Dear Sir/Madam,

Invitation to Tender for the Design of Operational Scale Wind Farm Electrical Architecture project for the Floating Wind Joint Industry Programme

You are invited to submit a proposal for the Design of Operational Scale Wind Farm Electrical Architecture project which is part of the Floating Wind Joint Industry Programme. The key objective of this project is Compare and derisk fishbone and star cable topologies for offshore wind farms, evaluating their advantages, disadvantages, technologies, scalability, failure modes, maintenance protocols, and overall performance in terms of time and cost..

Please be aware that this process is a non-mandatory procurement process, published for transparency and best practice. All timescales are based, as near as possible, to the Open Procedure. However, dates referred to below may be subject to change where this is necessary in the interests of the project (such changes will be notified in advance).

Should your proposal be successful an Award Letter, the Scope of Work, the Carbon Trust Conditions of Contract ("**Conditions**"), and any clarifications agreed in writing, will establish the Contract for the Design of Operational Scale Wind Farm Electrical Architecture project (the "**Contract**") between you and the Carbon Trust. The Conditions accompany this ITT for your prior review. Please note that in the interests of transparency and fairness, these Conditions are non-negotiable, although we will provide clarifications to any queries you may have prior to submitting your Tender, answers to which will be distributed to all bidders as set out below. Bids that fail to accept the Conditions in their full un-amended form (other than changes explicitly accepted and agreed by the Carbon Trust on the clarifications page) at the time of submission will be considered to be non-compliant and may, at the Carbon Trust's discretion, be excluded from the procurement process.

Clarification questions must be emailed to karolina.zieba@carbontrust.com and FloatingWind@carbontrust.com any time before 28 March 2025. Answers to clarification questions will be communicated by 4 April 2025. Answers can be found at: https://www.carbontrust.com/about-us/tenders.

Unless informed to the contrary, Tenders and communications should be sent by e-mail to the following e-mail address: karolina.zieba@carbontrust.com and FloatingWind@carbontrust.com.

Please submit your proposal by 18 April 2025.

The timeline of this procurement process is as follows:

Deadline for clarification questions	28 March 2025
Clarification response date	4 April 2025
Submission of full proposal	18 April 2025
Bidder interviews	Week commencing 5 May 2025
Project kick off	Week commencing 2 June 2025

If you have any questions about the timing, please let us know.

We look forward to receiving your Tender.

Yours sincerely,

Karolina Zieba
For and on behalf of
THE CARBON TRUST

IMPORTANT INFORMATION FOR BIDDERS

Publishing

Neither this document, nor any part of it nor any other information supplied in connection with it may, except with the prior written consent of the Carbon Trust, be published, reproduced, copied, distributed or disclosed to any person for any purpose other than consideration by the recipient of whether or not to submit a Tender.

Tender evaluation

The received tenders will be evaluated by the Carbon Trust and the Floating Wind JIP Partners against the criteria provided in section 7 and the Bidder authorises the Carbon Trust to share its submitted Tender with the Floating Wind JIP Partners for this purpose. A shortlist of Bidders will be created and invited for interview. Carbon Trust will do a vetting of the shortlisted bidders. Carbon Trust may request shortlisted bidders to fill-in a Due Diligence Questionnaire to supply additional information prior to being invited for an interview.

Contracting

Bidders should note that the Scope of Work described in this Invitation to Tender (ITT) does not constitute an offer to contract with the Carbon Trust. It only represents a definition of specific requirements and an invitation to submit a Tender proposal addressing these requirements.

Issuance of this ITT and the subsequent receipt and evaluation of the Tenders by the Carbon Trust does not commit the Carbon Trust to enter into a Contract with any Bidder.

Should Your Tender be successful, a Final Scope of Work that builds upon the Scope of Work contained in section 4 of this document and Your Approach to Work will be mutually agreed between You and the Carbon Trust. Once the Final Scope of Work is agreed, Your offer will be formally accepted by the Carbon Trust issuing an Award Letter, the Final Scope of Work, the Floating Wind JIP Stage III Contractors' Conditions, and any clarifications agreed in writing. The Award Letter, the Final Scope of Work, the Floating Wind JIP Stage III Contractors' Conditions, and any clarifications agreed in writing will establish the Contract for the Design of Operational Scale Wind Farm Electrical Architecture project (the "**Contract**") between You and the Carbon Trust. With the exception of any minor amendments to the Floating Wind JIP Stage III Contractors' Conditions which may be requested by the Bidder, the submission of a Tender shall constitute unqualified acceptance of the Floating Wind JIP Stage III Contractors' Conditions. In the event that minor amendments to the Floating Wind JIP Stage III Contractors' Conditions are requested, such amendments must be clearly stated and the exact alternative wording must be provided in Annex A of the Tender Certificate. Please note that it is at the sole discretion of the Carbon Trust to accept any of the proposed amendments and that the Carbon Trust reserves the right to require the provision of further information in relation to any such request. No minor changes other than those contained in Annex A of the Tender Certificate at the time of submitting the Tender will be considered. No material changes will be considered at any time.

Mechanics of the Tender process

Bidders should also note that:

- it is at the discretion of the Carbon Trust whether to accept any non-compliant Tender or whether to reject any non-compliant tenders without progressing such tenders through the evaluation phase;

- the Carbon Trust reserves the right not to accept the lowest priced Tender or any Tender whatsoever;
- the Carbon Trust reserves the right to accept more than one Tender;
- unless a Bidder makes a formal statement to the contrary, the Carbon Trust reserves the right to accept any part of a Bidder's Tender without accepting the remainder;
- formal notification that a Tender has been successful will be communicated in writing by the Carbon Trust;
- the costs of tendering are the full responsibility of the Bidder; and,
- the pricing set by Bidders shall be valid for a minimum of 90 days.

Bids may be submitted by individuals, companies, organisations or consortia.

Bidders should be aware that dates referred to in this Invitation to Tender may be subject to change where this is necessary in the interests of the Project (such changes will be notified in advance).

The Tender Certificate, Main Bid Document and any correspondence must be written in English. This Invitation to Tender, the Contract, its formation, interpretation and performance is subject to and in accordance with the law of England and Wales.

Conflicts of interest

Bidders should be free of any commercial interests, partnership arrangements or contracts underway or other matters which may present a conflict or potential conflict of interest in respect of the provision of these services. As set out in section 3.1, if a Bidder thinks that it may have any conflict or potential conflict of interest, the Bidder shall describe the details of this conflict and provide details of whether and how it would propose to manage such a conflict in a satisfactory and robust manner in Annex B of the Tender Certificate. The Carbon Trust reserves the right to require the provision of further information in relation to any conflict or potential conflict of interest.

Disclaimer

The information contained in this Description of Tender document and in any documents or information it refers to or incorporates (the "**Disclosed Information**") has been prepared to assist interested parties in deciding whether to submit a Tender. The Disclosed Information is not a recommendation by the Carbon Trust. It does not purport to be all inclusive or include all the information that a Bidder may require.

Neither the Carbon Trust nor any of its directors, employees, agents or advisers makes any representation or warranty (express or implied) as to the accuracy, reasonableness or completeness of the Disclosed Information. All such persons or entities expressly disclaim any and all liability (other than in respect of fraudulent misrepresentation) based on or relating to the Disclosed Information or any subsequent communication. The Bidder should conduct its own due diligence and seek its own professional, legal, financial and other advice as appropriate. The only information which will have any legal effect and/or upon which any person may rely will be such information (if any) as has been specifically and expressly represented and/or warranted in writing to the successful Bidder in any written contract that may be entered into with the Carbon Trust.

Floating Wind Joint Industry Programme

Invitation to Tender for the "Design of Operational Scale Wind Farm Electrical Architecture" Project

Description of Tender

Contents

1. Introduction to the Floating Wind Joint Industry Programme

1.1. The Floating Wind Joint Industry Programme ("**Floating Wind JIP**") is a collaborative R&D initiative between the Carbon Trust and participating industry partners bp, EDF Renouvelables, EnBW, Equinor, Kyuden Mirai Energy, Ocean Winds, Parkwind, RWE Offshore Wind, ScottishPower Renewables, Shell, Skyborn Renewables, SSE Renewables, TEPCO, Tohoku EPCO, TotalEnergies and Vattenfall (the latter are collectively referred to in this document as "**Floating Wind JIP Partners**"), that aims to investigate the challenge and opportunities of developing commercial-scale floating wind farms.

1.2. The objective of the Floating Wind JIP is to overcome technological challenges and advance commercialisation of floating offshore wind.

1.3. Contractors receive technical direction and data from Floating Wind JIP Partners through the Carbon Trust management team.

1.4. Please note, the term "Contractor", where used within this document, refers only to successful bidders.

2. Background and objective of the DOEA project

2.1. The Floating Wind JIP Partners would like to compare and derisk fishbone and star cable topologies for offshore wind farms, evaluating their advantages, disadvantages, technologies, scalability, failure modes, maintenance protocols, and overall performance in terms of time and cost.

2.2. In a daisy chain layout for floating offshore wind farms, turbines are connected in series, with each turbine linked to the next. While this configuration is the most feasible with existing technology, it introduces a potential vulnerability: a failure in one turbine or cable can disrupt the entire chain, affecting the electrical power export of multiple turbines.

This issue is compounded by the current need to tow turbines to port for maintenance and repair, which is both time-consuming and costly. This vulnerability underscores the importance of having robust and resilient electrical architectures to minimise downtime and ensure continuous power generation.

2.3. The main objectives of this work are to:

i) Gain a holistic understanding of advantages and disadvantages of the fishbone and star cable topologies (or architectures, layouts) and how they compare to the traditional daisy chain approach.

ii) Evaluate the constituent technologies of each topology and their scalability.

iii) Analyse the potential failure modes and understand the maintenance protocols.

iv) Determine which topology performs best in terms of time and cost over the wind farm's lifetime.

v) Understand the gaps to qualification, and ultimately de-risking the technology.

3. Tender documents for submission

3.1. In response to this Invitation to Tender, Bidders are required to submit

i. A Main Bid Document (pdf) – no template provided;
ii. The signed Tender Certificate (pdf) – template provided; and
iii. The filled-in Bid Price Calculation Sheet (xls) – template provided.

3.2. The Main Bid Document should be no more than 20 pages excluding appendices and no more than 40 pages including appendices. Font should be clearly legible, and be at least font size 11. The Main Bid Document shall as a minimum include the following information:

i. The Bidder's proposed detailed Approach to Work (see section 4 and criterion 1 for more details). The Approach to Work should:

- include a Gantt chart which describes the timeline for the Project, showing when each Work Package will start and finish;
- outline how the Bidder will deliver the Scope of Work and do so on budget and within the allocated time;
- specify any input data, background IP, hardware or other inputs that the Bidder requires the Carbon Trust and/or the Floating Wind JIP Partners to provide;
- specify any Alternative Work (i.e. substitute activities to take place instead of certain activities outlined in the Scope of Work in section 4). If Alternative Work forms part of the Approach to Work, the Bidder is expected to highlight, explain and justify the intended deviation from the Scope of Work. Alternative Work will be considered as non-optional when the Tender is evaluated; and
- specify any Additional Work (i.e. activities to take place in addition to the activities outlined in the Scope of Work in section 4). If Additional Work forms part of the Approach to Work, the Bidder is expected to explain and justify why the Additional Work would be beneficial and to provide a separate quotation for these activities. It is at the discretion of the Carbon Trust to consider Additional Work in the evaluation of the Tender.

ii. a pdf copy of the filled-in Bid Price Calculation Sheet;
iii. the offered Bid Price, including any cost assumptions deemed relevant by the Bidder – see section 6 and criterion 4 for more details;
iv. an explanation of experience and staff skills, and how these are relevant to the Approach to Work – see criteria 2 and 3 for more details; and
v. supplementary information to provide experience evidence and skills evidence (e.g. CVs) – see criteria 2 and 3 for more details. This information should be provided as appendices to the Main Bid Document.

3.3. The Tender Certificate must be signed by an authorised signatory. Bidders must fill in the provided template.

3.4. The filled-in Bid Price Calculation Sheet must be provided in Excel format in addition to the information provided in the Main Bid Document. See section 6 and criterion 4 for more details.

3.5. The failure by a bidder to submit either the Main Bid Document, the signed Tender Certificate or the filled-in Bid Price Calculation Sheet shall mean that such Tender is a non-compliant Tender.

4. Scope of Work

4.1. The Scope of Work is provided in this section 4.

4.2. The Scope of Work comprises 6 Work Packages (including the Optional Work Package). The Scope of Work sets out the initial ideas on the key activities that the Contractor is expected to deliver for the Project.

4.3. It is expected that the Contractor will report on Project Deliverables to the Floating Wind JIP Partners. The Carbon Trust and the Floating Wind JIP Partners shall review and provide feedback on each Project Deliverable. There will be at least one round of review comments to be accommodated by the Contractor for each Project Deliverable.

4.4. The Final Scope of Work will be agreed between the Carbon Trust and the Contractor when entering into the Contract. The Final Scope of Work may reflect any updates, changes or improvements to the Scope of Work as proposed by the Contractor in its Alternative Work or Additional Work and as agreed by the Carbon Trust.

4.5. Due to the breadth of skills and experience required for the Project bidders may decide to build a consortium to successfully meet the objectives of the Project. If a Tender is submitted by a consortium it is expected that, in the case that the consortium is selected as the preferred Bidder, Carbon Trust will only enter into a Contract with the Project Coordinator, and that the Project Coordinator will subcontract the other members of the consortium.

4.6. The Carbon Trust appreciates that it will take a team of mixed seniority approximately 10 months to complete the Project.

4.7. Bidders should use the Scope of Work as set out below to create the Approach to Work. Any Alternative Work or Additional Work shall be stated in the Approach to Work at the end of the relevant Work Package description.

4.8. It is expected that simplifying assumptions will be required to complete the work in the given timeframe. These assumptions should, to the extent possible at the time of Tender submission, be clearly stated in the Approach to Work. It is expected that during the execution of the DOEA project, any assumptions will be discussed with the Floating Wind JIP Partners prior to the start of each Work Package.

4.9. The Scope of Work includes 1 Optional Work Package. This is a Work Package that the Floating Wind JIP Partners will reserve the right to execute or dismiss during the Project. The Bidder's Approach to Work should address these Optional Work Package, but they should be kept and highlighted as optional in the Bidder's Approach to Work.

WORK PACKAGES

Work Package	Description of work
WP1: Literature review and design philosophy	The contractor should conduct a **literature review of the fishbone, star, and any daisy chain (baseline) cable configurations**. Highlight differences in necessary technologies and components. Assess technology and commercial readiness levels. Market engagement should support the technical and commercial readiness assessment. The deliverability of each system should be considered. At minimum, the literature review should include the OREC Floating Offshore Wind Centre of Excellence Dynamic Cable Connection and Topology Comparison. The aim of the literature review is to try to understand what assumptions have been made in other works regarding failure modes and costs of floating wind cable topologies and critique them. The contractor should provide **clear definitions and evaluate the viability and reliability of each proposed architecture to offshore wind applications, of both smaller, 500MW, projects as well as larger, 1GW, projects**, through stakeholder engagement with cable and connector manufacturers and installers. Again, the contractor should aim to challenge assumptions and conclusions made in other works. Interactions with relevant electrical components should be considered to **provide a comprehensive system view**. HSE risks should also be highlighted. Based on the literature review and stakeholder engagement, the contractor should **define and compare the key CAPEX and OPEX variables of the studied architectures**. This assessment should include estimated costs and consider both 500MW and 1GW wind farms. Each architecture should be contracted to gain insights on: • Differences in the site investigation process and requirements. • Inter array cable type (static/dynamic, cross section area), lengths and number • Installation complexity, including the need for specialised vessels and equipment • Substation requirements • Cable connectors and other accessories (including secondary steel structures). • Connection and disconnection complexity and time, including specialised vessels and equipment (marine spread). Viability of using remote controls should be investigated. • Ease of accessing and repairing equipment. • Differences in cable protection methods. • Vulnerability to environmental conditions, such as wave forces. • The efficiency of power transmission and associated losses. • Availability and reliability *As this work package is largely review, we expect it to take up no more than 10% of the project time and costs.*
Project Deliverables: - **D1.1: Review report consisting of the innovative architectures with the daisy chain configuration, providing a holistic overview of advantages and disadvantages and providing estimated costs. This should inclue a risk assessment.** - **D1.2: Presentation to FLW JIP Partners.**	

WP2: Component evaluation and scalability	**The contractor should evaluate various equipment ratings, including turbine size, array cable rating, and export cable sizing for 500MW and 1GW wind farms**. This evaluation should include the components of each architecture and consider the impact on both CAPEX and OPEX, as well as overall system performance. Cable accessories like CPS and hang-off should be considered. The contractor should: • Assess the technology readiness level (TRL) of the required equipment. • Assess the impact of different turbine sizes (15 MW, 20 MW, and 25 MW) on system performance and costs, • Qualitatively evaluate the capacity and cost implications of 66 kV and 132 kV array cable systems, showing how each architecture may be impacted by increasing the array voltage to 132kV, • Determine the optimal sizing for the export system, considering efficiency and cost. The Contractor should also discuss the scalability of this equipment: • Evaluate the potential for increasing capacity without significant redesign or replacement. • Determine if the equipment can be easily expanded or upgraded, and if it is modular. • Analyse the ease of integrating new technologies into the existing system. • Identify if installation and maintenance protocols would change as a result of larger-scale operations. • Evaluate the impact of deeper water depths.
Project Deliverables: - **D2.1: Comprehensive evaluation of equipment detailing the findings.** - **D2.2: Presentation to FLW JIP Partners.**	
WP3: Failure and maintenance	To determine the risk profile of the star and fishbone topologies compared to the daisy chain topology, the contractor should **conduct a risk assessment** of the topologies and their components. The specific equipment for this risk assessment should be proposed by the Contractor and agreed with the FLW JIP Partners following WP2. Topologies should be analysed to detail the most likely failure modes and vulnerabilities. Efforts should be made to quantify the possibility of these failures. At this point, the Contractor should outline typical maintenance strategies for single vs multiple failures and scheduled vs unscheduled repairs for each of the studied topologies. The similarities and differences in time required and the marine spread are particularly of interest. *Existing knowledge of floating wind maintenance strategies should be demonstrated by the Contractor in the proposal. As failure rates may be sensitive data, the Contractor should clearly break down their strategy to the risk assessment.*

<table>
<tr><td colspan="2">Project Deliverables:
- D3.1: Report covering the topology risk assessment and typical maintenance strategies. This should include a matrix of failure modes identified for each topology, including a critical evaluation of repair time, possible associated marine spread, and frequency of repair.
- D3.2: Presentation to FLW JIP Partners.</td></tr>
<tr><td>WP4: Cost assessment</td><td>The contractor should develop a design basis to assess the architecture that offers the most economical solution for a given project, considering reliability, CAPEX, OPEX, and risks. The design basis should propose a modelling approach, the simulations required, and any calculations. The contractor should suggest and agree on assumptions with the FLW JIP partners regarding turbine repair frequency.

This design basis should be demonstrated by evaluating different architectures. Therefore, the contractor should conduct a cost benefit to understand how the innovative architectures compare to the daisy chain in both 500MW and 1GW wind farms.

Various aspects of all architectures should be analysed and contrasted, including:
• cable length, number and costs,
• the potential cost due to subsea connectors or additional components
• the potential energy production increase resulting from the minimised impact of failures,
• the potential risk of failure of the subsea connector or hub,
• the cost of repairs (ex., retrieving subsea hub by means of vessel).

The contractor should assess the potential cost reductions in large-scale wind farms and economic implications of incorporating subsea connectors and hubs.

This work package is expected to rely heavily on the literature review and stakeholder engagement. The key is to understand and critique the gathered cost assumptions and provide an indication of the CAPEX and OPEX challenges and benefits of using innovative cable topologies.</td></tr>
<tr><td colspan="2">Project Deliverables:
- D4.1: Cost benefit analysis design basis.
- D4.2: Cost benefit analysis excel model.
- D4.3: Cost benefit findinds report evaluating how the innovative architectures compare to the daisy chain in both 500 MW and 1 GW floating offshore wind farms, including all assumptions and inputs used.
- D4.4: Presentation to FLW JIP Partners, illustrating how the cost benefit analysis was calculated and how it can be applied.</td></tr>
<tr><td colspan="2">At this stage, the FLW JIP Partners will decide if WP6 is to move forward. The contractor should not carry out any work on WP6 until a final decision is communicated by the Carbon Trust.</td></tr>
</table>

WP5: Qualification of innovative subsea hardware	From WP2, the Contractor should outline all the subsea hardware required that is different from the daisy chain and prequalification (TRL 7 or below), focusing on the subsea hub. An equipment list should be agreed with the FLW JIP Partners before the Contractor answers the following questions for each piece of equipment: • What are the qualification requirements? Are there established mechanical, electrical, and environmental performance criteria for this technology? Are these aligned among the OEMs and developers? • What are the industry standards (e.g., DNV, IEEE, Cigre) relevant to this technology? Are there any? The Contractor should engage with the supply chain of this subsea hardware to understand the qualification requirements and ensure the process meets their specifications. Specifically, OEMs, installers, testing contractors, and insurers should be engaged.
Project Deliverables: - **D5.1: Report covering the identified equipment and answering the outlined questions.** - **D5.2: Presentation to FLW JIP Partners.**	
WP6 (Optional): Development of a qualification protocol	In this optional work package, the Contractor should create a structured protocol that includes design review, prototype testing, full-scale testing, and long-term reliable testing. Include procedures for each stage, specifying test methods, acceptance criteria, and documentation required. Ensure the protocol covers various operational conditions and failure scenarios. Validate the qualification protocol through stakeholder engagement and ensure it meets all the regulatory and industrial standards.
Project Deliverables: - **D6.1: Structured protocol outlining the statg4s of qualification testing.** - **D6.2: Presentation to FLW JIP Partners.**	
WPA. Project Management	The Bidder should stipulate how it will manage the Project efficiently and effectively. In particular, the following activities should be included (and hence budgeted for) • project management time (including sufficient time for review processes); • regular update calls with the Carbon Trust Project Manager and/or Floating Wind JIP Parties as required; • the preparation of monthly flash reports (Carbon Trust template) containing key financial data and information of the delivery status of the Project; and • towards the end of the Project ○ the production of a 3-10 pages Executive Summary Report for the entire Project (for dissemination within the Floating Wind JIP);

	○ the preparation of a Project Closeout Form (Carbon Trust template) which includes a short summary of areas for future research and a documentation of all Project Deliverables; ○ the preparation of a final presentation to the Floating Wind JIP Parties ; ○ time dedicated to presenting the main results, findings and outcomes of the Project in the form of a 1-hour webinar to the Floating Wind JIP Parties; and ○ the provision of inputs for the Floating Wind JIP Cost Model by completing the Floating Wind JIP Cost Model Input Sheet (Carbon Trust template). Bidders should be aware that the Carbon Trust and the Floating Wind JIP Parties usually require 2-3 weeks to review and provide feedback on each Project Deliverable, with at least one round of review comments to be accommodated. This should be considered when calculating Your Bid Price. **Engagement with different stakeholders through questionnaires, meetings or workshops is encouraged where it is needed. Relevant stakeholders should be engaged at various stages of the project. The contractor should suggest what kind of stakeholders (who should we engage?) and engagement (how should we engage with them?) is needed for the project to succeed. FLW JIP has set up a stakeholder Advisory Group, which should be used in addition to, not instead of, the contractor's own engagement activities. An engagement plan should be clearly defined in the proposal document, including costs.**
Project Deliverables: - **DA.1: Monthly flash reports** - **DA.2: Executive Summary Report** - **DA.3: Final presentation** - **DA.4: Delivery of webinar** - **DA.5: Project Closeout Form** - **DA.6: Input sheet for Floating Wind JIP Cost Model**	
Expenses	The Bidder should detail the amount of expenses it expects to incur throughout the Project. Expenses will be paid as incurred up to the amount specified and any unused balance will not be paid.

5. Intellectual Property, Knowledge and Input Data

5.1. Full details of the intellectual property requirements and conditions can be found in the attached Floating Wind JIP Stage III Contractors' Conditions.

5.2. The Carbon Trust and/or the Floating Wind JIP Partners are able to make available the following input data, background IP or other resources to the successful Bidder for the purposes of the completing the Project, subject to the confidentiality conditions in the Floating Wind JIP Stage III Contractors' Conditions:

a) None

5.3. **Subcontractors and consortium bids**: It is the discretion of the bidder if they choose to engage third parties to support delivery of a prospective project. The bidder is responsible for agreeing and enforcing any required contractual agreements related to project delivery, which include the flow down of the contractors' conditions assigned to this ITT

5.4. **Access to modelling data & previous project deliverables**: Unless specifically stated within the scope of work the bidder should not anticipate receiving previous Floating Wind JIP deliverables to support with their delivery of the project and should cost their bid submissions accordingly. For projects requiring modelling, the Floating Wind JIP 15MW reference turbine OrcaFlex files will be shared with the bidder to support with delivery. It should be assumed that no further modelling files or data sets will be shared unless otherwise stated in the scope of work and bidders should cost their bid submissions accordingly.

5.5. **Stakeholder Engagement**: As outlined within criterion 3 contractors are required to have relevant relationships to enable delivery of the project. Although the Floating Wind JIP partners as well as organisations within the Floating Wind Advisory Group will provide some form of engagement to the project this should not be relied upon solely. The bidder should have the necessary contacts in place to ensure they are able to obtain the required input to ensure delivery of the project. When engaging with third parties (including innovators) the bidder is required to ensure sufficient data sharing and non-disclosure agreements are in place to meet the requirements of the scope of work.

6. Bid Pricing

6.1. To provide Bidders with greater clarity on the nature, level and type of work involved in the various Work Packages, the Total Budget for the delivery of this Project is expected to range between £140,000 and £150,000.

6.2. The Bid Price submitted with the Tender must be derived from the cost breakdown in the Bid Price Calculation Sheet and must include all expenses. The Bid Price is the price for the activities that will address the Scope of Work (and any Alternative Work proposed by the Bidder). The Bid Price Calculation Sheet and the Bid Price shall not include the price of any Additional Work suggested by the Bidder. Instead, the price for such Additional Work Packages shall be stated separately to the Bid Price in the Main Bid Document.

6.3. If the Bid Price exceeds the expected range of the Total Budget as stated under section 6.1, to avoid receiving a lower score for criterion 4, in the Main Bid Document the Bidder should provide a clear and justified reason why the Bid Price exceeds the expected budget.

6.4. All costs and rates quoted in the Main Bid Document and Bid Price Calculation Sheet must be in GBP (£) and all staff rates quoted in the Tender must represent the Day Rate for employment of staff members.

6.5. Any expenses must be separately included under Expenses.

7. Tender Evaluation Criteria

Bidders should take the following evaluation criteria into account when preparing and submitting their Tenders. In the event of equivalent scores of two or more received Tenders, suppliers and sub-contractors who have committed to decarbonisation targets (see end of this section) will be preferred.

CRITERION 1: APPROACH TO WORK (WEIGHTING: 30%)

Description	Information required from bidders
Proposed Approach	In the Main Bid Document, Bidders are required to provide a clear and detailed description on how they plan to deliver the work for this Project. The description should include an initial overview on the approach followed by a description on how each Work Package and task will be delivered. Also, Bidders need to justify how their proposed approach meets the objectives of the Project.
Additional Work	If there is any Additional Work proposed by the Bidder, these aspects will be evaluated separately. The suggestion of Additional Work by the Bidder will not have a negative impact on the evaluation of the Tender.
Project management	Bidders are required to describe how they will manage the project utilising appropriate resources and describe how they will work with the various stakeholders to acquire information and manage potentially conflicting relationships.

CRITERION 2: EXPERIENCE (WEIGHTING: 30%)

Description	Information required from Bidders
Experience in and knowledge of technology evaluation, including risk assessment, failure mode analysis, and techno-economic analysis.	In the Main Bid Document, Bidders should elaborate on experience of the criteria described to the left and explain how these past experiences are relevant for this Tender. In addition, Bidders should provide at least two examples (with reference to specific roles, responsibilities and activities the Bidder undertook) of previous work which illustrates the Bidder's skills, capabilities, and experience in all of these areas (Bidders may wish to make reference to submitted examples of previous work for other clients). Bidders are advised that experience is considered a key important criterion and partnerships with other companies to support certain areas of experience are welcomed. All experience / case studies should be attached as an appendix to the Main Bid Document.
Experience in and knowledge of floating offshore wind, subsea cable topology design, and maintenance strategies.	
Experience in and knowledge of technology qualification.	

CRITERION 3: STAFF SKILLS (WEIGHTING: 15%)

Description	Information required from bidders

CVs/Resumes	Bidders are required to provide detailed CVs/Resumes for any key personnel who will be involved with this Contract together with proposed Project structure, intended position of the key personnel in the Project, and main responsibilities. CVs should include professional memberships of proposed staff working on this Project.
Applicable skills	Bidders should elaborate on the most relevant skills of the key personnel that will be involved in the Project.
Prior experience from involved staff	Please include examples of similar work performed by the proposed staff members, explaining how is relevant to the Approach to Work.
Expert engagement	A close working relationship with key stakeholders such as original equipment manufacturers (OEMs), academic institutions and research centres, standards organisations, as well as the Floating Wind JIP Parties are seen relevant to the success of this Project. Please supply ideas of how these groups can be engaged and leveraged.

CRITERION 4: BID PRICE (WEIGHTING: 25%)

Description	Information required from bidders
Day rates and man hours (man-h) for all staff grades	In the Bid Price Calculation Sheet, Bidders are required to provide day rates for all staff grades and to input the man-h involved in each Work Package
Price for the delivery of the Project	In the Bid Price Calculation Sheet, Bidders are required to provide a cost breakdown by Work Package, including man hours and day rates of personnel completing the work as specified in section 4. Bidders are required to specify expected expenses separate from the estimated budget for each Work Package. The Bid Price will be assessed on the price for the Approach to Work (which includes the price of the Work Packages in the Scope of Work and any Alternative Work proposed by the Bidder). If there is any Additional Work proposed by the Bidder, this will be evaluated separately. The suggestion of Additional Work by the Bidder will not have a negative impact on the evaluation of the Tender. Carbon Trust will reimburse reasonable expenses at cost and receipts may be requested. Pre-approval will be required for travel costs over £150 per return journey and combined hotels & subsistence cost exceeding £200 per day. Bidders will be required to confirm or comment on their ability to carry out the activities detailed in the Scope of Work within the initial term of the Contract and provide an outline plan of work.

The Carbon Trust has committed to reaching Net Zero by 2050. Our associated targets have been validated by the Science Based Targets Initiative (SBTi)[1]. To meet the initial targets that we have set for ourselves, we encourage all our suppliers and sub-contractors to themselves have equivalent plans in place by 2026 at the latest. Measuring your emissions, setting targets, and encouraging others to do so will help push the needle on decarbonisation together.

Accordingly, we have included climate change commitment clauses in the Floating Wind JIP Stage III Contractors' Conditions. Bidders may submit Tenders even if they cannot meet the defined conditions now, but if this is the case this should be clearly flagged in the Tender Certificate as a requested change to the Floating Wind JIP Stage III Contractors' Conditions. Please reach out if you need more information on this.

[1] https://sciencebasedtargets.org/

8. Glossary

Approach to Work	Has the meaning set out in section 3.1.
Additional Work	Any activities that are proposed by the Bidder in addition to those in the Scope of Work. It is at the discretion of the Carbon Trust to consider Additional Work in the evaluation of the Tender. The suggestion of Additional Work by the Bidder will not have a negative impact on the evaluation of the Tender.
Alternative Work	Deviations from the Scope of Work that are proposed by the Bidder, which replace work or tasks in the Scope of Work. Alternative Work will be treated as non-optional in the evaluation of the Tender.
Award Letter	A letter, issued by Carbon Trust, informing the Contractor about the award of the Contract. The Award Letter is issued together with the Final Scope of Work and the Floating Wind JIP Stage III Contractors' Conditions.
Bidder	An individual, a company, an organisation or a consortium submitting a bid for the Project.
Bid Price	The total price for the Bidder to complete the Project in line with the Approach to Work. The Bid Price shall include the price for the delivery of all Work Packages described in the Scope of Work and any Alternative work proposed by the Bidder. The Bid Price shall not include the price of any Additional Work suggested by the Bidder.
Bid Price Calculation Sheet	An Excel template provided by the Carbon Trust that is to be provided by the Bidder in addition to the Main Bid Document.
Carbon Trust Project Manager	The Carbon Trust employee who serves as first point of contact in relation to this ITT and the Project.
Clarification Document	A document containing all received clarification questions and Carbon Trust's responses to these questions.
Contract	A document consisting of the Award Letter, the Final Scope of Work, the Floating Wind JIP Contractors' Conditions, and any clarifications agreed in writing.
Contractor	The Bidder (or in the case of a consortium, Bidders) selected for the delivery of the Project.
Description of Tender	This document.
Due Diligence Questionnaire	A questionnaire that is to be completed by shortlisted Bidders should Carbon Trust's bidders vetting process give reason to conduct a due diligence. In case of a consortium, the Due Diligence Questionnaire is to be filled-in by the designated Project Coordinator.

Executive Summary Report	A 3-10 pages report containing a high-level description of the Work Programme and a summary of the relevant results, findings and conclusions of the Project. Information can be taken from summaries written for previous Work Packages
Final Scope of Work	The agreed Work Programme for the Project, based on the Scope of Work and the Approach to Work, which is mutually agreed between the Carbon Trust and the Contractor.
Flash Report	A template provided by the Carbon Trust at Project start.
Floating Wind JIP	Floating Wind Joint Industry Programme
Floating Wind JIP Partners	A group of leading offshore wind farm developers supporting the Floating Wind JIP.
Floating Wind JIP Cost Model	The Contractor is not expected to produce a cost model of its own, but rather provide an estimate, with appropriate explanation, for potential cost implications of the research undertaken within the frame of the delivered project. The Carbon Trust will provide a template to assist the Contractor in this process.
Floating Wind JIP Cost Model Input Sheet	A form (to be provided by Carbon Trust) which the Contractor should complete in WPA to provide input into the Floating Wind JIP Cost Model. I
Invitation to Tender (ITT)	The following group of documents: Description of Tender (this document); Floating Wind JIP Stage III Contractors' Conditions; Tender Certificate template; Bid Price Calculation Sheet template; and Clarification Document (if applicable[2]).
Main Bid Document	Has the meaning given in section 3.1. No template is provided.
Project	The Design of Operational Scale Wind Farm Electrical Architecture or DOEA project.
Project Closeout Form	A template provided by the Carbon Trust towards the end of the Project.
Project Deliverables	The individual deliverables including, but not limited to, any reports, technical notes, documents, drawings, models, data, webinars to be produced by the Contractor according to the Scope of Work (see section 4) or as otherwise agreed in the Final Scope of Work.

[2] A Clarification Document will not be published if no clarification questions are received in relation to this ITT.

Scope of Work	The (preliminary) Work Programme for the Project as defined in section 4 of this document. At Contract award, the Scope of Work will be replaced by the Final Scope of Work.
Tender	Bidder's response to this ITT consisting of the following elements: - Main Bid Document (proposal); - signed Tender Certificate; and - Bid Price Calculation Sheet
Tender Certificate	A declaration that is to be provided by the Bidder (in case of a consortium: by the designated Project Coordinator) in addition to the Main Bid Document.
Total Budget	The expected amount of money available that will be made available from the Floating Wind JIP to the Contractor for the delivery the Project.
Work Package	A group of related tasks to be delivered under the Project.
Work Programme	The entirety of all Work Packages.