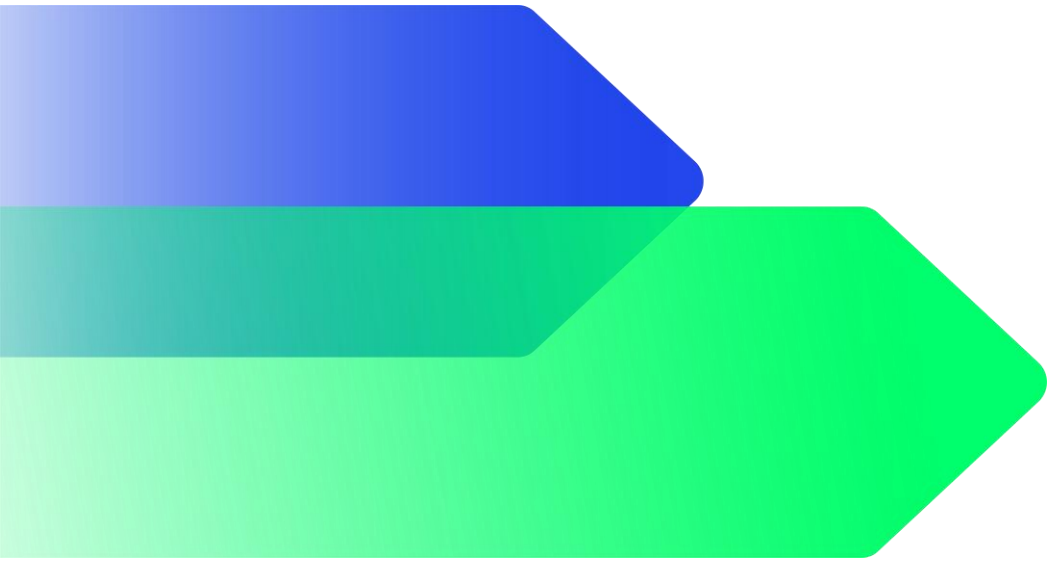
FLOATING WIND JOINT INDUSTRY PROGRAMME S3P4

Clarification Question Responses

WTG Components and sub systems assessment for floating wind (WTGCA)

February 2026



#	Type	Question	Response
1	Project specific	Please can Carbon Trust confirm if the full report from the previous work package in the JIP ref loading/dynamics differences between floating and fixed offshore will be made available?	All relevant work packages from two previously completed FLWJIP projects (S2P4 Wind Turbine Generators for floating wind & S2P4 Numerical modelling guidelines and standards) will be made available to the appointed contractor. Specifically work packages WP3 (Floating wind specific aspects for WTG components) & WP4 (System level considerations for floating wind turbines) from the Wind Turbine Generators project as well as WP1-5 from the Numerical modelling guidelines and standards project. The intention of sharing these is to avoid the need for completely new studies of operational loads (specific to WTG, floating substructure or FOWT site conditions) however the bidder should state whether they have access to data (background IP) against which to compare the values tabulated in the deliverables given that both projects were completed in 2021.
2	Project specific	Will the successful bidder be provided with full copies of the formal deliverables from the relevant previous FLWJIP projects (as mentioned in section 2.2 and 2.3 of the ITT), or only the report summaries? In particular, will data be available from the previous studies regarding WTG load/motion envelopes for fixed bottom and floating systems, and for loads and failure rates of RNA components, or should the tenderer plan to derive equivalent data independently? The ITT specifically references the previously completed FLWJIP projects “Wind turbine generators for floating wind” and “Numerical modelling guidelines and standards”. However section 5.4 of the ITT states that “the bidder should not anticipate receiving previous Floating Wind JIP deliverables to	See the responses to question 1 the relevant project deliverables from both projects will be made available. This will include the results from the respective studies however no specific data sets will be available from these projects only the results detailed in the studies.

		support with their delivery of the project and should cost their bid submissions accordingly	
3	Project specific	Should the assessment consider expected operating conditions at specific sites in the UK (or beyond), or consider generic conditions that may realistically be anticipated at floating wind sites, for the widest possible impact from the study?	The project has not identified any specific sites and so should consider generic conditions that may realistically be anticipated at floating wind sites. It is for the bidder to determine the most effective way to consider variation in possible site conditions and whether this relies on quantitative or qualitative evaluation.
4	Project specific	Can any further guidance be provided regarding the expected scale and quantity of component upgrades and/or process modifications to be evaluated in WP2 and WP3?	It is up to the bidder to outline the scale and quantity of component upgrades or process modifications to be evaluated in WP2 and WP3, based on what they consider most relevant and beneficial for floating wind applications. However, proposed upgrades should remain practical within the commercial and manufacturing constraints associated with WTG design and supply. It is anticipated that bidders will identify a manageable number of upgrade variants typically in the range of three to five to enable sufficient depth of analysis for each case. These may include, for example, local design enhancements, monitoring and diagnostic improvements, maintainability measures, and clearly defined process or workflow modifications. More substantial architectural changes (e.g., a complete drivetrain concept change) may be addressed at a high-level or qualitative level but are not expected to form part of the primary quantitative assessment.

5	Project specific	Will fixed & floating simulation results from previous projects be shared with the contractors performing the WTGCA project? It is noted that simulations comparing bottom-fixed and floating turbines were performed in the context of the “Wind Turbine Generators for Floating Wind” project (FLW JIP Phase IV).	See the responses to questions 1 & 2. All relevant work packages will be shared with the appointed contractor.
6	Project specific	Section 2.3 of the RFP describes the expected activities as including “Undertake a review of how different operating conditions are likely to be encountered across different locations and how this could impact component design”. Could you clarify whether this means considering different geographic locations where site-specific metocean conditions will lead to different motions of a floating wind turbine?	See the response to question 3. No specific sites have been identified as part of the project as such generic site conditions should be considered which encompass different anticipated conditions.
7	Project specific	The scope of the FMECA exercise in WP1 includes the requirement to “Detail a ranking and associated score for component failure probability and consequence based on different scenarios: operating conditions, operating system loads, internal dynamic responses, maintenance challenges”. I understand the scoring of component failure probability and consequence (as part of the standard FMECA process) but could you explain the scenarios to be considered in more detail?	The dFMECA is looking to assess how floating-specific behaviour differs from fixed-bottom turbines and how these differences influence failure likelihood, severity, and detectability. While the standard RPN framework applies, the scenarios in WP1 are intended to ensure that these scores are evaluated under distinct floating operational conditions and quantify how the RPN number changes for key subsystems. The bidder should therefore define and use a clear set of floating operational scenario classes typically including normal operation, storm/idling, damaged floater or moorings, towing/parking, and abnormal grid-driven operation. Each scenario represents a different loading environment, system state, and set of dynamic responses that may alter subsystem behaviour and detection capability. For each scenario, the bidder should quantify how the risk priority number changes for key subsystems by explicitly scoring

	likelihood, severity and detectability and consider local, global, and common-mode causes, including dormant or hidden failure modes. This enables a structured comparison between geared, direct-drive, and hybrid drivetrains, capturing how floating-induced motions and nacelle/tower dynamics modify failure mechanisms relative to fixed-bottom designs. The outcomes of this scenario-based scoring will then inform a targeted set of technical mitigations (e.g., design measures, monitoring strategies, sensor placement, and inspection regimes) with clear traceability from scenario specific RPN changes to the recommended actions.

Text to be added to the website once clarification questions finalised: 'The deadline for clarification questions has now passed. Answers to questions received can be downloaded below'.

Ensure that when the above text is added the deadline date for clarification questions is also removed

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Published in the UK: 2026