

Project Name	OFFSHORE WIND & CCS COLOCATION FORUM 12th PLENARY MEETING
Meeting Venue	1 St James's Market, London, SW1Y 4AH
Date & Time of Meeting	10:00 – 12:00 on Wednesday 23 rd October 2024

Chair of the Meeting	Adrian Topham, TCE	
Names of the Attendees	<u>Forum members</u>	<u>Forum guests</u>
	<ul style="list-style-type: none"> • Max Musing, CCSA • Brian Rennie, CES • Jerome Malhotra, Defra • Luke Rawcliffe, DESNZ • Lauren Russell, DESNZ • Natasha Hall, Grayling (Secretariat) • Jack Johnson, Grayling (Secretariat) • Ross McWilliams, Grayling (Secretariat) • Georgie Sutton, MMO • Nick Richardson, NSTA • Luke Eatough, OREC • Oscar Wilkie, OWIC (RUK) • Denise Moylan, TCE • Helen Hallsworth, TCE • Mike Blair, TCE 	<ul style="list-style-type: none"> • Gordon Walker, NECCUS • Philippa Parmiter, NECCUS • Oscar Pyrgies, TCE • Charles Green, TCE • Will Steggals, TCE • Jonny Boston, TCE • John Underhill, University of Aberdeen <u>Apologies (Forum members)</u> <ul style="list-style-type: none"> • Beth Hebditch, CCSA • Tom Malloys, CES • Rubel Ahmed, DESNZ • Wael Khatib, DESNZ • Elen King, Welsh Gov • Louise O'Hara Murray, Marine Scotland • Fiona Munro, Marine Scotland • Viana Iancu, NSTA • Jo Bagguley, NSTA

Item	Notes
	AGENDA (see Plenary Meeting Presentation) <ul style="list-style-type: none"> • Matters Arising –Chair –10mins • Project Colocate – Prof John Underhill – 20mins • Project Anemone – Philippa Parmiter, NECCUS – 15mins • Non-technical workstreams – Chair –15mins • Marine Delivery Routemap – Will Steggals – 25mins • Future of Offshore Wind Report – Jonny Boston 25mins • AOB – Secretariat – 5mins
1.0	UPDATE TO ACTIONS FROM PREVIOUS PLENARY <p>Action 1) Project Colocate Advisory Group meeting</p> <ul style="list-style-type: none"> • Closed – minutes circulated with Group members. Summary of key progress detailed in section 2.0. <p>Action 2) Establishing a cross-industry liabilities / risk assurance workstream</p> <ul style="list-style-type: none"> • Update required – Forum to hold an event with insurance industry following developer engagement. Further update in section 4.0. <p>Action 3) Forum terms of reference</p> <ul style="list-style-type: none"> • Update required – Secretariat to reissue updated terms of reference ahead of next Forum plenary meeting. <p>Action 4) TCE / RUK webinar</p>

	<ul style="list-style-type: none"> • Ongoing – OWIC has begun engagement with membership to gauge awareness and understanding of colocation amongst offshore wind developers. <p>Action 5) Explore how the Forum can quantify / categorise decarbonisation contribution of colocation.</p> <ul style="list-style-type: none"> • Ongoing – TCE working on findings to present to the Forum, with the Marine Delivery Routemap (Section 5.0) contributing to findings.
2.0	<p>Project Colocate – presentation from University of Aberdeen</p> <p>UoA began by reminding the Forum of the primary objective of Project Colocate: to seek solutions and ways in which colocation can occur to meet the UK's offshore wind (50GW) and carbon storage (20-30 million tons of CO₂) 2030 targets. UoA reminded the Forum that its areas of focus were on the East Irish Sea and the Central North Sea, particularly areas that are currently or imminently due to be licensed for either carbon storage or offshore wind.</p> <p>UoA noted that the primary outcome of the project was to define, evaluate and rank specific proposals for types of projects to ultimately persuade relevant stakeholders that colocation was possible. UoA noted that the Project Colocate team had held numerous meetings with specific developers and potential carbon storage possibilities and opportunities to gather a broad dataset and to avoid biased opinion from particular developers or operators.</p> <p>UoA then gave a final progress report on the EIS workstream of Project Colocate, informing members that the workstream had now concluded and a summary report would be circulated with Forum members. UoA began by outlining the key geological containment and conformance risks in the EIS basin and gave a summary of the measurement monitoring and verification (MMV) challenges associated with colocation, emphasising the need for individual MMV strategies for different stores.</p> <p>UoA went on to summarise the deliverables of the EIS workstream, explaining that the team had completed its 12-month study, literature review and a tailored risk assessment to identify potential sites for colocation, as well as recommended MMV techniques. UoA pointed out that uncertainty remains around the risks associated with legacy well abandonment, due to a lack of data.</p> <p>UoA explained that it had established EIS-specific risks and opportunities and demonstrated where colocation was feasible, where it could and should be avoided and where a compromise can be found. UoA reminded the Forum that these conclusions had been drawn from wider stakeholder engagement, and that a comparative study was due to be resumed in the Central North Sea (CNS) workstream.</p> <p>Having concluded the EIS workstream, UoA concluded that:</p> <ul style="list-style-type: none"> • Each potential colocation site needs to be evaluated based on stratigraphy and depth as geological risks vary regionally • Whilst 3D seismic monitoring is preferred, it is not always geologically suitable or feasible alongside offshore wind • There is an overlooked need to cater for wells, be it injection, monitoring or legacy risk, meaning that considerations such as windfarm layout may need to be reconsidered. <p>The Forum thanked UoA for their research and noted that the majority of the areas explored under Project Colocate are under license or lease. A collaborative exercise with UoA on future areas of exploration for colocation outside of currently licensed sites was suggested. UoA agreed and noted that they had put thought into the future development of both sectors when undertaking the project, further emphasising the importance of improved data around well integrity in order to assess future opportunity for carbon storage sites.</p>

	<p>The Forum asked whether UoA was seeking further input from OW developers to inform its reporting for the project. UoA confirmed that whilst stakeholder engagement to date had been productive, further input from as broad a range of stakeholders as possible, particularly developers, was welcomed.</p> <p>The Chair thanked UoA for their update and clarified that UoA would be seeking input from specific Forum members on the final EIS workstream report.</p>
3.0	<p>Project Anemone – update from NECCUS</p> <p>NECCUS began by emphasising the synergies between the objectives of Project Colocate and Project Anemone, notably around the need for collaboration between offshore wind and carbon storage operators and developers for the ultimate goal of simultaneous operations.</p> <p>NECCUS gave the Forum a reminder of the key project objectives:</p> <ul style="list-style-type: none"> • Increase the understanding of key marine stakeholders of the associated challenges and mitigations of colocation • Develop good practice guidance for simultaneous operations for offshore wind and CO2 storage developers <p>NECCUS gave an overview of the structure and management of Project Anemone, noting the phased approach of the workstream announced in the previous Forum plenary. NECCUS noted that Phase 1 of the project, desk-based analysis and summary of existing literature, was underway, whilst Phase 2, consisting of technical work, would be undertaken in 2025.</p> <p>NECCUS clarified that Phase 1 would be funded by TCE and CES, noting that whilst developers had shown interest in participating in the project, NECCUS would prioritise seeking developer input in Phase 2 of the project. NECCUS outlined next steps, with the most immediate being outreach to stakeholders, including offshore wind and carbon storage developers and operators.</p> <p>The Chair thanked NECCUS for their update, adding that potential trade organisation involvement in Phase 1 would help collate views from the offshore wind and CCS industries about the particular challenges developers are facing and contribute to Project Anemone's outputs.</p>
4.0	<p>Non-technical Forum workstreams – update from the Chair</p> <p>The Chair began by reminding Forum members that following continued conversation around non-technical workstreams, a collective decision was made to move ahead with an exploration around risk assurance and insurance in offshore wind and CCS. The Chair acknowledged other Forum members' work around risk across the entire value chain, noting that the Forum workstream would look specifically at offshore challenges.</p> <p>The Chair announced that the workstream would be taken forward in two phases:</p> <ul style="list-style-type: none"> • Phase 1: the development of a survey to gather views from developers on the key risks they associate with their projects and colocation • Phase 2: a workshop event in which insurers address the key points and challenges raised by the survey <p>Forum members welcomed the announcement of the workstream. The Forum discussed that questions remained around the risk associated with the interaction of the two industries, particularly when it comes to understanding of carbon storage leakage prevention. The Forum noted the need to scope existing thinking around risk, whilst being cognisant of the time commitment further engagement may require. The Chair agreed that learnings from previous developer events led by the Forum would help to inform the key questions put forward in the developer survey.</p>

5.0	<p>Marine Delivery Routemap Report – Presentation from TCE</p> <p>TCE began by saying that a rapidly growing demand for seabed space, alongside declining marine ecosystems, has prompted the need for a forward strategy for coordinated action on seabed development, leading to the development of the Marine Delivery Routemap (MDR).</p> <p>TCE stated that the evidence base and modelling capability of analysing the seabed had been developed by TCE over the last year in collaboration alongside a voluntary coalition of partners including government departments, devolved administrations and regulators, to help develop a strategy.</p> <p>TCE explained that it was in partnership with the National Energy System Operator (NESO) on the Strategic Spatial Energy Plan (SSEP) and emphasised the importance of a plan that is deliverable and works for a variety of sectors as well as nature. TCE showed a map indicating prime areas of opportunity for all sectors modelled to date, noting that delivery will be made increasingly possible if colocation between sectors, including offshore wind and CCS, is supported.</p> <p>TCE concluded the update to emphasise that the MDR’s long-term planning was a process unique to the United Kingdom, and that early-thinking was outlined in a report launched in September, alongside a sector-specific report on the future of offshore wind. TCE clarified that the Future of Offshore Wind report was the first in a series of reports [see next section], and that additional sector-specific reports would be shared in the future, adding that engagement around the CCS report had already begun. TCE further emphasised that input would be sought from multiple members of the Forum for the MDR, and they would be drawing on evidence from across sectors to inform the strategy.</p> <p>Forum members noted that NESO’s Clean Power 2030 report would involve a range of scenarios, and asked whether the team involved in the MDR would do a subsequent analysis of the pathways suggested by NESO. TCE clarified that NESO’s plans are based on projects already leased, with any areas not yet leased likely not applicable or relevant for NESO’s analysis. TCE also clarified that work was ongoing with NESO to unlock possibilities to meet net zero targets.</p> <p>The Forum asked for clarity around the planned time period to enact and complete the MDR. TCE explained that whilst an exact date is not set, a first iteration of the MDR’s pathways to 2050 would be available next year, but that the frequency of future iterations was yet to be established. A Forum member thanked TCE for their update and added that it was working closely with key stakeholders to contribute to the Routemap.</p> <p>The Chair reflected on the progress that had been made since the Forum’s establishment around making colocation a reality, emphasising the need for further collaboration to continue to identify solutions.</p>
6.0	<p>Future of Offshore Wind Report – update from TCE</p> <p>TCE began by highlighting the scope for additional growth in the offshore wind sector in the UK, as well as the need for a change of approach to build on existing success. TCE highlighted the three key points covered in the report:</p> <ul style="list-style-type: none"> • Developing a long-term strategy for offshore wind in the context of the MDR • An evolving approach to tackling systems-level issues and derisking ahead of agreements for lease to smooth the path to delivery • Identifying TCE’s approach to future offshore wind leasing, focusing on key questions of scale, timing, scope, frequency and location <p>TCE stated that the report recommended that in order to maintain momentum to net zero by 2050, 20-30 GW of additional offshore wind rights should be brought to market by 2030. TCE reminded the Forum that it was asking developers and stakeholders for input</p>

	<p>on whether that range is an appropriate target and showed a map marking regional areas of potential opportunity in England and Wales (ref. slide 32 of the 12th Plenary presentation).</p> <p>TCE informed the Forum that it was seeking input on a number of topics, including colocation, cross system coordination, number of leasing rounds, locations and de-risking, to build out thinking for future leasing.</p> <p>The Forum noted that TCE's "agnostic offering" around fixed vs. floating offshore wind may have an impact on the future colocation of offshore wind and fisheries. TCE clarified that it is taking an active role on site design and how many deep vs. shallow sites will be on offer, and noted that the point raised was one of a wide range of issues that need taking into account in determining its forward approach.</p> <p>The Forum added that it was looking at the future market that could emerge for the importation of CO₂ from Europe, given the UK's geological potential. TCE confirmed that it was working with stakeholders on the future CCS industry opportunity as part of its future strategy, with a further report on CCS to come as noted above.</p> <p>The Chair thanked TCE for the presentation, and confirmed that both the Marine Delivery Routemap and Future of Offshore Wind reports would be circulated with Forum members along with the minutes and presentation from the meeting.</p>
7.0	<p>Next Plenary Dates & AOB – Chair</p> <p>The Chair confirmed that the next Forum plenary would be held in early 2025, and new dates would be circulated shortly.</p> <p>The Chair also noted that Forum members would be notified when workstream communications materials were being finalised and issued. The Chair also noted that the work from Project Colocate and Project Anemone will feed into the ultimate goal of test & demonstration projects.</p>
	<p>ACTIONS FROM PLENARY #12</p> <p>1.6 TCE to explore how it can quantify / categorise decarbonisation contribution of colocation.</p> <p>2.3 Secretariat to circulate final Project Colocate EIS summary report with Forum members</p> <p>2.9 OWIC to continue to engage offshore wind developers on their awareness around colocation with the view to hold a webinar alongside TCE</p> <p>3.6 NECCUS to engage with industry trade bodies involved in the Forum to collate developer insights for Phase 1 of Project Anemone</p> <p>4.3 Secretariat to develop risk assurance / insurance questionnaire to be circulated with offshore wind and CCS developers ahead of next Plenary</p> <p>6.7 Secretariat to circulate links to Marine Delivery Routemap report and Future of Offshore Wind report with Forum members</p>
	<p>USEFUL DOCUMENT LINKS</p> <p>OW & CCS Colocation Forum plenary meeting documents and publications: https://www.thecrownestate.co.uk/our-business/marine/offshore-wind-and-ccus-co-location-forum-archive</p> <p>Both the Marine Delivery Routemap & Future of Offshore Wind reports can be downloaded from this location: Marine Delivery Routemap The Crown Estate</p>