DRAFT OFFSHORE WIND & CCS COLOCATION FORUM 14th PLENARY MEETING

Offshore Colocation Forum

Meeting details	2 July 2025 9.00-11.00 The Crown Estate, Charles II Street; Crown Estate Scotland, 2 Lister Square, Microsoft Teams
Chair	Adrian Topham, TCE
Attendees	Max Musing, CCSA Jerome Malhotra, Defra Tom Mallows, CES Jamie Hart, CES Lauren Russell, DESNZ Fiona Munro, Marine Scotland Michelle Calvert, MMO Nick Richardson, NSTA Jo Bagguley, NSTA Luke Etough, OREC Oscar Wilkie, OWIC (RUK) Elen King, Welsh Gov Helen Hallsworth, TCE Denise Moylan, TCE, Charles Green, TCE Ben Frei, TCE
Apologies	Beth Hebditch, CCSA Viana Iancu, NSTA Yuenfan Cheung, DESNZ Wael Khatib, DESNZ Michael Blair, TCE

Item	Owner
1. Welcome	Adrian Topham
2. H&S moment	Charles Green
3. Matters arising	Ben Frei
4. Overlaps	Helen Hallsworth / Adrian Topham
5. Project Colocate	Adrian Topham
6. Project Anemone	Adrian Topham
7. 2025 Plan	Adrian Topham
8. AOB	Adrian Topham / Ben Frei

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Item	Notes	Action
1.0	**Welcome** The chair welcomed all attendees and attendees confirmed via a round of introductions.	
2.0	**H&S moment** The health and safety moment centred on the collision of a cargo vessel with a tanker ship in the North Sea on 10 March 2025. The collision between the two ships resulted in both ships catching fire, and the crews from both ships requiring rescue. One crew member was lost overboard and is now presumed dead. An MAIB investigation into the cause of the incident has been launched, with interim report issued April 2025. Watchkeeping is a key focus but fatigue management is also being investigated. Separately the HSE raised a warning on collision risk very shortly after the incident, aimed at offshore installation duty holders, owners and operators of offshore vessels, windfarm operators and contractors. The notice highlighted the rising number of incidents of collisions, including ships colliding with offshore energy infrastructure. The HSE comments that failure of navigational watch processes and systems are a key driver of the increasing number of collisions. Key reasons of those failures are personnel responsible for watchkeeping being distracted with non-navigational tasks, lack of situational awareness and insufficient communication between members of the bridge team. A key learning for the Forum is that there needs to be an awareness that the sea space is getting busier, and that human error can never be mitigated out entirely. However, the response to the incident also showed good collaboration across industries to save lives.	
3.0	**Matters Arising** **OWIC to continue to engage offshore wind developers on their awareness around colocation with the view to hold a webinar alongside TCE** • Ongoing – this action is ongoing and will become more pertinent as we seek to plan a developer event. To be covered in the 2025 plan of work. **TCE to engage with NECCUS and other trade bodies involved in the Forum to deliver Phase 1 of Project Anemone** • Complete – more information to be provided as part of the Project Anemone update later in the agenda **Secretariat to develop risk assurance / insurance questionnaire to be circulated with offshore wind and CCS developers ahead of next Plenary** – • Ongoing – will be incorporated into the 2025 plan of work and the project planning **TCE to explore how it can quantify / categorise decarbonisation contribution of colocation.** • Paused – due to the complexity of this action, it is not one which can be delivered through a singular action, but really as the collective knowledge base grows through projects in this forum and ongoing overlaps more widely,	

	the answer will become clearer. It is useful to keep the action on here as a reminder. **13.1 TCE to feedback to UoA regarding requirement for additional granularity around timescales, to enable differentiating planned vs operational wind in colocation scenarios** • Complete – this will be reflected in the Project Colocate report **13.2 Full findings for Project Colocate to be presented to the forum at the 14th Plenary** • Ongoing – high-level project findings to be presented during 14th plenary. Final report to be shared in the Autumn **13.3 OWIC to gain an understanding of colocation insurance work already underway** • Ongoing – to be picked up as part of the risk assurance / insurance project • OWIC is in the process of adding insurance organisations to its membership base. Once these are onboarded, there may be opportunities to understand insurance queries the wind industry has. However, there is little existing ongoing work in the insurance space, other than a small piece of work focused on floating offshore wind. • CES took an action to gain an understanding of insurance work carried out by their aquaculture team. **13.4 Write up forum objectives and circulate these** • Complete - possible objectives were captured as part of the previous meeting minutes. Plan for 2025 to be covered later in the plenary agenda. **13.5 Schedule next plenary (plenary 14)** • Complete **13.6 Follow-up with OEUK regarding involvement in Anemone** • Complete – will be picked during Project Anemone update	**14.1**
4.0	**Lessons learned from overlaps** TCE outlined the recent meetings held between TCE's CCS, OSW and offshore transmission operator (OFTO) customers, and presented a number of learnings from these meetings. The main drivers of these meetings were to: • Support conversations between CCS developers and OSW (generation and transmission) asset owners • Promote colocation between sectors • Support the development of good working relationships between sectors • Increase the awareness between sectors The meetings also helped to further parties' understanding of the role TCE plays in marine spatial management and in supporting colocation. TCE shared a number of key findings from the meeting: • **Holding meetings between 'on the ground' project teams** rather than holding meetings between customer organisations at a corporate level	

	further supported the building of relationships between teams who will be working more closely together. • **Providing timings for the development of projects in each sector** enabled an understanding to be gained that colocation is often not an immediate challenge, but a more long-term aim, with a number of steps required before colocation becomes a reality. This allowed the OSW customers to get more comfortable with the process and the technical aspect of CCS. • **Demonstrating how simultaneous operations can take place while avoiding any adverse impacts** on either sector, through showcasing how a carbon store might develop in the future, and how that could be managed alongside an offshore wind farm. • **The value of in person meetings.** Overall, parties left with a better impression and were more comfortable with colocation and overlap scenarios. A question was posed by the Forum regarding the nature of colocation projects being discussed, and TCE confirmed that there was a range, including the interaction of cable routes with CCS infrastructure, both CCS and OSW projects being in the development stage and several conversations with operating wind farms with an incoming CCS developer. The Forum stated it was happy to hear that conversations are taking place with OSW customers during pre-lease stages too, not solely during operations. TCE then summarised all the ongoing work, which is helping to build understanding around the store, complex, and supporting monitoring requirements for CCS. TCE stated that the footprints of a carbon store and a windfarm change from design (appraisal) to operation, with surveys and monitoring presenting key colocation challenges. Project Anemone and Project Colocate are building knowledge of colocation, simultaneous operations and monitoring, while the NSTA seismic imaging work added specific knowledge to support the solving of the reservoir monitoring colocation challenge. A series of diagrams were used to demonstrate the nature of different colocation scenarios. The proportion of spatial overlap between a CCS store and a windfarm was used to illustrate the range of difficulty of overlaps with the most difficult scenario being one where wind turbines are located directly above a carbon storage area, including the monitoring area and possible CCS infrastructure placement. By placing the infrastructure for a carbon store outside of the wind generating area and away from the windfarm transmission line, it is possible to enable both to operate close to each other, although monitoring challenges may remain. 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. It was noted that coexistence (proximity without overlap) and colocation (where overlap occurs) pose different challenges; coexistence still needs cooperation among parties whereas colocation requires consideration of the specifics of the case. Additional diagrams were used to demonstrate the intricacies of temporal colocation and coexistence scenarios (i.e when colocation or coexistence does not happen simultaneously, but with projects having different start and end dates). Activities from either developer may happen simultaneously, or there may be a significant gap between these, which in turn would lessen the impact and create a greater chance of managing the overlap.	

	An observation made by the Forum is the potential commercial consequences of differing and complex overlap scenarios on project financing. The need for coexistence or colocation and the means by which this is managed will be a consideration of project sponsors in relation to project financing. TCE reiterated that the solution type for colocation depends on a number of factors, from timing of development, to whether one customer or another is in situ first, to the type of overlap and monitoring required. TCE presented a number of common opportunities, commercial and technical challenges raised by developers, and sorted these by CCS/OSW sector (see slides 18 & 19 in the 'Plenary meeting presentation – 2 July').). TCE showcased how these challenges and opportunities are being addressed, through work by the Colocation Forum, NSTA taskforces, developers and suppliers, as well as universities. Overall, colocation has gained increasing attention as more and more issues are being addressed. A question was posed asking for further detail on a concern expressed by OSW developers of CO_2 pipelines coming onshore – if multiple pipelines and cables come onshore at specific sites, would it pose a congestion risk? TCE highlighted that the early (eg Track 1 and 2) CCS developers/operators will be collecting CO_2 from industrial clusters, some of which will be reusing existing oil and gas pipelines already coming onshore. TCE also mentioned that the Marine Delivery Routemap (MDR) spatial planning team will be looking at pipelines as part of wider scenario planning. Another point was raised regarding the challenge of plume monitoring in a colocation scenario, and TCE stated that there may be opportunities for shared monitoring or use of joint infrastructure such as the growing fibre optic network being utilised by OSW customers. It was also pointed out by the Forum that having multiple energy vectors in one space, and the opportunity to include hydrogen, should be seen as an opportunity and not only a challenge. The Forum stated that the theme of lessons learned is growing across both sectors. It was mentioned that there is a CCSA forum in September (the regulation and policy forum), and TCE would be welcome to present these lessons learned to a wider audience. An action was taken for TCE and the CCSA to have a session to map future industry discussion points and how TCE can feed into those. A question was asked how the customer meetings came about, and TCE confirmed that they were split by licence area, with mechanisms being put in place to ensure conversations continue for these. TCE also stated that the leasing approach for OSW is evolving to support colocation within future agreements. However, it was noted that there are restrictions within existing OSW agreements that currently restrict colocation, which is why the customer meetings are key, particularly where there is an overlap with installed OSW infrastructure. The NSTA noted Carbon Storage Licence terms have a collaboration clause, and developers are required to put stakeholder engagement plans in place.	**14.2**
5.0	**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 (East Irish Sea and Outer Moray Firth). It aims to identify and define potential specific sites within the areas where colocation might be achievable, followed by the definition of possible	

	monitoring plans, before exploring the viability of projects and what may be needed to facilitate colocation from a technical, spatial and temporal standpoint. TCE stated that the Project Advisory Group (PAG) has discussed and interrogated the work produced with the University of Aberdeen, and will ensure that the outputs are suitable for all parties. TCE summarised the East Irish Sea conclusions, which centred around the recommendation of measurement, monitoring, and verification (MMV) technologies which were either well-based or require vessels, each of which has a colocation impact. Alternative technologies could also be used to fill data gaps, and which may reduce the colocation challenge using remotely operated vehicles (ROV). TCE also summarised the Outer Moray Firth findings. These focused on the fact that carbon storage in this area has been evaluated for over a decade, with initial plans for Acorn being revised to focus on a depleted gas field. This has reduced overlap issues, with no windfarm proposals currently in the area, and O&G licences do not overlap with the CCS licence areas. The report recommends that overlaps of the carbon store with O&G licences should also be avoided in this area in the future, but in other areas this will not necessarily be the same. The University's conclusions state that a compromise may be required by OSW customers to facilitate colocation, however it was pointed out by the Forum members that this may result in commercial viability or funding difficulties for any OSW projects at a late stage of planning. Ultimately, there will need to be a case-by-case evaluation of possible solutions for colocation scenarios across the UK seabed. The Forum reiterated that whilst the conclusions of the report are useful in highlighting monitoring and potential challenges with co-location in general terms, any monitoring requirements will be specific to individual storage sites. In addition, in those cases where both OSW and CCS sectors are at early stages of development, the potential co-location synergies they offer may be greater. A further point was made by the Forum about colocation issues being misrepresented in the press with it implied that the public bodies involved were not adequately addressing the issues. The work the Forum is doing will support the narrative that colocation is no longer seen as an insurmountable problem. TCE outlined the updated timelines for the completion of Project Colocate, with the final report being completed in late August 2025 for issue to the Forum in the Autumn. A question was raised regarding the communication of Project Colocate results, and it was confirmed that there will be a communications plan for the Forum, which will include the sharing of project outputs. A request was made to avoid sharing outputs in August due to low uptake over the summer holidays.	**14.3**
6.0	**Project Anemone** TCE presented an update to Project Anemone, following the kick-off meeting in June 2025. The project will investigate operational challenges and opportunities presented by colocation of OSW, CCS and O&G through engaging with relevant stakeholders, with the aims of: • Providing developers with best-practice guidance for simultaneous operations	

	• Helping wider marine stakeholders understand the risks of, and mitigations for, colocation • Influence the policy and regulation needed to support colocation At this early stage of work on simultaneous operations (simops) of the three vectors, the project is looking to produce 'good practice' guidelines for industry to support the sharing of learnings in support of colocation. The project is split into three stages: • **Stage 1 –** information gathering exercise across different parties (public sector). The project is intending to ensure that it has a full understanding of regulators and seabed owners and all the regulatory and consenting processes. • **Stage 2 –** identify opportunities and challenges across the energy vectors for colocation • **Stage 3 –** create shortlist for further investigation and create a guidance note (to be recommended good practice) of how simultaneous operations between sectors could proceed TCE outlined the different stakeholder groups involved in the project – categorised across industry associations, developers and operators, regulators and seabed owners – as well as associated discussion topics. TCE confirmed that the three sponsoring organisations (CES and TCE representing the Forum, and OEUK) will be the publishers of the final recommendations and a shortlist of key simops colocation activities required to realise opportunities and mitigate challenges. The IP will also be split across the three parties. The project is scheduled to be complete by the end of January 2026, with guidance provided by TCE, CES and OEUK as the Project Advisory Group. The project will also be managed by an independent project manager, with NECCUS as a delivery partner. TCE confirmed that the next steps included the finalising of joint agreements and the setting up of regular project meetings. TCE also noted that the good practice document to be produced as part of stage 3 will be an initial version, and it is expected there will be a number of post project iterations as the knowledge base matures. The document will need to address the shortlist of areas of concern and solutions that need to be put in place. The Forum outlined the desire for a product which could be taken off the shelf to support developers resolving colocation issues, but agreed that the first version will include signposting to existing solutions. A question was raised whether existing documentation across O&G and within the wind industry could be used. It was stated that OEUK has oversight of any previous O&G work in this field, with OWIC also able to feed into the project. The aim is for the project to reduce the need for bespoke solutions, which should also reduce hidden project costs. TCE also explained which organisations will be targeted as part of the regulator engagement, and confirmed this will include the HSE and CAA, as well as government departments, MMO, NESO, OPRED and Ofgem. A question was asked whether the planning inspectorate will be invited to participate, and it was confirmed by TCE that	

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	NECCUS and OEUK will be asked to test proposed targets, so they may well be included. The Forum agreed that the project covers the expectations of the Forum.	
7.0	**2025 Plan** TCE outlined the proposed plan for 2025-2026. This included completing both Project Colocate and Project Anemone, initiating the risk assurance work later in the year and holding a joint CCS/OSW developer event. It was noted that the communication plan will include the promotion of project outputs. Another item to be included in the plan for this year is to create a baseline understanding of monitoring technology innovation currently underway, and then to understand if there are any gaps where the Forum could add value. A key point mentioned on this work is to ensure that the NSTA input is captured, along with combining sector knowledge and any developer work in this space. An action was taken by the NSTA to set up a conversation between the NSTA technology team and TCE to initiate the conversation regarding monitoring technology. The Forum asked whether further research into developments in monitoring technology that would assist with colocation could be considered, possibly with UKRI support for development of the UK based supply chain. TCE responded that this would inform the scope of any further project on monitoring. The CCSA were mentioned as a possible route for market engagement, and an action was taken to determine who the correct contact is to support market engagement regarding monitoring technology. The Forum also questioned whether there was a route to engaging the market regarding any ongoing monitoring innovation work, and an action was taken by TCE to explore how this could work.	**14.4** **14.5** **14.6**
8.0	**AOB** There was a mention by the Forum of a study into the space between wind turbines increasing as a result of longer blades, and the possible impact this could have on other sectors and activities, including CCS monitoring. It was noted that this could also lead to longer inter-array cables being required, and there was the possibility of larger windfarm footprints as a result of larger blades. It was also noted that there was also ongoing research into wake effects, and that the Forum should remain attuned to the ongoing conversations in this space.	

#	Action	Due date	Owner
14.1	Share details of insurance work carried out by CES aquaculture team	31 July 2025	CES
14.2	Agree approach to communicating colocation lessons learnt via CCSA forums and meetings	30 August 2025	TCE/CCSA
14.3	Produce a 2025 communications plan for the Forum	30 September 2025	TCE/Forum

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14.4	Set up a conversation between the technology team and TCE to initiate the conversation regarding monitoring technology	31 July 2025	NSTA
14.5	Determine who the correct contact is to support market engagement regarding monitoring technology	31 July 2025	CCSA
14.6	Explore how to engage the wider market regarding ongoing monitoring innovation work	31 August 2025	TCE/CCSA
14.7	Send out next plenary invite once suitable start time is confirmed	31 July 2025	TCE