

CCSA Technical Forum Minutes 28th April 2025

13:30 – 15:30 GMT/14:30 – 16:30 CET

Microsoft Teams Meeting

Link to Meeting Recording Here: <https://vimeo.com/1082569514/7c9b66ab12?ts=0&share=copy>

Chair: Andy Brown

No.	Item	Action
1	<p>Introductions and CCSA competition law policy notice <i>Andy Brown (Co-chair)</i></p> <ul style="list-style-type: none"> • Dutch government funding for CCS flagged: https://esgnews.com/netherlands-commits-726-million-to-carbon-capture-project-after-shell-total-cut-pipeline-investment/ • Meeting minutes from December signed off • New members introduction: <ul style="list-style-type: none"> ○ Alberto Sanchez Miravalles, CCSA – EU Policy Manager ○ Bechtel ○ Wood ○ SLB Capturi ○ Worley ○ MVV ○ Arup • CCSA working group structure update: The “Technical Working Group” is being renamed “Technical Forum” to reflect knowledge-sharing function. Any feedback or concerns regarding the CCSA’s working group restructure, please contact Despoina.tsimprikidou@ccsassociation.org 	
2	<p>Overview of Energy Institute CCUS projects and how to get involved <i>Eva Leinwather (Energy Institute)</i></p> <p><i>Refer to slides and recording for presentations details.</i></p> <ul style="list-style-type: none"> • EI introduction: EI is the independent custodian of technical and innovation expertise for the global energy sector <ul style="list-style-type: none"> ○ CCUS Committee: 7 working groups with 16 active projects ○ Focus projects: flow assurance and modelling, hazard analysis onshore & offshore, CO2 stream impurity measurement, corrosion management and asset integrity ○ Other focus areas: Impurities of CO2, NPT Hubs, Hazard analysis, CO2 T&S flexibility, Subsea CO2 storage <p><u>Q&A</u> Query raised whether a working group at EI is looking at metering requirements.</p> <ul style="list-style-type: none"> • There are two types of metering requirements: <ol style="list-style-type: none"> 1. Mass flow metering – Work ongoing in general, but no current activity at EI. 	<p>Note: Metering approaches for CCUS was noted as a future topic of interest, including</p>

	<p>2. Chemical composition metering – No work initiated yet.</p> <ul style="list-style-type: none"> • Noted that at CCSA, discussions have occurred with the Environment Agency through the Permitting & Planning Working Group, though not within a technical forum. • NPL and NEL have mass flow monitoring under their remit, which is cited as a reason why EI is not directly involved in this area. • Subsurface flow monitoring: highlighted the cost of monitoring molecules in the subsurface and noted significant innovation and diversification in this field. • EI will consider internally whether they are the appropriate body to address these monitoring requirements. 	<p>collaboration on this topic with Energy Institute and NPL.</p>
<p>3</p>	<p>Presentation: Energy Institute Good Practice Guidance on CO₂ stream measurement of impurities. <i>Andy Brown (Co-Chair)</i></p> <p><i>Refer to slides and recording for presentations details.</i></p> <p><u>Q&A</u> Query raised regarding discussions on splitting analysis between online and offline requirements.</p> <ul style="list-style-type: none"> • It was clarified that the main report specifies this must be agreed commercially between parties. <p>Question raised about potential learnings from food sampling.</p> <ul style="list-style-type: none"> • There is a dedicated section on this in the document. Food-grade liquid CO₂ sampling allows ample time for sampling and is fundamentally different from CCS requirements. <p>Inquiry made about progress on tolerating dual-phase injection.</p> <ul style="list-style-type: none"> • Current guidance indicates that two-phase operation should be avoided; models must be validated before there is confidence in predictions. • It was noted that two-phase operation may ultimately be unavoidable, but understanding is expected to improve by that time. • A challenge highlighted is the limited global research facilities capable of supporting this work. 	<p>Action: EI to share link to published measurement of CO₂ impurities report when that is available.</p> <p>Action: EI to share registration link for 12th June webinar on measurement of CO₂ impurities report. CCSA Secretariat to circulate this with members.</p>
<p>4</p>	<p>Demonstration: Corrosion of carbon steel pipelines when transporting CO₂ streams. <i>Matt Healy (PaceCCS)</i></p> <p><i>Refer to slides and recording for presentations details.</i></p> <p><u>Q&A</u> Query raised on methods for measuring contaminants at parts-per-billion levels.</p> <ul style="list-style-type: none"> • It was confirmed that this will be addressed as part of initial testing once operational. <p>Question regarding which solvent will be used given exclusions of many solvents.</p>	<p>Action: Contact Matt Healy at PaceCCS for any additional information on the presented corrosion model software.</p>

	<ul style="list-style-type: none"> Confirmed solvent: CO₂. <p>Question raised whether the model predicts a corrosion rate (e.g. mm/yr) or simply indicates risk.</p> <ul style="list-style-type: none"> It was clarified that the software does not provide corrosion rates; insufficient data currently exists. Models designed for oil and gas are not transferable as CO₂ corrosion behaves fundamentally differently. 	
5	<p>External Presentation: CarbonX Programme - Funding opportunities and innovation for CCUS projects <i>CarbonX</i></p> <p><i>Refer to slides and recording for presentations details.</i></p> <p><u>Q&A</u> Query raised regarding how intellectual property of selected projects will be treated.</p> <ul style="list-style-type: none"> It was confirmed that funding comes from the non-commercial Tencent fund and is non-profit. Three parties will share the new IP developed, the majority of which will be owned by the selected projects. <p>Question raised regarding publication of selection results.</p> <ul style="list-style-type: none"> If winners opt for this, results can be published. <p>Question raised regarding success stories for projects that previously received funding?</p> <ul style="list-style-type: none"> Yes, these are available on the CarbonX website. Any queries, please send to info@carbonxprogram.com 	<p>Action: Submit project proposals to CarbonX by 31 May 2025.</p>
6	<p>Conclusions and AOB</p> <ul style="list-style-type: none"> Next Meeting: 30 September 2025 CCSA Health & Safety workstream reminder for interested members. EU CCSA Conference will be taking place in Brussels, on 14 May. 	

Action	Who	Deadline	Progress
EI to share link to published measurement of CO ₂ impurities report when that is available.	Energy Institute	When available	
EI to share registration link for 12th June webinar on measurement of CO ₂ impurities report. CCSA Secretariat to circulate this with members.	Energy Institute, CCSA Secretariat	When available	
Contact Matt Healy at PaceCCS for any additional information on the presented corrosion model software.	Interested members	n/a	
Submit project proposals to CarbonX by 31 May 2025.	Interested members	31 May 2025	
Note: Metering approaches for CCUS was noted as a future topic of interest, including collaboration on this topic with Energy Institute and NPL.	CCSA, Industry	n/a	

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