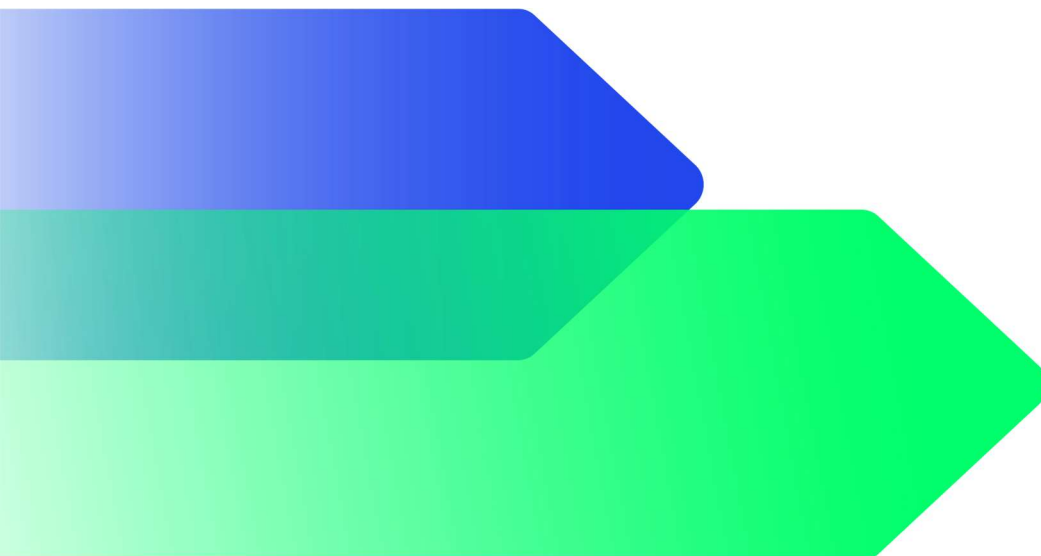


FLOATING WIND JOINT INDUSTRY PROGRAMME S3P2

Clarification Question Responses

132 kV Dynamic Cable Development (132 DCD)

September 2024



#	Type	Question	Response
1	WP1	Regarding WP1: Literature Review & Stakeholder Engagement Plan, could you please clarify the specified Um (maximum system voltage) range mentioned in the third paragraph of the WP1- Description of Work? It states, "The review should ascertain the state-of-the-art in 132kV dynamic cable technology and underscore the ongoing development and qualification processes for 132kV dynamic cables within the voltage range of $132\text{kV} \leq U_m \leq 245\text{kV}$ ".	The preference is for the literature review to consider a wider voltage range and get a broader view. Some actors have already worked on dynamic cable systems of higher voltages (such as Nexans' high voltage dynamic cable at the Jansz-Lo Compression project). The appropriate ranges – which should capture most of the relevant existing projects – can be discussed with the bidders and may be suggested in the proposal.
2	HiVAS data sharing	In reference to the Carbon Trust's HiVAS WP9 Report: The report, initially cited in section 2.3 of the ITT, is being considered by the Carbon Trust for provision to conduct a comprehensive review in the WP1: Literature review & stakeholder engagement plan. There is available on Carbon Trust website the Carbon Trust's HiVAS WP9 Executive Summary Report "132 kV Array Cable Requirements and The Need for Improved Testing Standards" of the Hi-VAS project: 132 kV Array Cable Requirements and The Need for Improved Testing Standards (ctprodstorageaccountp.blob.core.windows.net). Could you confirm whether a full-length Report will be available? If so, when it will be made available to the awarded bidder?	The Hi-VAS partners will need to approve the release of the full report to the selected contractor. If approved, we expect this to be made available to the contractor at the beginning of the project.
3	Scope clarification	Regarding the objectives of the 132 DCD project, could you please confirm whether the project's scope encompasses the utilization of 132kV dynamic cables for inter-array, export, HVAC and HVDC applications? Additionally, are there constraints in the application	The scope is focused on HVAC, with the voltage level being the defining factor rather than the distinction between IAC and export. While discussing water depth with the FLW JIP Partners, it's important not to limit the consideration to shallow conditions.

		of 132kV dynamic cables concerning environmental conditions, such as maximum water depth?	Instead, we should aim for a realistic depth suitable for floating offshore wind.
4	HiVAS data sharing	Will the findings from the Carbon Trust Hi-VAS Phase 2 project also be provided to the contractor(s) of the 132 DCD project? Both projects may be expected to include analysis of the listed referenced technical standards and brochures in Table A1 of the HiVAS WP9 summary Report.	The Hi-VAS Phase 2 project isn't expected to conclude until Summer 2026, and results will be published at that point, which will be after the 132 DCD project concludes. It may be possible to share some initial relevant outputs of Hi-VAS Phase 2 prior to this, but this will be at the sole discretion of the Hi-VAS Phase 2 partners. We have aligned internally to limit overlaps between the two projects.
5	Scope clarification	In view of the previous question, please could the Carbon Trust clarify the expected differences in project outcomes between the Hi-VAS Phase 2 project and the 132 DCD project given that both projects will occur simultaneously. Is it correct that the primary linked aim of the Hi-VAS Phase 2 project is to support the definition of 132 kV dynamic cable qualification testing, whereas the 132 DCD project aims to provide a detailed roadmap for the entire qualification process for 132 kV dynamic cables?	Yes, your understanding is correct. The Hi-VAS Phase 2 testing programme will provide experimental evidence which will help support the development of new qualification standards for wet-static and dynamic 132 kV cables. The 132 DCD project aims to provide a detailed roadmap to the wider qualification and commercialisation of 132 kV dynamic cables e.g. looking at technical development needs and the next steps needed from the supply chain and developers. Note that the focus of the FLW JIP programme, where this project sits, are floating wind applications.
6	Generic	Does bidding from a US entity have any disadvantages in comparison to bidding from a UK entity?	There is no advantage to bidding via a UK entity or disadvantage to bidding via a US entity.
7	General	Is the roadmap going to be a detailed technical review of the qualification process, with a review and development of the testing methods, or is the roadmap a general review of standards, current	The roadmap does not need to include details behind specific qualification tests, it should highlight which tests are needed and/or recommended. Review of a testing method is beneficial, but no development of tests will be required as part of the existing

		state of the art and supply chain gaps and issues for 132kV Dynamic cables?	scope. A review of the qualification process is the priority and should be considered first. The bidder should propose if and to what level of detail current supply chain gaps and market barriers should be considered.
8	General	A roadmap will in short provide a document for reference to achieve a qualification for the future cable designs that are currently being developed at this time? Or will it be used as a guide to inform where additional work is required to fill knowledge/market gaps? or both?	A qualification roadmap is the priority of this project. The bidder should propose what other gaps should be considered and to what degree, using the provided objectives and budget as a guide.
9	General	Will the project require assessing test updates for electro-mechanical testing for polymer lifetime under both a dynamic electrical load and dynamic mechanical load? Will a recommendation and development of new test methods be part of the scope?	Yes, both dynamic electrical load and dynamic mechanical load should be considered. Recommendation of new tests is part of the scope, but no development of test methods is required.
10	General	Is it correct to state that a large portion of the project will be mainly based on stakeholder engagement on current/foreseeable issues with the development of 132kV dynamic cables and associated equipment?	Yes, that is correct. A large part of the roadmap should be based on stakeholder insights.
11	WP1	Will the literature review be an assessment of all current relevant literature related to the qualification of HV dynamic cables or will it also extend to recent developments looking at static HV cable qualifications?	The focus of this work is the qualification of 132kV dynamic cables. Note that the HiVAS 132 kV array cable requirements and the need for improved testing standards report had a large focus on static cables. This report should focus on the gaps.
12	WP1	Will the gap review extend to market gaps i.e., lack of specialised software for multi-layer cable fatigue life software for 3-core	See question no. 8.

		cables, or lack of available vessels for cable installation at certain site depths to allow for commissioning?	
13	WP1	Will the literature review assess all current testing standards from both a mechanical and electrical design assessment and the manufacturing standards from a detailed technical standpoint or a general high-level review? (See clarification 1)	The bidder should focus on the objective of developing a roadmap for the qualification of future (in development) 132kV dynamic cables. The bidder should provide a recommendation of how they think this should be tackled. Using the objectives and budget as a guide, the bidder should propose the level of detail. This should be sufficient to understand the gaps and the steps and developers and/or the supply chain can take to close them. Both mechanical and electrical aspects should be considered.
14	WP2	Will the bidder be required to develop a list of relevant stakeholders, or will there be a set list based on the JIP and Carbon Trust input?	Once selected, the bidder will be responsible for compiling a list of stakeholders they wish to engage. Therefore, we ask that bidders showcase their stakeholder engagement experience. The Carbon Trust will assist in identifying and addressing any gaps in this list.
15	WP2 & WP3	Is the stakeholder engagement phase going to be focussed on the market requirement of 132kV cables and/or the practical qualification requirements of a 132kV dynamic cable?	See question no. 8 and 13.
16	WP2 & WP3	Will supply chain issues such as cable manufacturing capacity and cable testing laboratory availability be included?	See question no. 8 and 13.
17	WP4	Is the optional scope included in the quoted 130k budget or should that be priced separately? This assessment is quite detailed as ancillary equipment is extensive for dynamic cables (clamps, bend restrictors, clump weight anchors, terminations etc.)	Yes, the optional WP4 scope is included in the quoted £120-130k budget. However, the optional scope deliverables should be a high-level overview and does not need to be as detailed as the roadmap.

<p>18 WP4</p>	<p>Can you please clarify if cost to carry out WP4 (optional) shall be included in "Bid-Price-Calculation-Sheet_0.xlsx"? The text below is clear that the approach shall be provided in the proposal but it is not clear if the cost shall be provided in "Bid-Price-Calculation-Sheet_0.xlsx".</p>	<p>Yes, the costs to carry out WP4 should be included in the proposal. See question no. 17 for further clarification.</p>
<p>19 Requirements for bidders</p>	<p>On page 10 of the Description of Tender document, it states: "Due to the sensitivity of the information, a neutral third party (potentially in a consortium with another bidder) would be preferred to carry out this work." We interpret this to mean that the contractor for this project will act as a neutral third party. Could you please clarify if Carbon Trust expects the involvement of an additional third party apart from the contractor? We want to ensure we fully understand this requirement.</p>	<p>We would prefer that any bidder lacking experience with dynamic cable systems, facing a potential conflict of interest, or competing with groups involved in the stakeholder engagement, partner with an experienced and/or neutral party.</p>

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