

24/03/2026

Dear Sir/Madam,

Invitation to Tender for the Integrated Digital Twins and AI Technology for Floating Wind O&M project for the Floating Wind Joint Industry Programme

You are invited to submit a proposal for the Integrated Digital Twins and AI Technology for Floating Wind O&M project which is part of the Floating Wind Joint Industry Programme. The key objective of this project is to understand how Integrated Digital Twins and AI Technology can be integrated a part of floating wind operations & maintenance (O&M) strategies.

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 Integrated Digital Twins and AI Technology for Floating Wind O&M 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 alistair.morris@carbontrust.com and FloatingWind@carbontrust.com any time before COB 5pm BST 07/04/2026. Answers to clarification questions will be communicated by W/C 13/04/26. 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: alistair.morris@carbontrust.com and FloatingWind@carbontrust.com.

Please submit your proposal by COB 5pm BST 01/05/2026.

The timeline of this procurement process is as follows:

Deadline for clarification questions	COB 5pm BST 07/04/2026
Clarification response date	W/C 13/04/26
Submission of full proposal	COB 5pm BST 01/05/2026
Bidder interviews	W/C 18/05/26
Project kick off	W/C 22/06/26

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

We look forward to receiving your Tender.

Yours sincerely,

Alistair Morris
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 Integrated Digital Twins and AI Technology for Floating Wind O&M 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, 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 “Integrated Digital Twins and AI Technology for Floating Wind O&M”(DTAI) Project

Description of Tender

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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 Renewables, 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 DTAI project

- 2.1. The Floating Wind JIP Partners would like to investigate how Integrated Digital Twins and AI Technology can be integrated a part of floating wind operations & maintenance (O&M) strategies.

2.2. Background:

Although floating offshore wind (FoW) is gaining momentum, the sector remains at an early commercial stage. Development so far has centred on proving the concept of FoW, with only a limited number of signal until demonstrations and small commercial scale arrays, operating for up to eight years. As the industry advances toward its first larger scale commercial projects (500MW plus), reducing LCOE and effective monitoring becomes increasingly important. While advanced digital solutions for operations and maintenance offer a significant opportunity to achieve these points, the limited operational history of FoW creates uncertainty around failure modes, suitable condition monitoring approaches, and the overall value proposition of such technologies.

Traditional offshore wind O&M remains largely reactive, leading to higher downtime, limited predictability, and escalating costs. A risk-based approach to maintenance and asset management enables operators to better anticipate failures, enhance safety, and deploy resources more efficiently. Integrated digital twins provide real time virtual models of floating assets, supporting continuous condition monitoring and detailed performance analysis. When

combined with artificial intelligence (AI), these systems can process large volumes of operational data to detect emerging issues, optimise maintenance schedules, and improve asset performance. This is particularly important given the added complexity of floating platforms, which move in six degrees of freedom, depend on mooring systems for station keeping, and require dynamic cables. These factors distinguish them from fixed bottom wind and increase the need for robust monitoring and predictive maintenance capabilities. At this stage, it is also unclear what “best practice” will look like for commercial scale FoW, with varying approaches proposed across hardware, software, and data management and integration.

2.3. Objectives:

This project aims to understand how digital twin and AI technologies can support practical, risk-based maintenance (RBM) for floating wind assets.

- **Map current technologies** (hardware, software, and data management & integration): Identify the latest digital twin, monitoring, data, and AI solutions relevant to floating wind, with a focus on state-of-the-art tools, existing gaps, and lessons transferable from fixed bottom offshore wind, Oil & Gas (O&G), and other relevant sectors. This should cover applications related to floating platforms, mooring systems, and dynamic cable systems, and include different digital twin philosophies (physics based, data/Machine Learning (ML) driven, and hybrid physics ML approaches).
- **Develop practical data and analytics approaches:** Describe how real time data and analytics can be applied to enhance asset performance, safety, reliability, and lifespan. The emphasis is on simple, credible, operations focused applications that can be integrated into existing project development and design activities.
- **Understand the business case:** Assess the potential costs of implementation and the associated benefits, including impacts on downtime and uptime, safety, and technical risk.

2.4. Notes:

Terminology notes: In this document, “technology” is used as an umbrella term covering:

1. Hardware (e.g., sensors and autonomous inspection platforms).
2. Software (e.g., condition monitoring, digital twins, analytics/AI).
3. Data management & integration (e.g., pipelines, storage, interoperability and governance).

Acronyms

- AI – Artificial intelligence
- AUV – Autonomous Underwater Vehicle
- CAPEX – Capital expenditure
- CMMS – Computerised Maintenance Management System
- DTAI – Digital Twins and AI (project tagline)
- FoW – Floating offshore wind
- FLWJIP – Floating Wind Joint Industry Project
- JIP – Joint Industry Project
- LCOE – Levelised cost of energy
- ML – Machine learning
- MRU – Motion Reference Unit
- MW – Megawatt

- O&G – Oil and gas
- O&M – Operations and maintenance
- OEM – Original Equipment Manufacturer
- OPEX – Operational expenditure
- OT – Operational technology
- RBM – Risk-Based Maintenance
- ROV – Remotely Operated Vehicle
- SCADA – Supervisory Control and Data Acquisition
- TRL – Technology Readiness Level
- UAV – Uncrewed Aerial Vehicle
- USV – Unmanned Surface Vehicle
- WP – Work package

Other notes:

The project budget is estimated at approximately £100K and the work is expected to run for 8 months.

Carbon Trust may share relevant material from previous projects to avoid duplication.

Carbon Trust is also open to discussing and considering alternative approaches proposed by contractors where these could strengthen the delivery or value of the work.

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 3 Work Packages. 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 approximately 8 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 DTAI project, any assumptions will be discussed with the Floating Wind JIP Partners prior to the start of each Work Package.

WORK PACKAGES

Work package	Description of work
<p>WP1: Stakeholder and state of art review</p>	<p>Contractors should develop a clear and comprehensive understanding of the current landscape of digital twin development, monitoring technologies, data practices, and AI enabled solutions relevant to FoW. The review should incorporate insights from fixed bottom offshore wind, Oil & Gas (O&G), and other adjacent sectors, and explicitly distinguish between different digital twin philosophies (physics based, data/ML driven, and hybrid approaches). The review must focus on four core areas:</p> <ul style="list-style-type: none"> • Sensor hardware technologies (e.g., cameras, strain/load sensors, MRUs, acoustic/vibration sensors) • Autonomous inspection hardware (e.g., USV/UAVs, drones, ROVs/AUVs, robotic inspection systems) • Software for condition monitoring and digital twin development, including analytics and AI/ML. • Data management and integration, including pipelines, storage, interoperability, data quality, governance, and cybersecurity. <p>This work package combines a structured literature review with targeted stakeholder engagement to determine the state of the art, identify key knowledge gaps, and define credible development pathways.</p> <p>Key Tasks</p> <ul style="list-style-type: none"> • Conduct a structured literature review and targeted stakeholder engagement. • Map existing solutions, suppliers, and maturity levels across the four focus areas, identifying key gaps. • Characterise and compare digital twin approaches, outlining data requirements, validation needs, strengths/limitations, and suitable applications across FoW subsystems. • Evaluate monitoring and inspection architectures (sensor placement, inspection frequency, autonomous vs crewed inspection models, and integration with OEM/SCADA/CMMS workflows). • Identify data management and integration constraints (availability, quality, latency, interoperability, governance, cybersecurity). • Synthesize analytics, condition monitoring, and digital twin software capabilities (including AI/ML) to determine what is credible today, where evidence is lacking, and what development is required for operational readiness.

	<p>Matrix Driven Assessment Framework</p> <p>A core output of WP1 is a matrix driven assessment framework providing a structured, systemwide view of digital monitoring, digital twin, data, and AI applicability for floating offshore wind. The matrix should:</p> <ul style="list-style-type: none"> • Clearly define the intended axes, system areas, and the TRL/commercial maturity scale. • Assess each FoW subsystem (e.g., moorings, dynamic cables, hull, tower, nacelle, blades, sensors). • Benchmark transferable lessons from adjacent industries and identify floating specific innovation needs. • Present technology maturity, risk exposure, data requirements, and AI applicability in a consistent, comparable way. <p>The final matrix must be accessible to non-specialists, providing a clear visual summary of current capabilities, gaps, and priority development pathways. This will guide the focus of subsequent work packages and ensure strong alignment across the project.</p>
<p>Project deliverables:</p> <ul style="list-style-type: none"> - D1.1: Stakeholder and literature review report with Matrix-based assessment. - D1.2: Presentation of findings to the FLWJIP partners at an update meeting. 	
<p>WP2: Practical data & analytics approaches. AI Integration (with real time data).</p>	<p>WP2 focuses on how real-time data and analytics can be practically applied to improve asset performance, safety, reliability, and lifespan for floating offshore wind (FoW). It will also explore how AI and ML techniques can be integrated with real-time operational data to generate clear, actionable insights.</p> <p>The emphasis is on simple, credible, operations focused methods that can be embedded into existing project development and O&M processes without requiring major new infrastructure or expertise.</p> <p>Key Tasks</p> <ul style="list-style-type: none"> • Identify practical analytics applications that deliver operational value (e.g., early warning indicators, anomaly detection, condition/risk metrics). • Define simple, implementable workflows showing how real-time data is collected, processed, and used to support decisions. • Assess feasibility in terms of data availability, quality, integration needs, and operational constraints. • Address how methods can be adapted under data sparse conditions (e.g., limited SCADA history and sparse failure labels typical of early FoW projects), including approaches such as physics informed features, transfer learning, Bayesian/uncertainty aware methods, and structured expert elicitation. • Explain how outputs support operations, including maintenance planning, risk reduction, and performance optimisation.

	<ul style="list-style-type: none"> • Develop a minimum of 3 clear, straightforward use case examples showing how these data driven methods could be applied today within existing FoW projects. Each use case should specify the target system area (including moorings and/or dynamic cables where relevant), available data inputs/assumptions (including data sparse conditions), analytics method, operational decision supported, and limitations/validation needs, and should be reviewed by partners prior to finalisation. <p>Outcome A set of practical, real-time data and analytics approaches that can be adopted within current FoW development and operations. WP2 acts as a direct bridge between the technology insights developed in WP1 and the adoption/value assessment in WP3.</p>
<p>Project deliverables:</p> <ul style="list-style-type: none"> - D2.1: Real-time AI integration feasibility assessment. - D2.2: Minimum of 3 conceptual use-cases/scenarios (with defined data assumptions) to be reviewed and approved by partners. - D1.2: Presentation of findings to the FLWJIP partners at an update meeting. 	
<p>WP3:Technology Adoption, RBM Integration & Cost/Value Assessment</p>	<p>This work package builds directly on the outputs of WP2. WP3 evaluates how real-time data, analytics, and digital twin methods can be operationally adopted within a Risk-Based Maintenance (RBM) framework for commercial scale floating offshore wind (FoW). The work focuses on organisational readiness, practical integration into O&M workflows, and the evidence-based value of digital enabled maintenance approaches, using the three WP2 use case scenarios as explicit inputs.</p> <p>Key tasks:</p> <ul style="list-style-type: none"> • Assess organisational and operational readiness (skills, workflows, governance, data access, vendor/OEM models), including cybersecurity and data governance as practical barriers to AI/OT integration. • Define how digital insights support RBM processes (inspection prioritisation, predictive scheduling, condition/risk indices). • Develop case studies comparing digital-enabled vs conventional O&M approaches, with clearly stated boundaries (minimum: mooring systems and dynamic cable systems, with other system areas optional if evidenced) and explicit data assumptions/availability. The case studies should include: <ul style="list-style-type: none"> (i) CAPEX implications (e.g., sensors/instrumentation, communications, data infrastructure and software enablement), (ii) Certification- and regionally compliant OPEX models for planned and unplanned maintenance (vessels, manpower, task durations, downtime, access constraints and costs),

	<p>(iii) A risk assessment for each O&M strategy to quantify impacts on safety, availability and cost (including risk exposure and LCOE effects).</p> <p>1.</p> <ul style="list-style-type: none"> Produce a clear integration roadmap outlining short, medium, and long-term steps for digital adoption in FoW, with a minimum level of granularity covering specifying people/process, data/integration, and toolchain steps required to implement RBM. <p>Outcome: A practical adoption strategy supported by an evidence-based benefits case.</p>
<p>Project deliverables:</p> <ul style="list-style-type: none"> D3.1: Technology adoption and RBM integration assessment. D3.2: Case studies: CAPEX/OPEX, performance, and risk impacts. D3.3: Implementation roadmap and benefits case. D3.4: Presentation of findings to FLWJIP partners. 	
<p>WPA: Project management</p>	<p>The contractor should stipulate how they will manage the project efficiently and effectively. This should include specific costs for project management time, including update calls with the Carbon Trust Project Manager as required.</p> <p>This should also include the production of an executive summary of the whole project, for internal dissemination. Carbon Trust will provide the template for this. The budget should also accommodate the production of a final presentation and time dedicated to presenting this in the form of a short webinar to invitees from the developers of the Floating Wind JIP.</p> <p>Finally, if appropriate, resource should also be allocated to provide inputs into the 'Floating Wind JIP Cost Model'. The contractor is not expected to produce a cost model of its own, but rather provide guidance on the effect of the research on inputs to the 'Floating Wind JIP Cost Model'.</p>
<p>Project deliverables:</p> <ul style="list-style-type: none"> 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 	
<p>WPB. Expenses</p>	<p>The contractor should detail the capped amount of expenses it expects to incur throughout the project. Expenses will be paid as incurred and any unused balance will not be paid.</p>

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. **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
- 5.3. **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.
- 5.4. **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 be in the region of £100k.
- 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: 35%)

Description	Information required from bidders
Proposed Approach	<p>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.</p> <p>The description should include an initial overview on the approach followed by a description on how each Work Package and task will be delivered.</p> <p>Also, Bidders need to justify how their proposed approach meets the objectives of the Project.</p>
Additional Work	<p>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.</p>
Project management	<p>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.</p>

CRITERION 2: EXPERIENCE (WEIGHTING: 30%)

Description	Information required from Bidders
<p>Experience / knowledge in:</p> <p>Floating offshore wind and O&M/RBM</p> <p>Digital twin expertise</p> <p>AI/analytics with operational (real-time) data</p> <p>Sensors + inspection technology knowledge</p> <p>Data management, integration, and cybersecurity</p>	<p>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.</p> <p>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).</p> <p>Bidders are advised that experience is considered a key important criterion and partnerships with other companies to</p>

<p>Experience/knowledge in Techno-economic and value-case capability Stakeholder engagement & synthesis</p>	<p>support certain areas of experience are welcomed. All experience / case studies should be attached as an appendix to the Main Bid Document.</p>
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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 engineers, certification/assurance bodies, offshore wind farm developers, original equipment manufacturers (OEMs) - (cables, foundations, mooring systems, turbines); subsystem specialists; O&M specialists; sensor and condition-monitoring specialists; autonomous inspection providers; data/IT/OT teams; cybersecurity stakeholders; adjacent-industry SMEs; as well as the Floating Wind JIP Parties—is considered relevant to the success of this Project. Please provide ideas on how these groups can be engaged and leveraged.

CRITERION 4: BID PRICE (WEIGHTING: 20%)

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.

	<p>Bidders are required to specify expected expenses separate from the estimated budget for each Work Package.</p> <p>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).</p> <p>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.</p> <p>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.</p> <p>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.</p>
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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 Integrated Digital Twins and AI Technology for Floating Wind O&M or DTAI 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: <ul style="list-style-type: none"> - 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.