OFFSHORE WIND & CCS COLOCATION FORUM
13th PLENARY MEETING

Offshore Colocation Forum

Meeting details	8 April 2025 9.00-11.00am The Crown Estate, Charles II Street; Microsoft Teams
Chair	Adrian Topham, TCE
Attendees	Max Musing, CCSA Jerome Malhotra, Defra Craig Burns, CES Tom Mallows, CES Yuenfan Cheung, DESNZ Wael Khatib, DESNZ Lauren Russell, DESNZ Christine Yallup, DESNZ Fiona Munro, Marine Scotland Lucy Jackson, MMO Viana Iancu, NSTA Nick Richardson, NSTA Oscar Wilkie, OWIC (RUK) Elen King, Welsh Gov Ben Frei, TCE Charles Green, TCE Helen Hallsworth, TCE Hassan Moharram, TCE Denise Moylan, TCE
Apologies	Beth Hebditch, CCSA Jo Bagguley, NSTA Luke Etough, OREC

Agenda

Item	Owner
1. Matters arising	Adrian Topham
2. Terms of Reference	Denise Moylan
3. Project updates - Colocate - Anemone	Adrian Topham
4. 2025 planning	Denise Moylan & Adrian Topham
5. AOB - Actions review	Adrian Topham Ben Frei

OFFSHORE WIND & CCS COLOCATION FORUM
13th PLENARY MEETING

Offshore Colocation Forum

Item	Notes	Action
1.0	**Matters arising** **TCE to explore how it can quantify / categorise decarbonisation contribution of colocation** • Paused – due to the complexities and significant timescales involved in delivering this action, it has been paused. However, it will be kept in the frame going forward in case the opportunity arises to action (part of) it. **Secretariat to circulate final Project Colocate EIS summary report with Forum members** • Amended – there will not be a report focusing on the outputs of Project Colocate for EIS, but instead these findings will be part of the wider outputs of the project. This is planned to be showcased at the next plenary in July once the project is completed (end of June). **OWIC to continue to engage offshore wind developers on their awareness around colocation with the view to hold a webinar alongside TCE** • Ongoing – this piece of work forms part of the activity plan for 2025 and beyond. **TCE to engage with NECCUS and other trade bodies involved in the Forum to deliver Phase 1 of Project Anemone** • Ongoing - status update to be provided in plenary 13. **Secretariat to develop risk assurance / insurance questionnaire, which is to be circulated with offshore wind and CCS developers ahead of next Plenary** • Ongoing – status update to be provided in plenary 13. **Secretariat to circulate links to Marine Delivery Routemap report and Future of Offshore Wind report with Forum members** • Complete – information was circulated along with minutes of plenary 12.	
2.0	**Terms of reference** TCE thanked all members of the Forum for taking the time to engage in the calls to discuss the mandate and format of the Forum, and of the importance of the review given the Forum was established 4 years ago. TCE noted the following key headlines in the feedback received. - There is broad agreement across the mandate and topics covered by the Forum. There were questions raised regarding the inclusion of other topics, and this will be picked up in the 2025 planning for the Forum. - A request for a greater balance between wind and CCS. The inclusion of OWIC as a Forum member and the representation of TCE's wind team will ensure wind remains an integral part of the Forum. There will also be a greater focus of comms out to the wind industry going forward. - The quarterly frequency of meetings was confirmed as being optimal, with a desire to meet in person once a year (a planning session early in the year would be the opportune time for this). The possibility for a two-location	

	approach for the remaining three sessions was also raised, to enable the local gathering of Forum members. - The creation of sub-groups was suggested to enable greater information sharing across organisations, and to support the delivery of work by the Forum across the year. It was suggested these sub-groups could focus on commercial and technical work, to avoid duplication. TCE outlined the next steps for this piece of work, including reviewing the ToRs and feedback received in greater detail, as well as examining the structure of the Forum. The updated ToRs will support efforts of members to raise the profile of the Forum.	
3.0	**Project Updates** **Project Colocate** TCE re-stated the aims and objectives of Project Colocate, which focuses on the sub-surface issues with colocation across two geographical locations. It aims to identify and define potential areas for colocation, followed by the definition of possible monitoring plans, before exploring the viability of projects and exploring what may be needed to facilitate colocation from a technical, spatial and temporal standpoint. TCE outlined monitoring requirements for a carbon storage site (the '3 Cs'): - The target rock unit is monitored for **conformance**. - The rock unit above is monitored for **containment**, to understand if the stored CO_2 has migrated (and if so, where). - **Confidence** monitoring is carried out at the surface, to ensure background indicators have not changed as a result of the store. TCE demonstrated possible migration pathways and explained the function of the bow tie risk assessment in understanding the migration risk. The risk assessment focuses on an escape of CO_2, which is classified as the most important risk, and captures threats and consequences associated with such an event, alongside a number of barriers to prevent and manage the threats and consequences. Migration risk assessment is a key reason monitoring is required, and why certain types of access would be required, to understand whether the CO_2 is moving. Two tables that the University had prepared were presented to explain colocation scenarios that could arise in the East Irish Sea, along with potential issues and the feasibility of overcoming them. A question was posed regarding the difference in timing of wind projects (operational and planned) to ensure the timing is addressed within the colocation scenarios, given the significant lead times to develop a windfarm. TCE took an action to feed back to the University of Aberdeen regarding the requirement for additional granularity around timescales, to enable differentiating planned versus operational wind projects in colocation scenarios, and to ensure this is included in the final report. It was further clarified by the Forum that if the CO_2 store and windfarm were in the planning phase concurrently, there would be greater scope to manage the overlap. A series of diagrams were used to demonstrate the relative difficulties of different colocation scenarios. The proportion of spatial overlap was used to illustrate the difficulty of overlaps in some cases eg. where wind turbines overlap a carbon storage	**13.1**

	area to be monitored. By placing the infrastructure for a carbon store outside of a wind generating area and away from wind transmission line, it is possible to enable both to coincide close to each other. This visual representation was presented to support attendees in understanding that degrees of overlap can be managed depending on the specific infrastructure needs of each sector and that each situation could have a different colocation outcome. TCE stated that a challenge could arise where the continuous monitoring area overlaps with a windfarm, although these could be managed through: - Conformance monitoring of the storage area not directly situated under the windfarm, using traditional monitoring methods (towed stream and seismic) - Potential use of ocean bottom nodes in the containment areas TCE suggested that if CO_2 migration pathways could be identified early during store appraisal, then the pathway could be factored into turbine spacing, and a monitoring strategy developed that ensures the type of monitoring is appropriate to the spatial context. The Forum reiterated that the planning for a windfarm array is carried out early in the project lifecycle and becomes more difficult to change once consent is granted. However, if timelines for the CO_2 store and windfarm development align, there is the possibility for influencing each design. The Forum also suggested that if the spacing for monitoring could be better understood, there may be the possibility of accommodating monitoring in operational windfarms. TCE stated that going forward, it is seeking to reserve rights to allow for CO_2 monitoring within offshore wind Agreements for Lease (AfLs). The Forum asked whether the construction of turbines alters underlying geology. The discussion highlighted that this would depend on the site and local geology, but due to the depth of CO_2 stores, it would be unlikely. The Forum raised the issue of legacy wells from the oil and gas industry which may require monitoring if the subsurface pressure changes as a result of a nearby CO_2 storage development. The Forum also discussed the potential for cumulative impacts on noise budgets of having both carbon storage appraisal activity and windfarm development in an area. The Forum also outlined how monitoring requirements may change over the lifecycle of a store, with the potential for a reduction in monitoring with time as confidence in the store increases. Monitoring requirements will also be influenced by the quality of the baseline data collected, reinforcing the need for to collect the best quality data during the appraisal phase. Reflecting the discussion of the importance of joint planning of stores and windfarms, the Forum raised the possibility of convening developers involved with both CCS and offshore wind to share and build knowledge and address colocation challenges. A question was raised regarding the outputs of Project Colocate, and how the specifics of local geology would influence findings. TCE confirmed that Project Colocate does not cover specifics, and the final output will address issues at a	

	strategic level. The Forum noted that a piece of work regarding survey types and evolving technology could align well with Project Colocate. TCE outlined that Project Colocate is scheduled to be complete by the middle of the year. The full findings will be presented to the Forum at plenary 14.	**13.2**
	Project Anemone TCE restated the aims and objectives of Project Anemone, which focuses on operational issues between OSW and CCS. This includes risk analysis for wider marine stakeholders and utilising outputs and findings to influence policy and regulation in support of colocation. TCE stated it has been approached by OEUK, whose members have asked for a similar piece of work to be carried out. Initial conversations have been held to explore how to avoid duplication of work and minimise the number of requests for inputs being put to developers. TCE proposed that the Forum continues to sponsor the work with the addition of OEUK but is still working through the detail. The Forum questioned whether OEUK will be creating the guidelines. TCE noted OEUK's experience in developing guidelines in offshore energy. It was also noted that OEUK has previously been involved in building the relationship between the sectors, including skills passporting from oil and gas to wind. TCE confirmed that the work will continue to focus on OSW and CCS, bringing knowledge from other relevant sectors as appropriate. The Forum confirmed it was supportive of a joint piece of work including OEUK, with the aims, objectives and outputs as proposed by Project Anemone. TCE will set up a follow up discussion with OEUK to progress.	

OFFSHORE WIND & CCS COLOCATION FORUM
13th PLENARY MEETING

Offshore Colocation Forum

4.0	**2025 Planning** TCE outlined the benefits of forward planning the work of the Forum and set out the list of activities and projects which have already been discussed by the Forum, including Project Anemone, risk assurance work, a webinar with the wind industry and the planning of communications and engagement linked to the current projects. TCE also stated the need for an overarching communications plan to support engagement. TCE asked what other priorities the Forum wanted to raise for 2025. **1. Noise budgets** The Forum raised the possibility of work on noise budgets to better understand the potential for risks related to multiple activities in an area and the possible mitigations (especially in the southern North Sea). It was mentioned that there are already groups of stakeholders concerned about noise, including the DESNZ-Chaired Development Coordination Forum, where projects from all industries that have noisy activities planned for the coming season exchange work programmes. It was raised whether the NSTA, or other stakeholders, could be added to that group in time. It was suggested that while it would be helpful for the Forum to develop a noise budget project, the delivery of the work might sit with a different group, such as the Development Coordination Forum. One option suggested was the Offshore Energy Strategic Environmental Assessment 4 work, but that at the very least the Forum could engage more on this topic to raise awareness, and work more closely with OPRED on this issue. **2. Technical innovation** Another suggestion to explore in 2025 was technical innovation needed to support colocation (which could support British supply chains and creating value through exportable technology). Innovate UK was proposed as a possible partner in technology work, for example in the field of geophysical monitoring technology. This should consider the relative technology readiness levels (TRL) to understand where commercial development and research would fit in. It was suggested this workstream could be picked up by a Forum working group. **3. Developer event** Another suggestion for 2025 was a developer event for organisations which have both OSW and CCS sectors in their portfolios. **4. Risk assurance** TCE referenced the risk assurance work discussed by the Forum in 2024 aimed at building understanding across both OSW and CCS sectors of potential insurance issues specific to colocation. The Forum re-confirmed support for this work, stating that developers want clarity on both unmitigated and mitigated risks. It was noted that there are ongoing pieces of work in the OSW industry focused on insurance and commercial risks with other sectors outside of CCS and OSW, and the Forum mentioned it would be useful to gain a better understanding of these. An action was taken by OWIC to gain an initial understanding of ongoing colocation insurance work. This would help inform whether there is overlap with the proposed assurance project or whether it warrants its own project. The Forum asked whether colocation is an insurable risk, and whether there may be modelling which could show the pricing structure across the lifecycle of a colocation scenario. It was mentioned that there are products on the market that seeks to address this.	**13.3**

OFFSHORE WIND & CCS COLOCATION FORUM
13th PLENARY MEETING

	TCE noted that outcomes for the work discussed in 2024 included details of both colocation risks and the barriers to creating new insurance products for addressing them. TCE will write up the different possible 2025 Forum plans as discussed above and circulate these to the Forum members to confirm work for 2025, with remaining outstanding work to be added to a future planning session.	**13.4**
5.0	**AOB** The Forum posed a question about a programme of engagement which would sit across all planned work. TCE agreed that once priorities for the year had been agreed, a communication plan would be created to ensure the work of the Forum is shared and amplified.	

ACTIONS FROM PLENARY #13

#	Action	Due date	Owner
13.1	Feed back to the University of Aberdeen regarding the requirement for additional granularity around timescales, to enable differentiating planned versus operational wind in colocation scenarios	30 April 2025	TCE
13.2	The full findings will be presented to the Forum at the next plenary (Project Colocate)	TBC by mid-May	UoA
13.3	Gain an initial understanding of colocation insurance work already underway	15 May 2025	OWIC
13.4	Write up the different possible 2025 Forum objectives as discussed above and circulate these to the Forum members	30 May 2025	TCE
13.5	Schedule next Plenary	15 May 2025	TCE
13.6	Follow up with OEUK regarding their involvement in project Anemone and to confirm final scope	9 May 2025	TCE