

<b>Project Name</b>	<b>OFFSHORE WIND &amp; CCS COLOCATION FORUM 9<sup>th</sup> PLENARY MEETING</b>
<b>Meeting Venue</b>	Crown Estate Scotland, Quartermile Two, 2nd Floor, 2 Lister Square, Edinburgh, EH3 9GL
<b>Date &amp; Time of Meeting</b>	10:00am – 12:00pm on Wednesday 6 <sup>th</sup> December 2023

<b>Chair of the Meeting</b>	Adrian Topham (The Crown Estate)	
<b>Names of the Attendees</b>	<b>Members present</b> <ul style="list-style-type: none"> <li>• Tristan Bromley, TCE</li> <li>• Amy Bloomfield-Clarke, TCE</li> <li>• Abby Haines, TCE</li> <li>• James Musgrave, TCE</li> <li>• Tom Mallovs, CES</li> <li>• Scott Ross, CES</li> <li>• Nick Richardson, NSTA</li> <li>• Jo Bagguley, NSTA</li> <li>• Wael Khatib, DESNZ</li> <li>• Nia Hunjan, DESNZ</li> <li>• Jerome Malhotra, DEFRA</li> <li>• Georgie Sutton, MMO</li> <li>• Lorna Bennet, OREC</li> <li>• Ajai Ahluwalia, RUK</li> </ul>	<ul style="list-style-type: none"> <li>• Max Musing, CCSA</li> <li>• Ross McWilliams, Grayling (Secretariat)</li> <li>• Maddie Grounds, Grayling (Secretariat)</li> </ul> <b>Forum Guests</b> <ul style="list-style-type: none"> <li>• Professor John Underhill, University of Aberdeen (UoA)</li> <li>• Dr Sam Head, University of Aberdeen (UoA)</li> <li>• Mark Hughes, NECCUS</li> </ul> <b>Apologies</b> <ul style="list-style-type: none"> <li>• Louise O’Hara-Murray, Marine Scotland</li> <li>• Elen King, Welsh Government</li> <li>• Benj Sykes, OWIC</li> </ul>

Item	Notes
	<b>AGENDA (see Plenary Meeting Presentation)</b> <ul style="list-style-type: none"> <li>• <b>Matters Arising</b> – review actions and minutes from last meeting – Secretariat - 5mins</li> <li>• <b>Project Colocate</b> – update from Professor John Underhill and Dr Sam Head at University of Aberdeen – 20 mins</li> <li>• <b>Project Anemone</b> – presentation from Philippa Parmiter and Mark Hughes at NECCUS – 10 mins</li> <li>• <b>Interplay between the Forum and other bodies</b>– Adrian Topham, Chair - 15 mins</li> <li>• <b>Whole of Seabed update</b> – update from Tristan Bromley, Programme Lead at The Crown Estate – 10 mins</li> <li>• <b>MMV Subgroup update</b> – Adrian Topham, Chair - 10 mins</li> <li>• <b>Next developer event</b> – Secretariat - 15 mins</li> <li>• <b>Next Plenary Dates</b> – future Forum programme – 5mins</li> </ul>
1.0	<b>UPDATE TO ACTIONS FROM PREVIOUS PLENARY</b> <p>Action 1) Share name of developers impacted by Spatial Characterisation report</p> <ul style="list-style-type: none"> <li>• Closed – List of impacted developers shared with members during plenary session.</li> </ul> <p>Action 2) Share further information on Offshore Wind (OW) timeline.</p> <ul style="list-style-type: none"> <li>• Closed – General OW lifecycle timeline provided in presentation deck appendix and unable to share project specific development information due to commercial sensitivities.</li> </ul>

	<p>Action 3) Upload NSTA MMV Seismic Report to Forum website.</p> <ul style="list-style-type: none"> <li>• Closed – Link to report available on Forum website here: <a href="https://www.thecrownestate.co.uk/our-business/marine/osw-and-ccus-co-location-forum">https://www.thecrownestate.co.uk/our-business/marine/osw-and-ccus-co-location-forum</a></li> </ul> <p>Action 4) Liaise with T&amp;S Taskforce on MMV Subgroup work.</p> <ul style="list-style-type: none"> <li>• Update required – Update on MMV Subgroup work to be given in Plenary #10 in March 2024 due to Plenary #9 overrunning.</li> </ul> <p>Action 5) Provide further information on OW innovations.</p> <ul style="list-style-type: none"> <li>• Update required – Updated to be provided at Plenary #10.</li> </ul> <p>Action 6) Develop event plan on MMV monitoring.</p> <ul style="list-style-type: none"> <li>• Update required – The Secretariat discussed plan to hold Monitoring 101 developer event in March 2024.</li> </ul> <p>Action 7) Issue press release on launch of Project Colocate and Project Anemone.</p> <ul style="list-style-type: none"> <li>• Complete – The Secretariat provided update on media coverage and reaction to the announcement.</li> </ul> <p>The Forum discussed availability of individual project timetables and whether a single ‘master timetable’ could be produced. TCE explained it was for individual developers to publish their timetables rather than the Forum or TCE. The Forum discussed the possibility of RUK and CCSA working with members to publish timetables produced based on information their respective members were willing to share.</p> <p>The Forum praised the positive reception to the project launch announcement issued by TCE, CES and UofA on 27<sup>th</sup> November 2023. The Forum discussed the high level of coverage secured in key trade publications and the opportunities to generate greater interest from national journalists in the future.</p> <p>UofA confirmed the story had led to strong appetite and enthusiasm from national media outlets, developers and other marine stakeholders, who were keen to receive updates on the projects and collaborate in the future.</p> <p>Forum discussed giving advanced warning to developers on upcoming press announcements reaching national and broadcast media.</p>
2.0	<p><b>Project Colocate – presentation from Professor John Underhill and Dr. Sam Head at University of Aberdeen</b></p> <p>UoA announced the appointment of Dr. Sam Head as Lead Researcher for Project Colocate. UofA explained the interplay between NSTA CCS licenses and Project Development Research Areas (PDRAs) before updating that an area of interest (AOI) had been determined with CES in the Central North Sea. UoA confirmed that a PDRA is currently being sourced and an update will be provided at the next plenary.</p> <p>UoA presented the progress report on the East Irish Sea (EIS) research project, explaining the rationale for specific site selection in the EIS and the project’s aim to create multiple scenarios where colocation is possible. UoA detailed the work programme, including the literature review for offshore wind requirements, the review of existing CCS sites and offshore MMV techniques, the conflicts, problems and risks associated with colocation, and the potential geographical, technical and commercial solutions.</p> <p>The Forum discussed the project’s importance in identifying gaps in data, or where more up-to-date information is required, as well as the need to share key project learnings. The</p>

	<p>Forum explored the complexities of different projects requiring different monitoring types and the need to explore adaptable monitoring techniques that can change over a project's lifecycle.</p> <p>The Forum considered the applicability of scenarios in the EIS to other areas of the seabed and concluded that, while common learnings can be usefully applied, generic learnings must be treated carefully due to differences in geological development and evolution.</p>
<p><b>3.0</b></p>	<p><b>Project Anemone – update from Mark Hughes at NECCUS</b></p> <p>NECCUS began the presentation noting the opportunities for collaboration with Project Colocate from both a technical and commercial perspective.</p> <p>NECCUS confirmed the aim to formally launch Project Anemone end of 2023/ early in 2024. NECCUS discussed current actions, including its plan to distribute a project flyer (see presentation) amongst its stakeholder database to rally support from developers. NECCUS explained that engagement with stakeholders was underway, and discussions would be taking place over the next few weeks, with interest from potential CCS and OW already generated.</p> <p>The Chair emphasised that Colocate and Anemone are complementary projects due to their different focal areas. Whereas Anemone will engage specifically with developers and focus on above the seabed, Colocate will investigate below the seabed and will involve engaging a wider stakeholder base.</p> <p>The Forum discussed the importance of communicating the complementary nature of both projects. Engagement with oil and gas stakeholders on 33<sup>rd</sup> round of licensing was noted as important, although this falls outside the Forum's remit. Project Anemone should focus on the operational aspects of securing permission in the broadest possible sense.</p> <p>The Secretariat pointed to the high-level messaging deck that was shown during the last plenary on the deliverables and real-world impact of both projects. The Secretariat explained that the combined objective of the projects was to enable the first test and demonstration (T&amp;D) of colocation - with Project Colocate looking at viability whilst Anemone would look at operations – and that an answer to both was required to enable T&amp;D to happen.</p>
<p><b>4.0</b></p>	<p><b>Interplay between the Forum and other bodies – update from the Chair</b></p> <p>The Chair walked through the OW and CCS developers impacted by the Spatial Characterisation report as per Action 1 from the previous plenary session. The Chair confirmed NSTA have issued 27 licenses - now in the public domain - and explained the allocation between significant and insignificant overlap areas.</p> <p>The Forum discussed that further information on the nature and lifecycle of the lease would help identify opportunities, and The Crown Estate's publicly accessible mapping interface can provide further useful context.</p> <p>The Forum discussed that wording is included in The Crown Estate's licenses for CCS developers to liaise with OW developers however there is no equivalent for OW developers as leases were agreed before CCS was being fully developed. The Forum discussed the viability for more strategic anticipation of overlap between projects in leasing and licensing, and the associated commercial and technical challenges.</p> <p>The Chair showed the Forum three maps of OW agreements and CCS licenses overlaps in East Irish Sea, the Northern &amp; Central North Sea and the Southern North Sea.</p> <p>The Chair explained the interplay between bodies working on colocation-related content that are collectively seeking to address the possibility of OW &amp; CCS colocation. The Secretariat asked the Forum to inform the group of any further bodies working to solve the colocation issue.</p>

	<p>The Chair noted that different projects have different solutions to colocation, and we should not yet rule out situations where monitoring is compatible with wind farms. The Chair explained that most likely a degree of compromise will be needed whether that be commercial, technical, or technological.</p>
<b>5.0</b>	<p><b>Whole of Seabed Approach – presentation by Tristan Bromley at TCE</b></p> <p>TCE began the presentation introducing its Whole of Seabed (WoS) programme and the spatial analysis capabilities the organisation has been building by looking at constraints, delivery costs, onshore infrastructure and social environmental value. The Forum briefly discussed factoring in the environmental impact of decommissioning and national security in its analysis. TCE walked through the four phases of the WoS programme.</p> <p>TCE underlined that no single programme covers all sectors and across the whole of the UK, but the WoS programme and Colocation Forum provide a commons evidence base that helps address future delivery challenges through cross-party collaboration. TCE confirmed it has regular engagement with all devolved authorities and the diagram on slide 35 shows some examples of its key stakeholders.</p> <p>The Forum discussed the need to map out regulators and the wider stakeholder community that have a legitimate interest in marine spatial planning. TCE confirmed it is looking into at a broader stakeholder base through its marine delivery route map.</p> <p>The Forum explored the characterisation of its works’ contribution to decarbonisation and the Government’s net zero objectives, including the aggregate carbon mitigation impact of colocation. It noted the difficulty to extract granular data on net zero contributions as this will differ on a project-by-project basis.</p> <p>The Forum discussed its collective responsibility to help the UK move towards a decarbonised economy. The Secretariat added that colocation is required to hit Government OW and CCS targets and that without colocation as a solution, the UK risks missing those targets.</p>
<b>6.0</b>	<p><b>MMV Subgroup Update – update from the Chair</b></p> <p>The Forum agreed to skip the MMV Subgroup update due to the plenary overrunning. Update to be given at the next plenary in March 2024.</p>
<b>7.0</b>	<p><b>Developer Event Plan – update from the Secretariat</b></p> <p>The Secretariat introduced its plan to hold a panel event for developers on Wednesday 6 March 2024 to coincide with the next plenary session. The Secretariat explained the objectives of the event and that it would explore existing monitoring techniques, the challenges they present and how solutions might be resolved. The panel would be comprised of four individuals – an OW industry representative, a CCS industry representative, an MMV expert and OW construction expert.</p> <p>The Forum agreed the event would be helpful and suggested areas of discussion, including the impact of OW innovations, array designs and turbine spacing on monitoring approaches.</p>
<b>8.0</b>	<p><b>Next Plenary Dates and AOB</b></p> <p>The Chair confirmed the next plenary session will take place in London on Wednesday 6<sup>th</sup> March 2024, followed by the developer panel event later in the early evening.</p> <p>The Forum discussed the need to check the alignment of plenary sessions with upcoming external conferences and activities to maximise in-person attendance and embed learnings from external events into the Forum’s work.</p>

	<p>The Chair confirmed the Secretariat will also explore alternating the location of the plenaries between London and Scotland.</p>
	<p><b>ACTIONS FROM PLENARY #9</b></p> <ul style="list-style-type: none"> <li>1.1 Further information on new technical innovations in the OW industry ahead of the next plenary meeting.</li> <li>1.2 Secretariat to refresh and recirculate Forum communications strategy with members.</li> <li>2.1 UoA to explore workshop / roundtable to present technical data used to inform Project Colocate.</li> <li>2.2 Secretariat to set up first Project Colocate advisory group in January 2024.</li> <li>3.1 Secretariat to recirculate messaging deck on key deliverables, real-world impact and next steps of Forum workstreams.</li> <li>4.1 TCE to update developer table with CES agreements and OW agreement/CCS license overlap maps with recent commercial agreements, once provided by CES GIS team.</li> <li>5.1 Chair / Secretariat to explore how the Forum can quantify / categorise the decarbonisation contribution of OW &amp; CCS colocation.</li> <li>8.1 Secretariat to produce 2024 forward calendar of external conferences and events to map against upcoming plenary sessions and activities.</li> </ul>
	<p><b>USEFUL DOCUMENT LINKS</b></p> <p>OW &amp; CCS Colocation Forum project launch announcement:  <a href="https://www.thecrownestate.co.uk/news/offshore-wind-and-ccs-colocation-forum-commissions-vital-research-to-support">https://www.thecrownestate.co.uk/news/offshore-wind-and-ccs-colocation-forum-commissions-vital-research-to-support</a></p> <p>NSTA MMV Seismic Report:  <a href="https://www.nstauthority.co.uk/news-publications/seismic-imaging-within-the-ukcs-energy-transition-environment">https://www.nstauthority.co.uk/news-publications/seismic-imaging-within-the-ukcs-energy-transition-environment</a></p> <p>OW &amp; CCS Colocation Forum plenary meeting documents and publications:  <a href="https://www.thecrownestate.co.uk/en-gb/what-we-do/on-the-seabed/energy/offshore-wind-and-s-co-location/">https://www.thecrownestate.co.uk/en-gb/what-we-do/on-the-seabed/energy/offshore-wind-and-s-co-location/</a></p>