Morecambe Net Zero Joint Vision parliamentary launch, London
- **15<sup>th</sup> – 16<sup>th</sup>**: CCSA exhibiting at All-Energy [Glasgow]
- **21<sup>st</sup>**: Member Discussion Forum – Phillips 66 [London]
- **21<sup>st</sup>**: Member Showcase – Expro [online]

## June:

- **5<sup>th</sup>**: CCUS NGO Forum [hybrid]
- **20<sup>th</sup>**: Member Discussion Forum – Clarksons [London]
- **26<sup>th</sup>**: Member Showcase – 8 Rivers [online]

## July:

- **[Date tbc – early July]** CCSA Net Zero Week webinar [online]
- **3<sup>rd</sup>**: CCSA EU Conference [Brussels]
- **16<sup>th</sup>**: President’s Reception [London]
- **17<sup>th</sup>**: Member Showcase – Subsea7 [online]

# Forward events plan (UK and EU) - 2



## September:

- **3<sup>rd</sup>**: CCUS NGO Forum [hybrid]
- **22<sup>nd</sup> - 25<sup>th</sup>**: Labour Party Conference [Liverpool]
- **24<sup>th</sup>**: Member Showcase – GLJ [online]
- **29<sup>th</sup> – 2<sup>nd</sup> October**: Conservative Party Conference [Birmingham]

## October:

- **15<sup>th</sup> - 16<sup>th</sup>**: CCUS 2024 Conference [London]
- **22<sup>nd</sup> - 23<sup>rd</sup>**: CCSA exhibiting at Business Green Net Zero Festival [London]
- **22<sup>nd</sup>**: Member Showcase – Nuada [online]

## November:

- **6<sup>th</sup>**: CCUS NGO Forum [hybrid]
- **11<sup>th</sup> - 24<sup>th</sup>**: COP29 [Azerbaijan]
- **26<sup>th</sup>**: AGM & reception [London]
- **[tbc]** Member Showcase – [online]

## December:

- **[tbc]** Member Showcase – [online]



# CCUS 2024: Capturing a Net Zero Future

## Date and venue

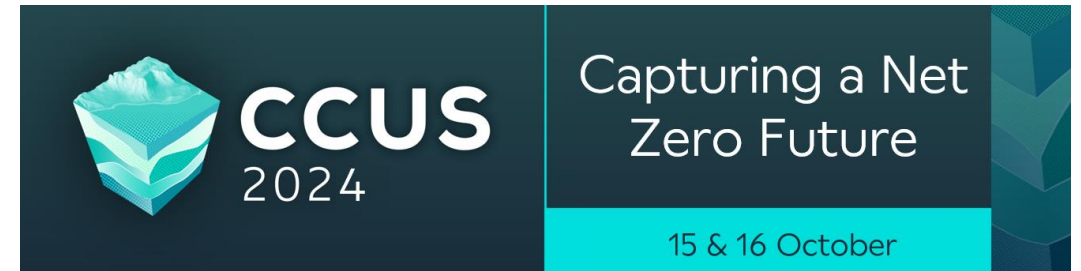
- 15 & 16 October 2024
- Central Hall Westminster, London
- Drinks reception, 15 October in the evening
- Members-only dinner 14 October, IOD (+ lifetime achievement award)
- Opportunities to host clients and book small meeting rooms

## Programme & speakers

- Programme in development
- First set of speakers invited and a number already confirmed

## Sponsorship & tickets

- Sponsorship brochure circulated to members – deadline 8 April
- 11 sponsors already confirmed – packages are selling fast!
- Aim to launch ticket sales next week (discounted tickets for members) – watch this space!



# CCSA EU Conference: 2024



## Date and Venue:

- Wednesday, 3 July 2024
- Hotel Nhow Brussels Bloom, Brussels
- 200 attendees, 20+ speakers
- In-person event (no live streaming)

## Programme and Speakers

- Mid-April: First version of the agenda
  - The future of CCUS in the EU
  - Industrial Carbon Management Strategy: next steps
  - CO2 Transport investment
  - CO2 Cross-border
  - CCUS role in industrial decarbonisation processes

## Sponsorship and Tickets

- 18 March 2024: [Registrations opened](#)
- 10+ sponsors, 5+ supporting partners

**For more info contact** [andres.vilan@ccsassociation.org](mailto:andres.vilan@ccsassociation.org)

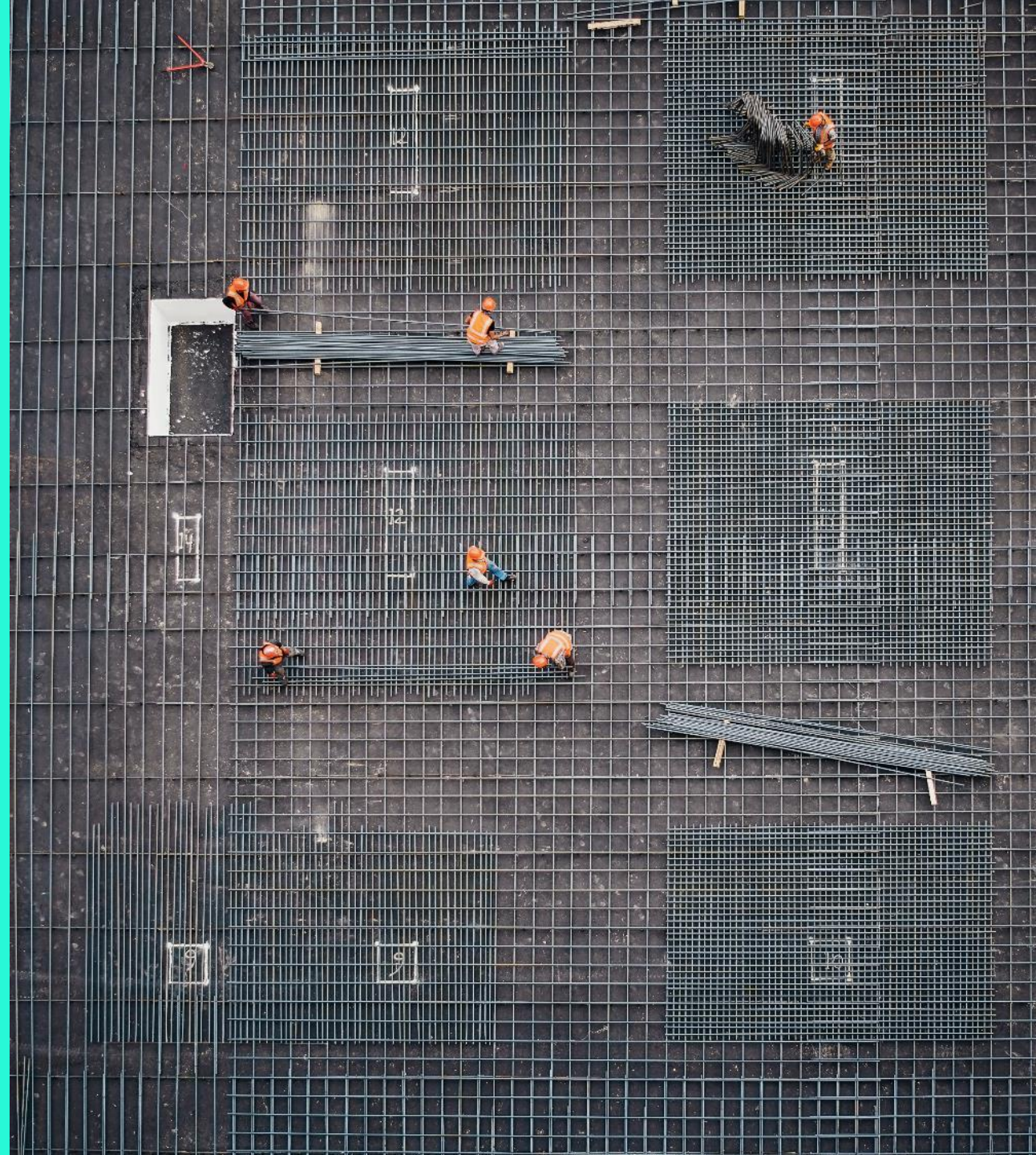




# Regulation & Policy Working Group

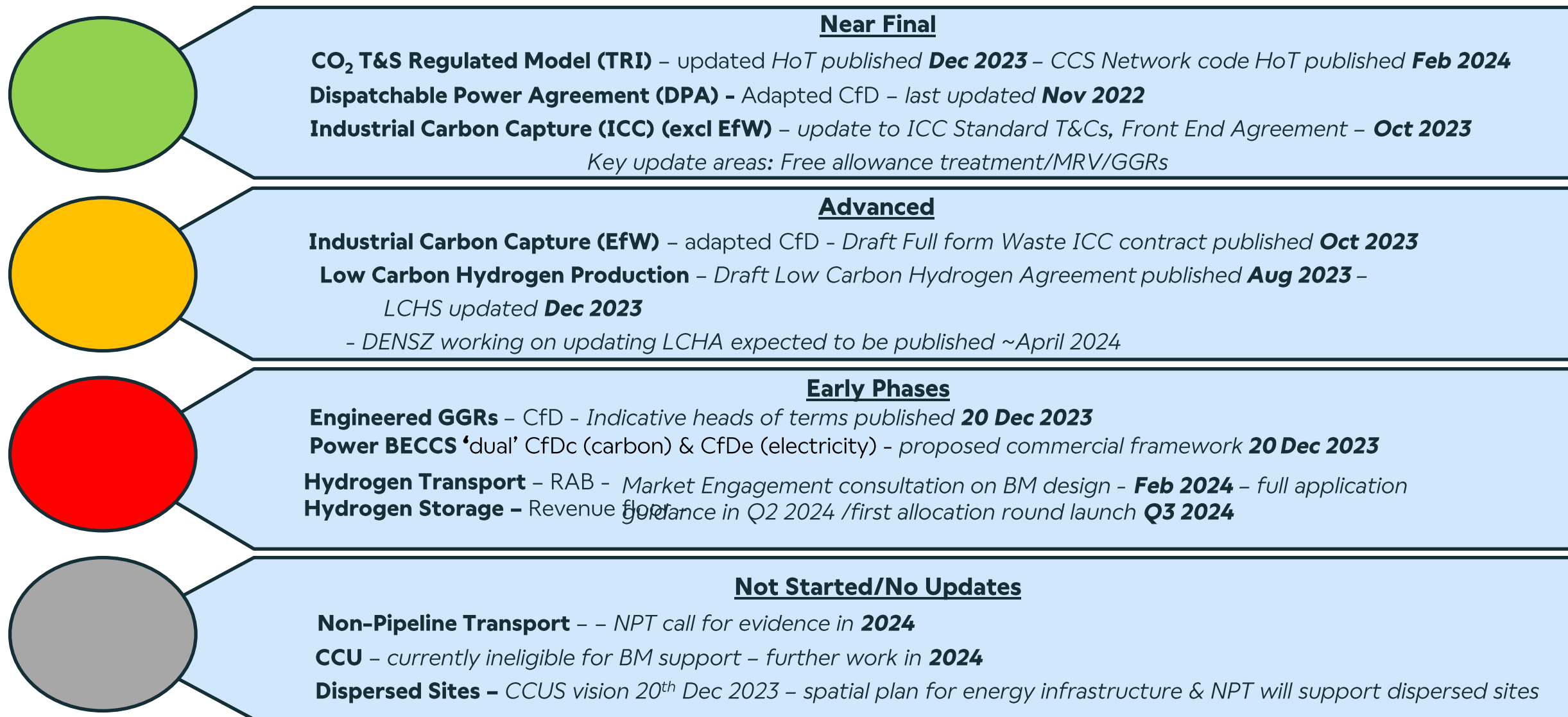
**Georgina Kataros**  
**Charles-Albert Bareth**  
**Stefano Miriello**

(12:20 GMT/13:20 CET)





# State of Play across the CCUS Business Models





# UK Policy recap – consultations

## Recently completed consultations

DESNZ	Hydrogen storage business model	1 Feb
DESNZ	Hydrogen transport business model	1 Feb
DESNZ	CCS Network Codes	16 Feb
DESNZ	Hydrogen to Power	22 Feb
Labour	Infrastructure review	29 Feb
DESNZ	Transitional Support Mechanism for Biomass	29 Feb
ETS Authority	UK ETS: free allocation review	11 Mar
ETS	UK ETS: free allocation review	11 Mar

## Open Consultations (x 7)

DESNZ	[REOPENED]: ESO Amendments for DPA	10 April
NSTA	Retention of information and samples	12 April
DESNZ	GIGA: Call for Evidence	23 April
DESNZ	Future policy framework for biomethane production: call for evidence	25 April
DESNZ	Second REMA consultation	7 May
ESNZ	ESNZ Committee Inquiry: Economics of the energy sector	19 April
DESNZ	Introduction of a UK CBAM	13 <sup>th</sup> June

## Expected Consultations – overdue or expected in early 2024 (x 10)

BEIS / HMT	UK Green Taxonomy	Q3-23 (overdue)
DESNZ	SIs on carbon storage	H2-23 (overdue)
EA	EALs for CCS	Q3-23 (overdue)
HMT	Secondary legislation on ETS cap	By 2024
ETS Authority / DESNZ	Integration of GGRs into the UK ETS	Q1-24
DESNZ	Non-pipeline transport call for evidence	Q1-24
DESNZ	Competitive Design of CCUS allocation	Apr-24

## Consultation responses (x 1)

DESNZ	Operational reforms to NSIP consenting process	6 March
DESNZ	CCUS transport and storage Revenue Support Agreement counterparty	29 Feb
DESNZ	Smarter Regulation: Regulating for Growth	22 Feb
DESNZ	Strategy & policy statement for energy policy	21 Feb

**Government response to the 2nd SAF mandate consultation is “imminent”**

# Regulation & Policy Working Group Updates



## GGR

**Previous meeting:** 20 March 2024

**Next meeting:** TBC

- GGR Business Model updates: price discovery incentive, volume support, achieved sales price.
- Role of BECCS in net zero, EU CDR policy updates, Green Finance Institute CDR Market Survey

### Next steps

- CCSA attending and feeding into DESNZ GGR Business Model Expert Group meetings

## Cross Border CO2

**Previous meeting:** 5 February 2024

**Next meeting:** w/c 15 April

- EU/UK ETS alignment / London Protocol /economic benefits of CO2 import/ advocacy plan
- drafting on letter to EU commission, scoping of group work programme
- Technical position paper – focus on key challenges to date and mapping solutions/frameworks to solve these

### Next Steps

- Quantifying economic benefits study –scoping out Xodus work



# Regulation & Policy Working Group Updates



## Network Management

**Previous meeting:** January 2024

**Next meeting:**

- Publication of updated Heads of Terms of CCS Network Code – Dec 2023
- in-depth DESNZ sessions on updated areas of the CCS Network Code consultation – January 2024
- Consultation response – Feb 2024

**Next steps**

- Expecting consultation response mid Q2 2024 + updated draft full form Network Code
- Final full form Network Code published – end of Q3 2024

## Non-Pipeline Transport

**Previous meeting:** 29<sup>th</sup> Feb 2024

**Next meeting:** TBC

- Published CCSA paper *Integrating CO2 transport by ship into the Track-2 and Track-1 expansion capture bidding process* – Sep 2023
- Published CCSA/ZEP report on *CO2 transport by ship* – Jan 2024

**Next steps**

- Scoping future report on updated Cost of CO2 transport by ship (supported by members Clarksons)
- DESNZ NPT call for evidence, scoping of updated cost of CO2 transport report, EU policy updates

# Regulation & Policy Working Group Updates



## Legislation

**Previous meeting:**

**Next meeting:** TBC

- Assessing and influencing the legislative process
- The Energy Act received Royal Assent and passed into legislation in October 2023

### Next steps

- Relevant secondary legislation as soon as departmental and Parliamentary timelines allow.
- CCUS Vision – feeding into the DESNZ work programme

## NEW! EU Policy

**Previous meeting:** 7<sup>th</sup> February 2024

**Next meeting:** 25<sup>th</sup> April – Hybrid meeting (In-person at CCSA Brussels office)

- CCSA positioning at the EU level (policy asks to EU institutions, such as 2-pager for EU Strategic agenda);
- EU policy developments (NZIA, Carbon Removal Certification Framework, ICMS)
- CCSA EU Manifesto

### Next steps

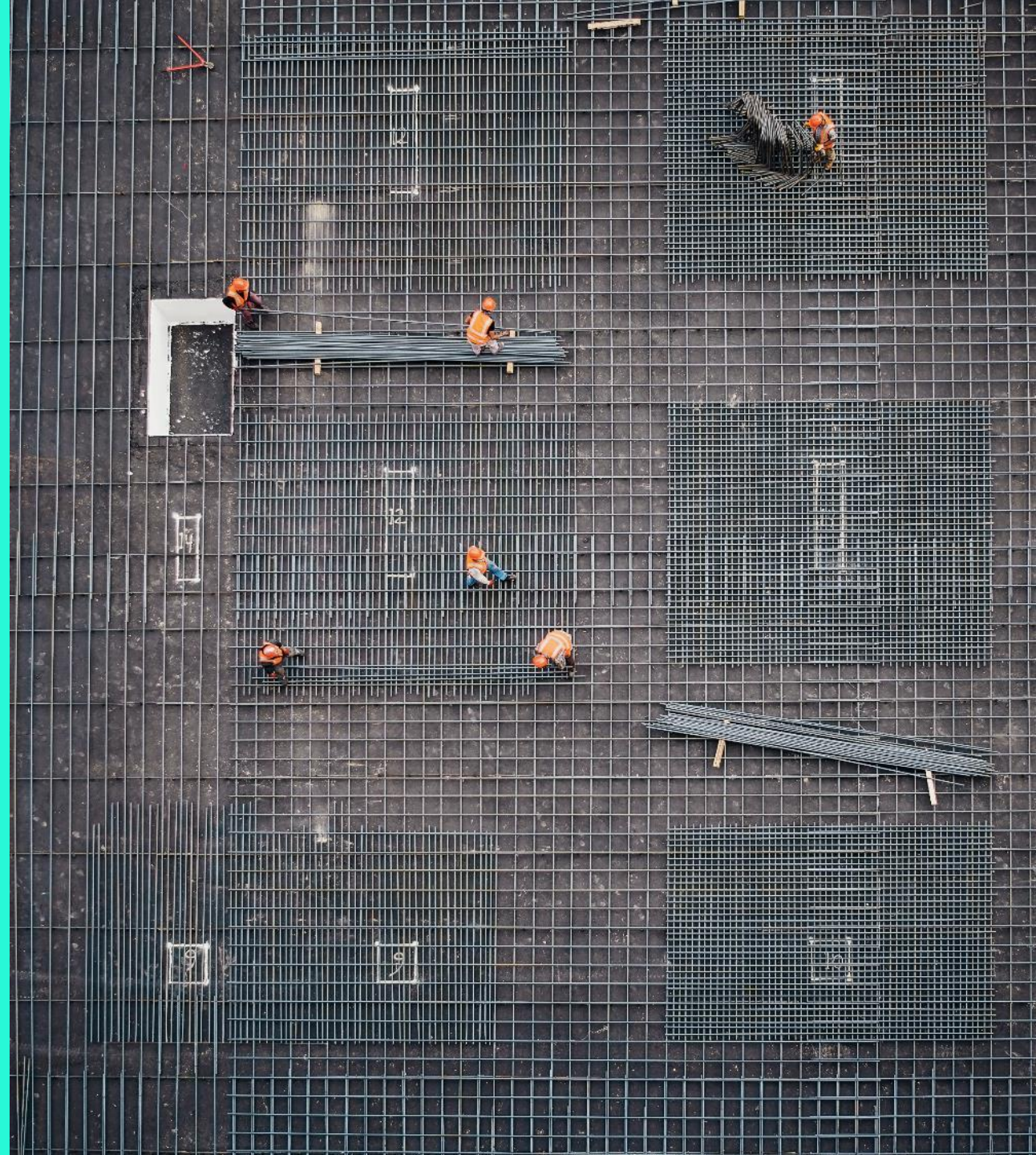
- Member States CCUS strategies (e.g. Germany)
- Advancing the Industrial Carbon Management Strategy;
- NZIA next steps and CRCF next steps;



# Technical Working Group

**Beth Hebditch**  
**Despoina Tsimpridou**

(12:30 GMT/13:30 CET)



# Technical Working Group Updates



## Health and Safety task subgroup

**Previous meeting:** 27 November 2023

**Next meeting:** TBC

- Workshop with the Health and Safety Executive (HSE) to discuss CO2 venting, work package 7 of the Joint Industry Project (JIP), to help define the scope of the CO2 venting experiments to be conducted in the Skylark trials.

**Next steps:**

- Focus on venting, emergency response & communicating risks.
- Establish *Venting Task and Finish SubGroup* to action work on CO2 venting alongside HSE –followed up once the Skylark project has reached its next stage.

## CO2 specification & pipeline standards task subgroup

**Previous meeting:** 22 February 2024

**Next meeting:** April 2024

- Updates on impurities, Northern Lights Project, acoustic monitoring for marine facilities research, forecasting North Sea infrastructure paper by Subsea7 & Xodus.

**Next steps:**

- Current research on ammonia
- CO2 stream and pipeline composition



# Technical Working Group Updates



## Subsurface & Storage task subgroup

**Previous meeting:** 18 March 2024

**Next meeting:** TBC

- Gathered initial views on NSTA consultation on Carbon Storage Information Disclosure

### Next steps

- Further opportunity to feedback on BGS Research Facility (Spring 2024), with focus on social license to operate
- Facilitating NSTA workshops for CCSA members on developing data collection guidance for CO2 storage licences
- Alignment with external NSTA CCUS Taskforce (MMV sub-group) with focus on moving beyond 4D seismic
- Geological storage teach-ins / discussions and maintaining links with academia
- CCSA response to NSTA consultation on Carbon Storage Information Disclosure
- Feed into CCUS Vision – CO2 storage strategy

## Permitting and Planning task subgroup

**Previous meeting:** 19 March 2024

**Next meeting:** TBC

- Air emissions (EALS/ ELVs/ Cumulative impacts), Capture Rate efficiency, Water availability
- Review of regulator feedback on CCSA EAL position paper

### Next steps

- Action to draft letter raising solvent confidentiality issue to SoS/DEFRA/DESNZ

# Technical Working Group Updates



## Capture Rate Task & Finish Group

**Previous meeting:** 24 January 2024

**Next meeting:** TBC

- Working with EA to amend wording on capture rate efficiency in PCC BAT/GET Guidance document
- Drafting CCSA Position Paper on outstanding Capture Rate Efficiency challenges

## **NEW!** Carbon Capture and Utilisation (CCU) task subgroup

**Previous meeting:** 27 February 2024

**Next meeting:** 15 March 2024

- Review and update the CCSA's CCU position paper
- Feeding into CCUS Vision ask *"to consider the potential role of CCU within the CCUS framework"*
- Identifying drivers, barriers and synergies
- Elaborating on technical foundations including definitions and criteria

## Research and Innovation task subgroup:

**Previous meeting:** 20 February 2024

**Next meeting:** 18 April 2024

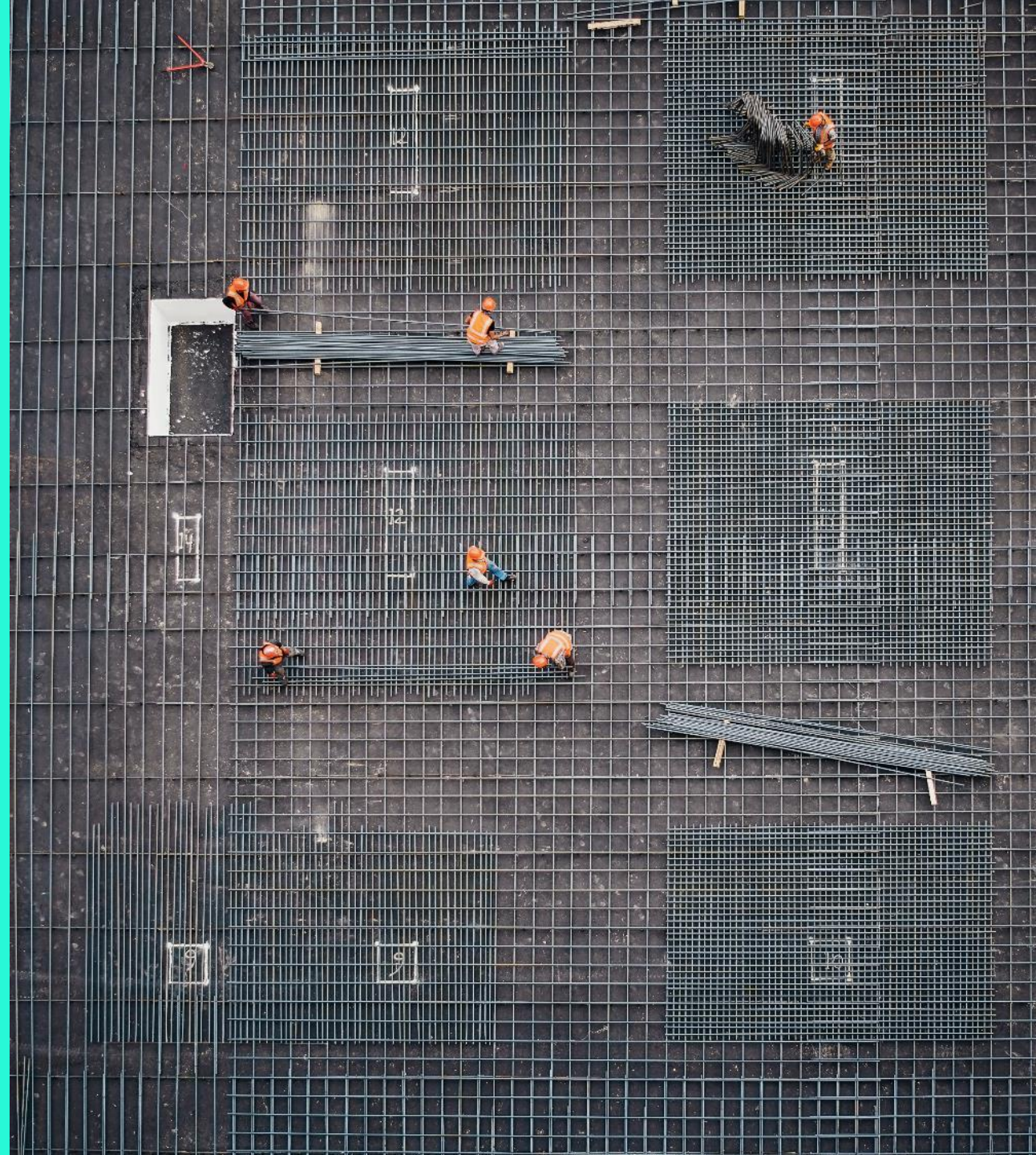
- Establish forum between industry and academic institutions to align on most valuable CCUS research
- Identifying and addressing knowledge gaps, exploring further opportunities to deliver industry-relevant research
- Contribute to cost reduction work



# Supply Chain Working Group

## Max Musing

(12:40 GMT/13:40 CET)





# Supply Chain Working Group Updates



**Previous meeting:** 19 March 2024

**Next meeting:** 11 June 2024

- Reviewed progress on **Supply Chain Reporting Process**
- EIC acting as the independent assessor for this work which is looking to deliver on the supply chain strategy
- Report at CCUS Council
  
- Discussed **Cost Reduction Strategies for CCUS.**
  
- DESNZ presented **GIGA Call for Evidence** and available funding for UK manufacturing investment.
  
- Reviewed two upcoming projects to be completed by the Supply Chain Working Group.
  - **CCS Taxonomy Work**
  - **CCUS Supply Chain Guiding Principles**

## Next steps:

- Insights from the initial reporting round of the Supply Chain Strategy.

# Supply Chain Working Group Updates

## Skills and Training

**Previous meeting:** June 2023

**Next meeting:** TBC

- Publication of the **CCSA Workforce and Skills Position Paper**.
- Facilitating the **CCS Task and Finish Group** of the *Green Jobs Delivery Group* – Outputs being prepared for April 2024.

## Next steps

- Publishing Green Jobs Delivery Group
- Potential new iteration of the Workforce and Skills Position Paper – tbc.



# GIGA – Call for Evidence



2023 Autumn Budget – **£4.6 billion for strategic manufacturing sectors** over 5 years to 2030, of which **£1.1 billion** was to support clean energy manufacturing in five priority sectors (GIGA Fund).

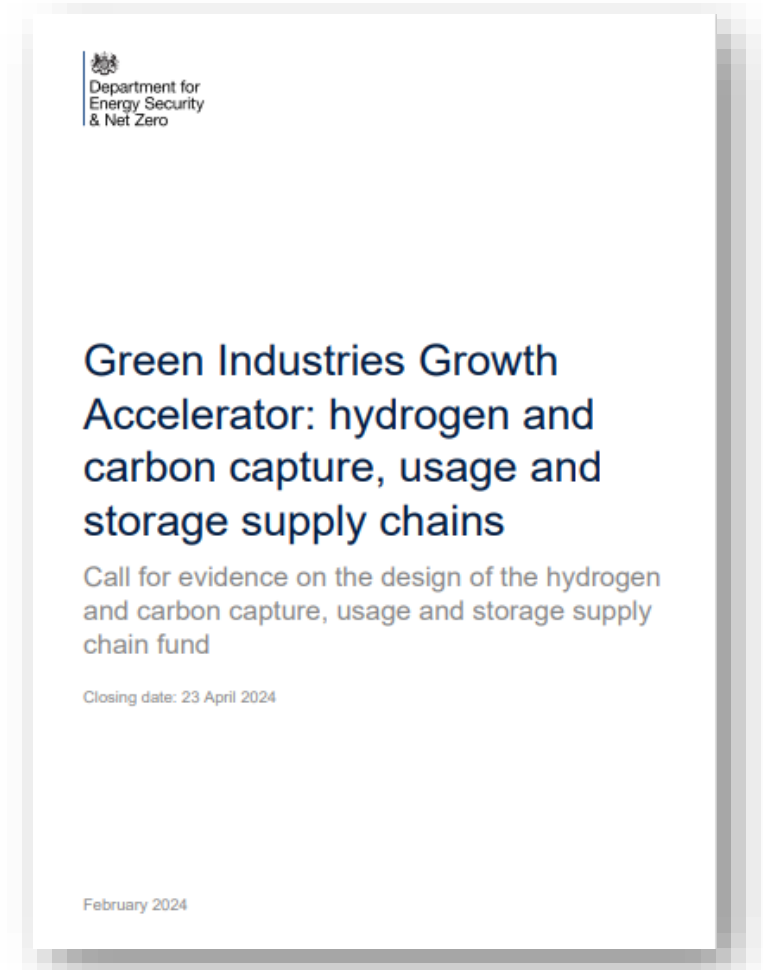
**The GIGA fund is meant to support the expansion of strong, home-grown, clean energy supply chains across the UK to minimise bottlenecks and maximise opportunities.**

## CCSA Response to the Call for Evidence

- A holistic rather than exclusive focus should be followed. Opportunities will continue to emerge as the sectors develop, however CCSA recognises the identified ‘high value’ opportunities as important components to target.
- Protecting the existing manufacturing base and taking a full value chain perspective is critical.
- Complementary fund focus on skills is needed.
- Awareness of expanded manufacturing base needs to be built and incentives to use it explored.

**Key opportunity** to show potential for CCUS / hydrogen manufacturing expansion.

- DESNZ keen to explore all available options that are available.
- Treat CfE as a preliminary **‘request for proposals’** ahead of the formal application launch stage
- CCSA keen to engage with any projects who are considering making a bid for this funding.



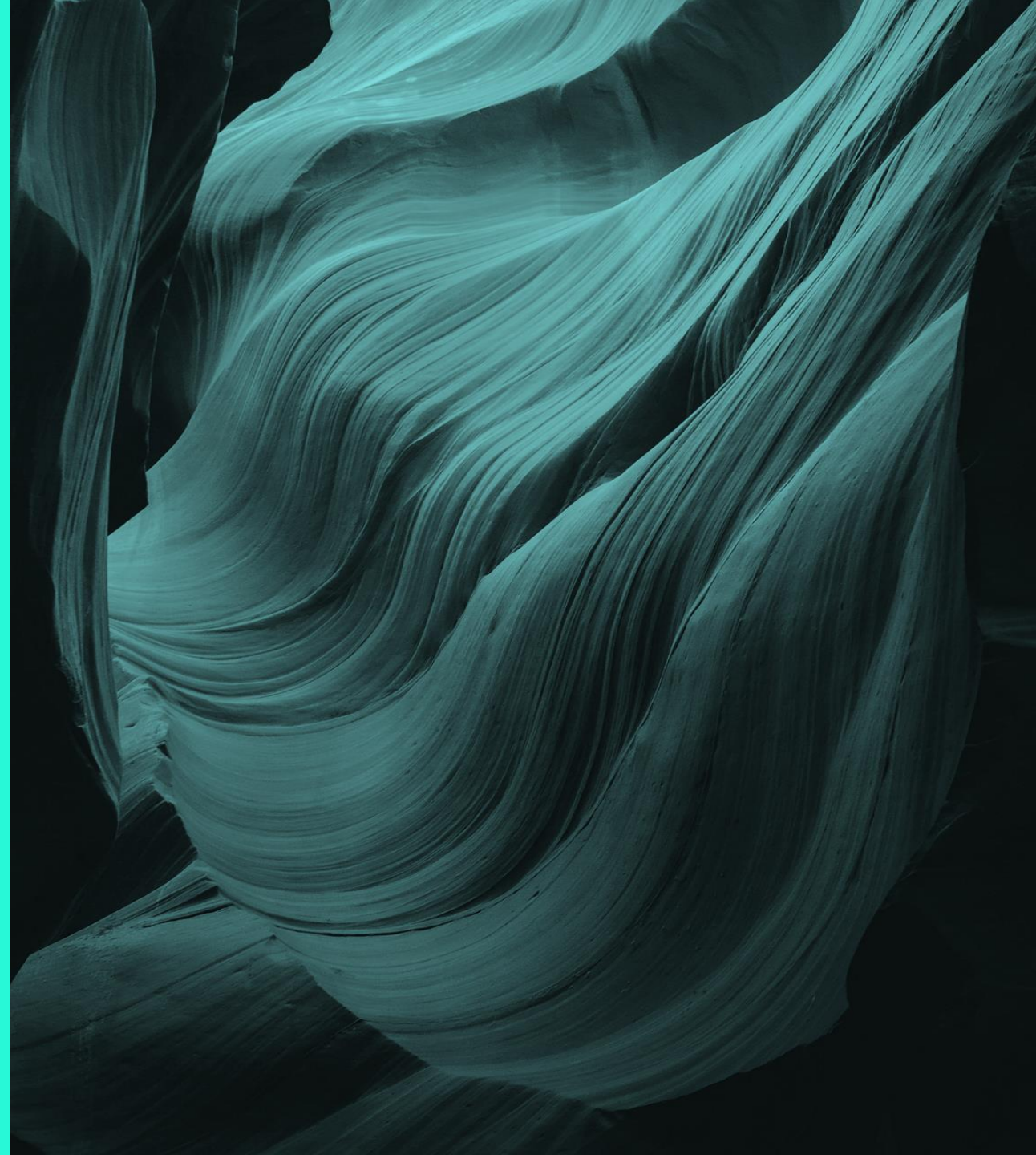
**Submission deadline is 23<sup>rd</sup> of April 2024**



# CCSA Projects Update

**Olivia Powis**

(12:50 GMT/13:50 CET)



# Markets and Mandates

- Work with Oxford Net Zero and the Carbon Balance Initiative to explore the role of market and mandate approaches in driving CCUS, particularly geological CO<sub>2</sub> storage
- Workshops with members, government, regulators, advisors, academics to delve into the issues, particularly around storage mandates
- The phase 1 report is intended to provide a scope for DESNZ economists to model the impacts of market and mandate measures

**Meeting:** to review report 18 April 2024

**Email:** [Rebecca.bell@ccsassociation.org](mailto:Rebecca.bell@ccsassociation.org)

## Timeline

- Q4 2023 - project brief, workshop @ CoP 28
- Feb 2024 - UK Workshop
- March 2024 - Calls, background research
- April 2024 - Draft report
- May 2024 - Final phase 1 report



# CCUS Vision: Cost reduction

*Establish an industry working group on the identification and timely adoption of cost-reduction opportunities*

## **Objectives**

- To identify cost reduction opportunities (HMG goal)
- To enable timely adoption of cost reduction opportunities (HMG goal)
- To identify the opportunities to reduce cost to government of CCUS (CCSA goal)

## **Framing**

- Increasing value rather than reducing cost
- Setting out an enduring market framework
- Cost / tonne CO<sub>2</sub> stored?

# Cost reduction: Scope

## Scope

- Consider the full ranges of costs associated with a CCUS project
  - Cost to government of delivering CCUS
  - build on CCSA Spring Budget submission
- Costs and opportunities relating to:
  - CCUS-specific components / equipment
  - non-CCUS-specific equipment / materials
  - personnel, skills and training
  - services
  - finance
- What has the biggest impact on costs?

### Possible scenarios

- Delays in decision making
- Risk allocation / uncertainty
- Market measures
- Shortage of skilled labour
- International competition
- Cross border storage
- Supply chain optimisation
- Regulation

Identify key elements to consider and key scenarios to model – what would have a big impact or be a quick win?



# Making the case for cross-border CO<sub>2</sub> storage

- The tool and accompanying white paper underscores the importance of establishing an integrated CCS market between the UK and the EU.
- The next phase will quantify the potential “win-win” benefits of an integrated CCS market in terms of lower transport tariffs for all emitters.

Xodus propose to enhance their CCS tool by:

- Expanding its coverage to include all of Europe.
- Extending the dataset (and algorithm) to consider the specific location of CO<sub>2</sub> storage
- Including other economic metrics such as a cluster effect
- Refining the CO<sub>2</sub> shipping import assessment



# Cost reduction: Proposed reports

## Initial report (April/May)

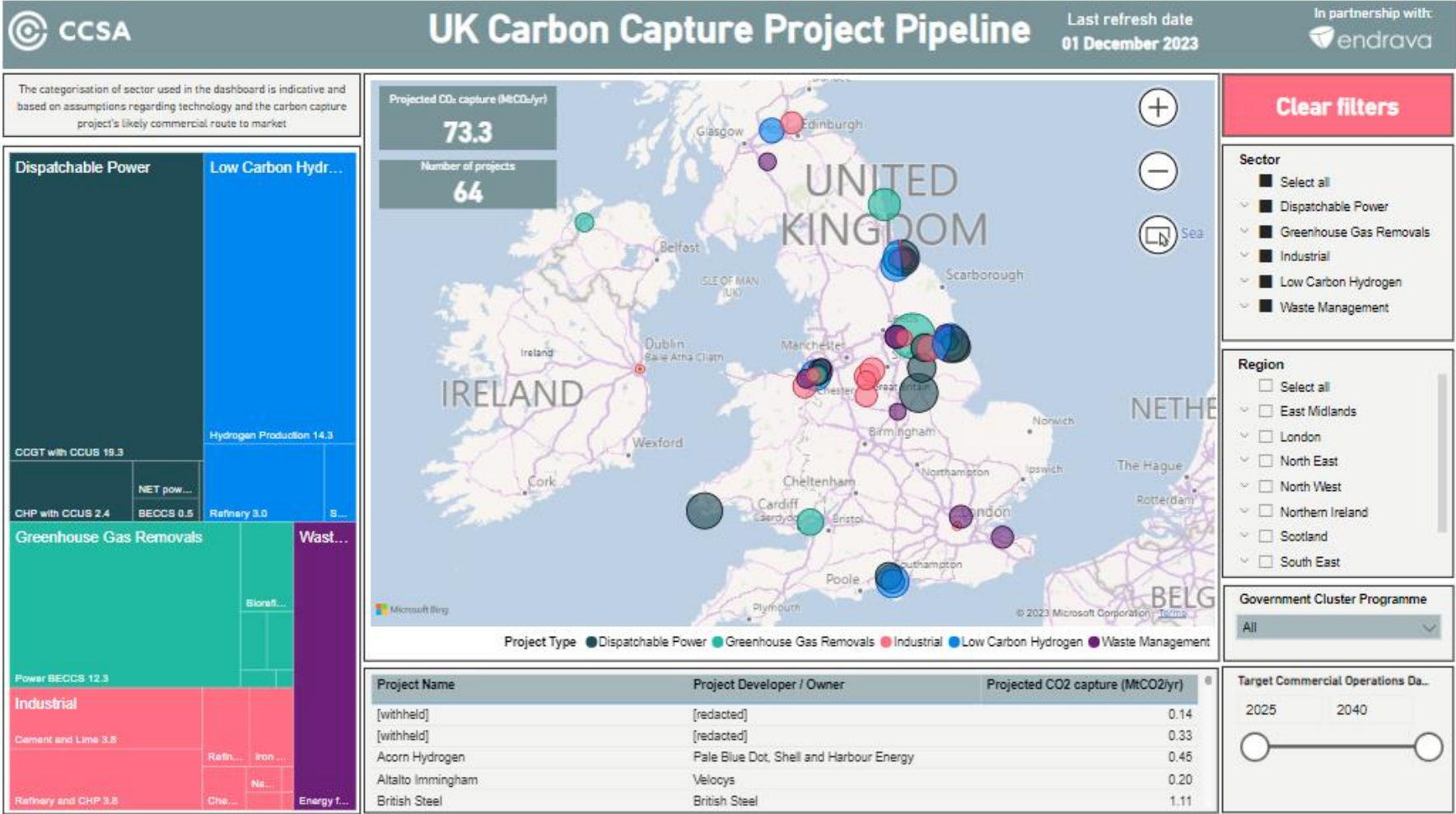
- Proposed initial report - literature review of existing work on CCUS cost reduction
- Draw on existing CCSA analysis of the cost to government of providing revenue support for CCUS under current policy proposals.
- Scope out the wider piece of work and identify key areas of focus.

## Final report (September – tie in with Autumn Budget Submission/December – TBC)

- Use report as Autumn Budget submission
- Build on existing analysis
- CCSA working groups and task subgroups to feed in
- Plus, externally commissioned analysis (TBC).

**Email:** [Rebecca.Bell@ccsassociation.org](mailto:Rebecca.Bell@ccsassociation.org) if you want to be involved

# Carbon Capture Project Pipeline



<https://www.ccsassociation.org/capture-projects/>

Let me know about any changes or new projects:

[Rebecca.bell@ccsassociation.org](mailto:Rebecca.bell@ccsassociation.org)



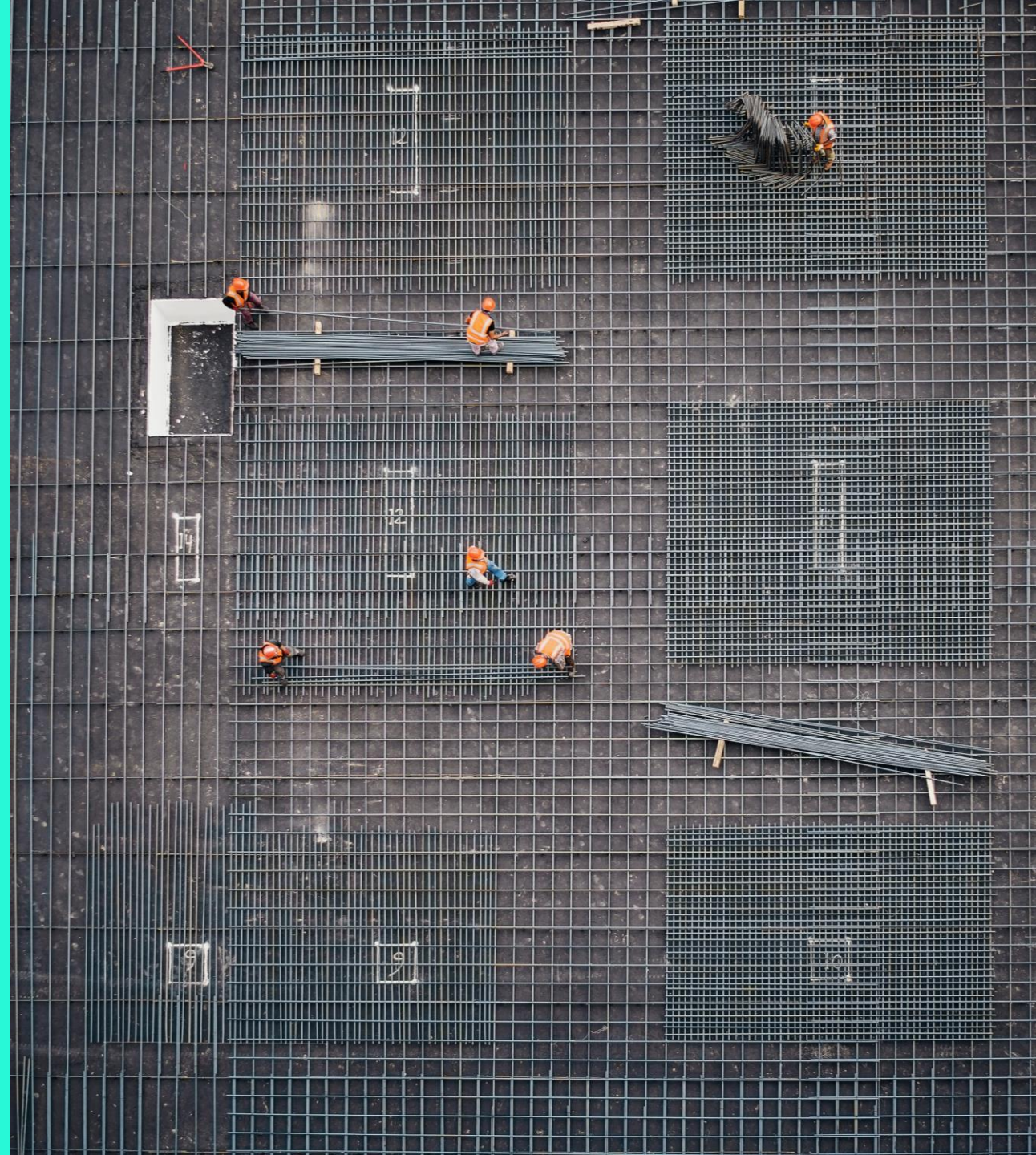
# Questions & AOB

- Next meeting: 27<sup>th</sup> June 2024
- Meeting invites for this year have been sent to all members
- Feedback – was this session useful?



# Annex

## Task Sub-Group Updates



# CCUS vision – CCSA support



	Work Package as set out in CCUS Vision	CCSA Delivery Group
1.	<b>New Market Framework:</b> Engaging on the design of an enhanced competitive allocation process for capture contracts	• <i>New* Regulation and Policy sub-group</i>
2.	<b>New Market Framework:</b> Develop a process for the allocation of economic licences for CO <sub>2</sub> T&S, and the ability to grant licences transferred to Ofgem	• <i>Legislation sub-group</i>
3.	<b>Capture Strategy:</b> Provide support to individual sectors' decarbonisation pathways ( <i>ties in with 1 above</i> )	• <i>New* Regulation and Policy sub-group</i>
4.	<b>Capture Strategy:</b> Consider the role of Carbon Capture and Usage within the CCUS Framework	• <i>CCU sub-group</i>
5.	<b>CO<sub>2</sub> Storage Strategy:</b> Develop policies to secure sufficient subsurface storage capacity	• <i>Subsurface sub-group</i>
6.	<b>Non-Pipeline Transport:</b> Call for evidence on delivery of Non-Pipeline Transport	• <i>NPT sub-group</i>
7.	<b>Cross Border CO<sub>2</sub> Networks:</b> Actions to enable a new commercial framework to support international imports	• <i>Cross-border subgroup</i>
8.	<b>Future Network:</b> Consider the strategic direction for CO <sub>2</sub> transport networks, including potential role for the FSO	• <i>Regulation and Policy Working Group</i>
9.	<b>Unbundling:</b> Enable CO <sub>2</sub> pipeline transport and CO <sub>2</sub> storage to be licensed as separate activities	• <i>Legislation sub-group</i>
10.	<b>Third Party Access:</b> Review regulations regarding 3 <sup>rd</sup> party access to infrastructure	• <i>Legislation sub-group</i>
11.	Consider what industry needs from a CCUS Strategy and Policy Statement	• <i>Regulation and Policy Working Group</i>
12.	Consider what industry needs from a spatial plan for energy infrastructure	• <i>Regulation and Policy Working Group</i>
13.	Establish role of CCUS in production of low carbon fuels	• <i>CCU sub-group</i>
14.	Ensure investors are aware of benefits of Freeports	• <i>Regulation and Policy Working Group &amp; existing investor roundtables</i>



# Cross Border CO2 Task Subgroup



**Group convenors:** Thomas Vanhauwaert (Neptune Energy), Ayan Battacharjii (interconnector), Els Jooris (Shell)

**Focus:** UK/EU ETS interactions and barriers, London Protocol ratification, advocacy for cross border transport and storage of CO2 to develop a Europe wide storage market

**Previous meeting:** 5<sup>th</sup> Feb 2024 - drafting on letter to EU commission, scoping of group work programme

## **Current priorities:**

- Advocacy of benefits of cross border T&S of CO2 – CCSA wrote too and met with cabinet of EVP of the European Green Deal, Maros Sefcovic, in February
- Quantifying economic benefits study –scoping out Xodus work
- Technical position paper – focus on key challenges to date and mapping solutions/frameworks to solve these
- Feeding into CCUS vision

**Next meeting:** W/C 15<sup>th</sup> April (TBC)

 **If you would like to be involved in this task subgroup please reach out to the CCSA Secretariat**

# Network Management Task Subgroup



**Focus:** Provide ongoing input into the drafting of the remaining elements of the CCS Network Code – the rules which outline how users & T&S operators will interact.

*\*Industry wide group containing both CCSA and non-CCSA members*

## Current Priorities:

- Publication of the updated Heads of Terms of the CCS Network Code – Dec 2023
- Corresponding consultation – **closed 16<sup>th</sup> Feb 2024**

## CCSA response consultation response:

### Key outstanding issues:

- **Penalty system for non-conformity with capacity nominations**  
– T&S Co can suspend a user if there is a consistent or substantial deviation from their nominated capacity in the flow of CO<sub>2</sub>
- **Liabilities for off spec CO<sub>2</sub> damage**– There is strong disagreement and difference of opinion from T&S Co's and users regarding responsibility for any off-spec CO<sub>2</sub> damage to the T&S system
- HoT: “responsibility for management of the CO<sub>2</sub> specification should be shared between Users and T&S Co; as such, it was deemed inappropriate for the liability cap to allow the T&S Co full coverage against property damage in this case.”

### Beyond Code Light:

- Call for DESNZ consider how NPT options, and unbundling of the T&S system would be drafted into the next iteration of the code
- Ensure the code is flexible & can be ready for T2, provide certainty and confidence to NPT operators, dispersed site projects & contain mechanisms for moving to a self-sufficient market from the mid-2030s onwards (as outlined in the CCUS Vision).
- Consider a code framework capable of addressing storage from domestic UK CO<sub>2</sub> sources and CO<sub>2</sub> from overseas to enable a Europe wide market for CO<sub>2</sub> transport and storage.

**➔ If you would like to be involved in this task subgroup please reach out to the CCSA Secretariat**

# Legislation Task Subgroup

**Group convenors:** No convenor - welcoming volunteers

**Focus:** Assessing and influencing the legislative process, such as the Energy Act, (which has now received royal assent and passed into legislation), and the legal texts related to policy and regulations.

## **Current priorities:**

- The Energy Act: received royal assent and passed into legislation in October
- Secondary legislation
- CCUS Vision - *allocation of economic licences for CO2 T&S, & ability to grant licences transferred to Ofgem*

## **Key updates:**

- Strategy and Policy Statement for Energy: agreed by secondary legislation scrutiny committee on 25<sup>th</sup> March in HOL
- sets out the Government's strategic priorities and other main considerations of their energy policy
- Provides guiding principles for Ofgem and the NESO, (when established).
- CCSA briefing note [here](#)

**Next Meeting:** TBC - dependant on secondary legislation timetable and CCUS vision work programme

 **If you would like to be involved in this task subgroup please reach out to the CCSA Secretariat**



# Non-pipeline Transport Subgroup



**Group Convenor:** Paul Davies (7CO2), Matt Wilson (Navigator Terminals),

**Focus:** Development of non-pipeline transport of CO<sub>2</sub>, including shipping, rail and road. Potential business model frameworks and cross border transport of CO<sub>2</sub> opportunities.

**Previous Meeting:** 29<sup>th</sup> February 2024

- DESNZ NPT call for evidence
- Cost of CO<sub>2</sub> transport by ship new report scope (Clarkson proposal)
- UK and EU updates

## **Current priorities:**

- Sep 23: Published CCSA paper ‘Integrating CO<sub>2</sub> transport by ship into the Track-2 and Track-1 expansion capture bidding process’
- Jan 24: Published CCSA/ZEP report on CO<sub>2</sub> transport by ship
- Scoping of updated Cost of CO<sub>2</sub> transport by ship report
- Input into the DESNZ NPT call for evidence

**Next meeting:** TBC

 **If you would like to be involved in this task subgroup please reach out to the CCSA Secretariat**

# EU Policy Subgroup



**Group convenors:** No convenor - welcoming volunteers

**Focus: CCSA positioning at the EU level** (i.e., policy asks to EU institutions, such as 2-pager for EU Strategic agenda); **EU policy developments** (i.e., Net Zero Industry Act, Carbon Removal Certification Framework, Industrial Carbon Management Strategy); **Member States CCUS strategies**

**Previous meeting:** 7<sup>th</sup> February 2024

## **Current priorities:**

- Advancing the Industrial Carbon Management Strategy;
- NZIA next steps;
- CRCF next steps;
- National CCUS strategies (e.g., Germany);
- CCSA EU Manifesto

**Next meeting:** 25<sup>th</sup> April – Hybrid meeting (In-person at CCSA Brussels office)

 **If you would like to be involved in this task subgroup please reach out to the CCSA Secretariat**

# GGR Task Subgroup

*Joint with the Technical Working  
Group*



**Convenor:** Greg Williams (Evero Energy)

**Focus:** Feeding into development of the GGR Business Model through DESNZ Expert Group.

**Previous Meeting:** 20<sup>th</sup> March 2024

- External Presentation from Green Alliance on the role of BECCS in achieving net zero.
- GGR Business Model Discussion: Achieves Sales Price & Sliding Scale Option for Volume Support.

## **Current Priorities:**

- GGR Business Model key concerns raised by members:
  - Price Discovery Incentive: calculation of PDI needs to take into account nascent market risks. A dynamic PDI could be more appropriate.
  - Volume Support: clarification needed on volume support for unsold credits.
  - Price Floor: is not necessary if volume support and PDI are set to an appropriate level.
  - Co-products: clarification needed on interaction of support schemes for co-products.
- [CdR Market Survey](#) (Green Finance Institute & CCSA) to better understand key risk areas to commercialization of carbon removal technologies within the UK.
- EU Policy Updates on CdRs

**Next meeting:** TBC

**➔ If you would like to be involved in this task subgroup please reach out to the CCSA Secretariat**



# Planning and Permitting Task Subgroup

Joint with the Technical Working Group



**Group convenors:** Matt Brown (RWE), Nicola Smith (SSE), Aleks Dragicevic (Viridor)

**Focus:** Provide clarity on the planning regimes for different projects; Establish coordinated tendering and permits procedure; Expedite permitting process; Provide clarity on the EU planning regime

## Current priorities:

- Air emissions - EALS/ ELVs/ Cumulative impacts
- Capture Rate efficiency actions
- Water availability actions – (CCSA sit on EA Water & Energy Steering group)
- Venting off spec CO2 (carrying out through Health & Safety task subgroup)

## Previous Meeting:

- **Jul – Dec 2023:** EAL task and finish group - position paper meetings
- **Jan – March 2024:** Capture rate task and finish group meetings
- **19<sup>th</sup> March 2024:** review of regulator feedback on CCSA paper – Action to send letter

to SoS highlighting solvent commercial confidentiality issue

## + Capture Rate Task & Finish Group

- Smaller group established in Dec 2023
- Previous Meeting: 24<sup>th</sup> January 2024
- Working with EA to amend wording on capture rate efficiency in PCC BAT/GET Guidance document (finalised wording to be imminently published)
- Drafting CCSA Position Paper on Capture Rate Efficiency

**Next wider group meeting: TBC**, CCSA will be setting up further targeted engagement sessions with Regulators & industry

**If you would like to be involved in this task subgroup please reach out to the CCSA Secretariat**

# Subsurface & Storage Task Subgroup

Joint with the Technical Working Group



**Convenors:** Mark Weldon (Petrostat), John Ford (Petrostat)

**Focus:** Develop a detailed understanding of future storage capacity; Support for the initial oversizing of capacity; Ensure incentives for the next phase of exploration and appraisal are in place and agreed between the UK Government and regulators; Follow and feed into EU regulatory developments on storage.

**Previous Meeting:** 18<sup>th</sup> March 2024 – Initial views on NSTA consultation on Carbon Storage Information Disclosure

- Difference between raw data and interpreted data.
- Clarify which data needs to be disclosed from forecasts and models.
- Period during which operator can clarify monitoring and reporting data before disclosure in public domain.

**Outputs:** this subgroup will be drafting the CCSA response to the above NSTA consultation.

## Current priorities:

- Subsurface data retention and disclosure guidance for CO<sub>2</sub> storage
- Feeding into the CCUS vision workstreams
- Further opportunity to feedback on BGS Research Facility (Spring 2024), with focus on social license to operate
- Alignment with external NSTA CCUS Taskforce (MMV sub-group) with focus on moving beyond 4D seismic
- Geological storage teach-ins / discussions and maintaining links with academia

**Next meeting :** TBC

***If you are not a member of this subgroup and would like to discuss your views on carbon storage information disclosure, please reach out to the CCSA Secretariat.***

**➔ If you would like to be involved in this task subgroup please reach out to the CCSA Secretariat**

# CCUS NGO Forum



The CCSA established the CCUS NGO Forum in August 2022, as a means of opening the dialogue between the industry and NGOs.

## Topics covered:

- Status update on CCUS
- CCUS cluster update
- CCS-enabled hydrogen
- CCUS in the power sector
- CCUS Government announcements
- DESNZ's CCUS Vision
- CO2 storage safety
- GGRs

## Last meeting – Jan:

- Industry presentations from Carbon Gap, Carbon Engineering & Evero
- Good discussion on defining GGRs, DAC & BECCS

## Next meeting:

- **17<sup>th</sup> April 2024, on the topic of CCUS funding**

## Key NGOs attending:

- WWF
- RSPB
- Greenpeace
- Clean Air Task Force
- Bellona
- Green Alliance
- MCS Charitable Foundation
- Citizens Advice
- Carbon Gap
- Transport & Environment



# Health & Safety Task Subgroup



**Convenors:** Toby St Ledger (Harbour Energy), Sebastien Cochet (DNV)

**Focus:** To highlight H&S areas of concern across industry and engage with H&S authorities (e.g., Health & Safety Executive).

## Current priorities:

- Regulatory Frameworks;
- Engineering Codes & Standards;
- Design Safety;
- Analysis of Hazards;
- Emergency Plans;
- Transportation of CO<sub>2</sub> & Associated Interfaces.

The subgroup is currently devising a forward work programme to support the HSE JIP, with a focus on **venting, emergency response** and **communicating risks** of dense phase CO<sub>2</sub> risks with general public.

**Previous Meeting:** 27<sup>th</sup> November – HSE presented on ‘*Skylark CO<sub>2</sub> Dispersion Project – update.*’

- Meeting was to discuss CO<sub>2</sub> venting, work package 7 of the Joint Industry Project (JIP) to help define the scope of the CO<sub>2</sub> venting experiments to be conducted in the Skylark trials, i.e., release temperatures, pressures, vent sizes
- The CCSA is establishing smaller groups of members, sitting under the H&S Subgroups, to action work on CO<sub>2</sub> venting alongside the HSE.
- Members who are interested in contributing to the Skylark experiments on CO<sub>2</sub> venting can submit plans and information to the CCSA who can anonymise, collate, and share with the HSE in relation to this project.

**Next meeting:** TBC

 **If you would like to be involved in this task subgroup please reach out to the CCSA Secretariat**

# Subsurface & Storage Task Subgroup

*Joint with the Regulation & Policy Working Group*



**Convenors:** Mark Weldon (Petrostat), John Ford (Petrostat)

**Focus:** Develop a detailed understanding of future storage capacity; Support for the initial oversizing of capacity; Ensure incentives for the next phase of exploration and appraisal are in place and agreed between the UK Government and regulators; Follow and feed into EU regulatory developments on storage

**Previous Meeting:** 12<sup>th</sup> October – Presentation from the British Geological Survey (BGS), a component of the Natural Environment Research Council (NERC) on developing a concept for a CO<sub>2</sub> Storage Research Facility. 4 research areas discussed were:

1. Fundamental understanding of CO<sub>2</sub> behaviour
2. Recognising and understanding behaviour of the CO<sub>2</sub> stream in the wellbore and injection infrastructure
3. Studying the effectiveness of monitoring technologies and techniques
4. Evolution of stakeholder and regulatory understanding

**Current priorities:** workstream for 2024 has been considered and focus areas will include

- Further opportunity to feedback on BGS Research Facility (Spring 2024), with focus on social license to operate
- Facilitating NSTA workshops for CCSA members on developing data collection guidance for CO<sub>2</sub> storage licences
- Alignment with external NSTA CCUS Taskforce (MMV sub-group) with focus on moving beyond 4D seismic
- Geological storage teach-ins / discussions and maintaining links with academia

**Next meeting :** date TBC

**➔ If you would like to be involved in this task subgroup please reach out to the CCSA Secretariat**

# CO<sub>2</sub> Specification & Pipelines Task Subgroup



**Convenors:** Andy Brown (Progressive Energy), Ben Rowton (NPL), Tiana Walker (Storegga)

**Focus:** To highlight and review technical questions on CO<sub>2</sub> Specification & Standards and Pipeline Standards

## Current Priorities:

- Input into CO<sub>2</sub> Network Code process;
- Review of ISO 27913 on Carbon dioxide capture, transportation, and geological storage pipeline standards;
- Contribute to the full report of the CCUS Forum WG
- on CO<sub>2</sub> infrastructure, providing input on CO<sub>2</sub> specifications;
- NPL coordination on best practise & what to expect on monitoring.

## Recent Outputs:

- **ISO 27913 Review** → reviewed ISO 27913 document and sent their comments and edits to BSI
- Overview of test methodologies on corrosion of pipeline steel in dense phase CO<sub>2</sub> containing impurities

**Next Meeting:** Proposed for 17 January 2024 (invite to be circulated shortly). This meeting will cover:

- Updates on: ammonia, polar molecules, impurities, revision of ISO27913 and compositional testing
- Introduction to new subgroup members
- Forward planning for 2024

**→ If you would like to be involved in this task subgroup please reach out to the CCSA Secretariat**



# Additional Updates

## Other subgroups:

### Research and Innovation

- This subgroup will be re-convened early 2024 (last meeting May 2023)
- Purpose: Delivery Plan Actions G2.2 and G3.1: Establish forum between industry and academic institutions to align on most valuable CCUS research
- Focus: bridging between research bodies and industry spheres, and understanding where the knowledge gaps are that need to be filled

If you are interested in joining this subgroup, please contact Rebecca Bell [rebecca.bell@ccsassociation.org](mailto:rebecca.bell@ccsassociation.org)

### CCU

- The CCSA now has a list of interested members and will distribute an invite for an introductory meeting in due course
- Purpose: updating CCSA's CCU Position paper with an agreed position across membership; represent CCU market participants in the policy space, including showing how CCU can contribute to overall targets
- Focus: CCU that benefits the climate

If you are interested in joining this subgroup, please contact Beth Hebditch [beth.hebditch@ccsassociation.org](mailto:beth.hebditch@ccsassociation.org)

**Other:** Altrad Babcock is not renewing its lease on its [CO2 Emissions Reduction Test Facility](#). The rig is in situ in a building in Glasgow, but the lease has expired, and the landlords plan is to demolish. Timescales for lease renewal of the building by a new party are tight, but if anyone is interested please contact Beth Hebditch ([beth.hebditch@ccsassociation.org](mailto:beth.hebditch@ccsassociation.org)) for more details.

## Ongoing consultations :

Outstanding consultations		Deadline
Securing the UK domestic supply chain (parliamentary inquiry)	DESNZ	05 Jan 2024
New Carbon Storage Retention Road testing [call for input]	NSTA	12 Jan 2024
Call for evidence: Advice on the UK's 7th Carbon Budget	CCC	16 Jan 2024
Smarter regulation: Strengthening the economic regulation of the energy, water and telecoms sector	DESNZ	17 Jan 2024
Smarter regulation regulating for the growth duty	DESNZ	18 Jan 2024
Potential introduction of a carbon storage levy [call for evidence]	NSTA	26 Jan 2024
Amendments to Electricity supplier obligation regulations to implement Power CCUS DPA Business model	DESNZ	29 Jan 2024
CCS Network Codes Consultation	DESNZ	16 Feb 2024

# Delivery Plan - Update

## UK Achievements

Up to **£20 billion** revenue support committed by UK Government



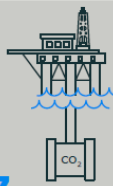
**50%** industry's ambition for local content



**8 CO<sub>2</sub> capture projects** in negotiation with government



**21** new storage licenses, bringing the total up to **27**



**4 clusters** in negotiation with government



## Global Developments

**85 \$/tonne** subsidy for CO<sub>2</sub> storage



Target for **50 million tonnes** per year of CO<sub>2</sub> injection capacity by 2030



## The CCSA has identified...

CO<sub>2</sub> capture project pipeline has grown from

**73** **to** **94**

MtCO<sub>2</sub>/yr in **2022** MtCO<sub>2</sub>/yr in **2023**

**12** clusters in development



Over **90** CO<sub>2</sub> capture projects in development



Over **£1 billion**

estimated investment to date by CO<sub>2</sub> capture project and cluster developers



CCUS will create over **70,000** new jobs and help protect up to **77,000** existing jobs



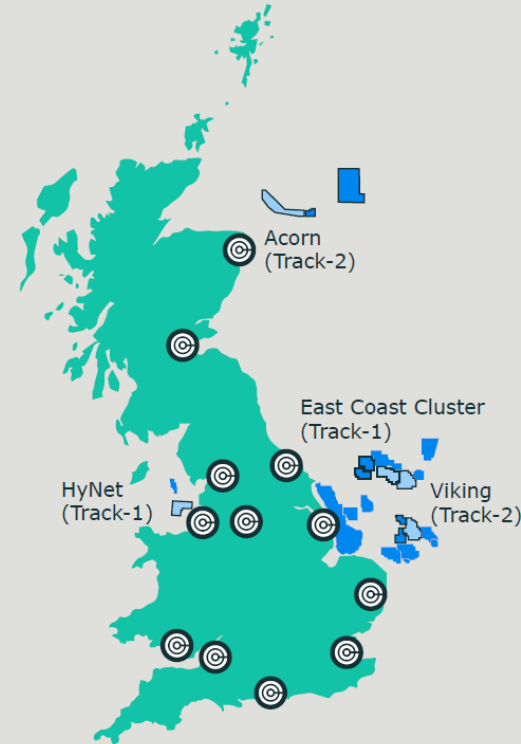
## Policy makers must take action...

**1/3**

of projects surveyed are considering relocating their developments overseas if they cannot access CO<sub>2</sub> infrastructure and are unsuccessful in obtaining CCUS support



## UK carbon capture and storage projects



Light blue square: CO<sub>2</sub> stores licensed pre-2023  
Dark blue square: CO<sub>2</sub> stores licensed in 2023  
Target symbol: Clusters of planned CO<sub>2</sub> capture projects

**1/3**

of emitters currently planning to use carbon capture may need **non-pipeline transport** to access CO<sub>2</sub> storage



# Work is in progress on the 10 urgent actions identified in last year's Delivery Plan, but some are falling behind schedule



1	Hold regular funded contract allocation rounds	Not started
2	Finalise business models across the value chain	Behind schedule
3	Launch the next cluster selection process in the first half of 2022	Complete (late)
4	Legislate a policy framework to enable projects to develop at pace	Behind schedule
5	Gain consensus on UK strengths in product and skill areas to prioritise for investment	On track
6	Incentivise UK content in the supply chain	Behind schedule
7	Accelerate entry into the workforce to meet demand	On track
8	Accelerate permitting and consenting	Behind schedule
9	Rapidly bring additional storage capacity to a commercial level of readiness	On track
10	Establish strategy to support national, cluster and project-level communications	On track



# There are five urgent actions that government and industry need to take to deliver CCUS in a way that maximises the benefits to the UK and enables net zero

1 Enable timely cluster delivery



2 Publish a clear deployment plan for CCUS to 2035



3 Accelerate permitting and consenting



4 Deliver a healthy supply chain and skilled workforce



5 Build public support



# DESNZ H2 'Green Moment' Messaging



- Today (14 December 2023), we have announced **eleven major new hydrogen projects** across the UK, representing **the largest number of commercial scale green hydrogen production projects announced at once** anywhere in Europe.
- The new projects – stretching from the South West of England to the Highlands of Scotland – **will invest around £400 million up front over the next three years**, in a major boost to the UK's green economy.
- **More than 700 high quality jobs will be created** by the new projects in local communities across the country, ensuring that even more people benefit from our journey towards net zero and the growth generated.
- To help give hydrogen producers the certainty they need for the years ahead, the government is providing **£2 billion in revenue support over the next fifteen years**, ensuring a guaranteed price for the clean energy they supply.
- These new projects **will deliver 125MW of new hydrogen production capacity**, providing businesses across the country with cleaner, more secure energy.
- We anticipate that **millions will be spent** by the businesses that are committing to using hydrogen in their operations.
- We have **opened a second round of funding** to provide **up to an extra 875MW of production capacity**, which will help further cement our energy security.
- Our Hydrogen Production Delivery Roadmap sets out proposals for **annual allocation rounds from 2025 to 2030**, helping to provide certainty for industry.
- To link up production and demand, we have announced plans for the **first allocation rounds of the hydrogen transport and storage business models in 2024**. These will **support up to two storage projects and regional pipelines** – a major step forward in the delivery of critical hydrogen infrastructure.
- Following consultation, we see **potential value in supporting targeted hydrogen blending** into our gas networks. This will help **de-risk production projects** by supporting the early development of the UK's hydrogen industry.
- The UK is a global leader in **green investment and industries and we recently committed £960 million for a Green Industries Growth Accelerator** to support clean energy manufacturing – including hydrogen.
- We anticipate that by 2030, the UK's growing hydrogen sector could support **over 12,000 jobs** and **unlock £11 billion in private investment**, as we work towards our target of deploying **up to 10GW low carbon production capacity**.

**Outcome of COP28** – Final COP28 Decision reached 13 December 2023, includes **the first ever mention of CCUS:**

*28. Recognises the need for deep, rapid and sustained reductions in GHG emissions in line with 1.5 degree pathways ... to ..*

*(e) **Accelerating zero- and low-emission technologies, including inter alia, renewables, nuclear, abatement and removal technologies such as carbon capture and utilisation and storage particularly in hard-to-abate sectors, and low carbon hydrogen production***

- **CCSA delegation:** 11 Week 1 & 11 Week 2 (onsite) and 9 Virtual (both weeks)
- **Increased number of events:**
  - UNFCCC Official Side Event – **Can Carbon Capture & Storage Decarbonise the Cement Sector in Developed and Developing Economies** (IEA GHG, Uni of Texas at Austin, Int. CCS Knowledge Centre & Bellona (+ exhibit))
  - CCSA/Equinor/DNV – **The role of carbon dioxide removal to deliver on the Paris Agreement**
  - CCSA event in IETA Pavilion – **Carbon capture and storage: towards long-term commercial deployment**
  - CCSA/Oxford Net Zero/roundtable – **Markets and mandates to drive long-term deployment of CCS**
  - CCSA/SSE/LDES Council roundtable– **Flexibility: The missing link in the clean energy transition?**
  - Ruth and Olivia spoke at a large number of other CCUS events
- **Key themes/areas of policy**
  - Article 6.4 on Carbon Dioxide Removals
  - Industrial decarbonisation and demand for low carbon products
  - Markets & Mandates for CCS – follow-up discussions and workshops in the New Year