

26/03/24

Dear Sir/Madam,

Invitation to Tender for the Standardised SCADA Process project for the Carbon Trust's OWA Programme

You are invited to submit a Tender for the Standardised SCADA Process project (the "SSP project" or "Project") which is part of the Offshore Wind Accelerator (OWA) programme. The key objective of the Project is to dive into the statistical fundamentals of analysing already pre-processed SCADA data to ensure that data processing and filtering is appropriate to the physical processes taking place and models being compared. It is not attempting to redefine how individual turbine SCADA data should be cleaned as this is already well established for the purposes of power performance tests etc. Instead, it should be assumed that pre-existing and available processes and, ideally, codes can be leveraged in the first instance to produce a SCADA dataset that can be interrogated for the purposes of model testing.

The Invitation to Tender (ITT) consists of the following documents:

- Description of Tender (this document);
- OWA Stage IV Contractors' Conditions;
- Tender Certificate (Word template);
- Bid Price Calculation Sheet (Excel template);
- Clarification Document (if applicable¹); and,
- Project Closeout Form (for information purposes only – no need to complete now).

Unless informed to the contrary, tenders and communications shall be sent by e-mail to the following e-mail address: neil.adams@carbontrust.com

Tenders must be submitted before 02/05/24 14:00 GMT. Any tenders received after this date and time will be deemed non-compliant.

Your Tender must consist of the following, the contents of which are described further below:

- Main Bid Document (pdf) – template not provided;
- Signed Tender Certificate (pdf) – template provided; and,
- Bid Price Calculation Sheet (xls) – template provided.

The timeline of this procurement process is as follows:

Deadline for clarification questions	11/04/24
Clarification Document published ¹	15/04/24
Submission of full Tender	02/05/24 14:00 GMT
Bidder interviews	21/05/24
Successful Contractor announcement	28/05/24
Envisaged Contract award date	11/06/24

¹ A Clarification Document will not be published if no clarification questions are received in relation to this ITT.

Please e-mail any clarification questions, including questions about the timing of this ITT, to neil.adams@carbontrust.com any time before 11/04/24. The complete set of clarification questions and all answers to clarification questions will be published in the Clarification Document on our website by 15/04/24 and will hence be visible to all potential Bidders: <https://www.carbontrust.com/news-and-events/tenders>

For information about the OWA programme, please see the Carbon Trust's website: <https://www.carbontrust.com/our-projects/offshore-wind-accelerator-owa>

We look forward to receiving your Tender.

Yours sincerely,

.....
Neil Adams
For and on behalf of **THE CARBON TRUST**

THE CARBON TRUST OFFSHORE WIND ACCELERATOR

Invitation to Tender for the “Standardised SCADA Process” Project

Description of Tender

Contents

1. Introduction to the Offshore Wind Accelerator.....	7
2. Background and objective of the SSP project	8
3. Tender documents for submission.....	11
4. Scope of Work.....	12
5. Intellectual Property, Knowledge and Input Data	15
6. Bid Pricing	16
7. Tender Evaluation Criteria.....	17
8. Glossary.....	20

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 republished, 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 OWA Partners against the criteria provided in section 7 and the Bidder authorises the Carbon Trust to share its submitted Tender with the OWA 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 contained in section 4 of this document 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 addressing these requirements.

Issuance of this Invitation to Tender 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 OWA Stage IV Contractors' Conditions, and any clarifications agreed in writing. The Award Letter, the Final Scope of Work, the OWA Stage IV Contractors' Conditions, and any clarifications agreed in writing will establish the Contract for the Standardised SCADA Process project (the "**Contract**") between You and the Carbon Trust. With the exception of any minor amendments to the OWA Stage IV Contractors' Conditions which may be requested by the Bidder, the submission of a Tender shall constitute unqualified acceptance of the OWA Stage IV Contractors' Conditions. In the event that minor amendments to the OWA Stage IV 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 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.

1. Introduction to the Offshore Wind Accelerator

- 1.1 The Offshore Wind Accelerator (“**OWA**”) is an industry-driven collaborative research, development and demonstration programme which was initially launched by the Carbon Trust in 2008 in collaboration with five offshore wind developers. The programme has since expanded during OWA Stages I, II, III and IV to include currently nine offshore wind developers from various countries within the European Economic Area (the “**OWA Partners**”). At the time of issue of this Invitation to Tender the OWA Partners are: SSE Renewables Developments (UK) Limited, Ørsted Wind Power A/S, RWE Offshore Wind GmbH, ScottishPower Renewables (UK) Limited, Equinor ASA, Vattenfall Vindkraft A/S, EnBW Energie Baden-Württemberg AG, Shell Global Solutions International B.V. and TotalEnergies OneTech.
- 1.2 OWA Stage IV aims to continue the cost reduction of offshore wind to make it cost competitive with other sources of energy generation, overcome market barriers, develop industry best practice, trigger the development of new industry standards and support the international expansion of offshore wind.
- 1.3 Research under the OWA currently falls into five research areas: Cables, Electricals, Foundations, Logistics and O&M, and Energy Yield & Performance. Research, development and demonstration projects are carried out in each of the five research areas to address technology challenges. This Invitation to Tender is related to the OWA research area Yield & Performance .
- 1.4 Each of the five research areas is managed by the Carbon Trust and governed by a Technical Working Group (“**TWG**”) consisting of technical experts appointed by the OWA Partners. The TWG Yield & Performance will supervise the Project, provide technical direction and guidance to the Contractor (where needed) and review the Project Deliverables, findings and other outcomes.
- 1.5 Please note, the term “Contractor”, where used within this document, refers only to the successful Bidder or, in the event that the Contract is awarded to a consortium, the successful Bidders.

2. Background and objective of the SSP project

2.1 The OWA TWG Yield & Performance would like to investigate the statistical fundamentals of analysing already pre-processed SCADA data to ensure that data processing and filtering is appropriate to the physical processes taking place and models being compared. It is not attempting to redefine how individual turbine SCADA data should be cleaned as this is already well established for the purposes of power performance tests etc. Instead, it should be assumed that pre-existing and available processes and, ideally, codes can be leveraged in the first instance to produce a SCADA dataset that can be interrogated for the purposes of model testing.

It is recognised that SCADA data channel naming, structure and definition varies significantly between turbine manufacturers. This complicates the practical implementation of data processing. Therefore, the focus of this work should be guiding principles based on statistics and physical fundamentals of the wind farm / atmospheric system.

2.2 Turbine interaction modelling for offshore wind farms is reaching a critical stage as wind farm clusters become larger and larger, and the potential for modelling biases increases. Wind farm SCADA data is still the primary experimental data used for testing turbine interaction models and assessing modelled vs measured pattern of production (PoP, the distribution of energy production across turbines) and Annual Energy Production (AEP, energy yield per year) array/turbine interaction efficiency.

SCADA should be the source of the truth, however the truth can change depending on how the data is interpreted. Subtle differences in how SCADA is analysed e.g. ratio of averages, average of ratios, mean of power, median of power, bin sizes, direction reference, availability/curtailment limits, minimum dataset length, synthesising missing data, spatial variations etc. There is no standardised way of processing SCADA which means no wake model benchmark can be compared to another even if the model is identical as the outcomes could be different. These differences can be the same if not larger than some effects that we are trying to model and substantiate with real world evidence.

This is a crucial issue because the industry is working its way through a series of complex physics challenges, the adequate delineation of which will require trustworthy trends to be drawn from wind farm performance data.

2.3 The main objectives of this work are to:

- Understand the sensitivity of PoP and AEP efficiency to processing methodology
- Review the processing methodologies used by the OWA Partners and used in previous benchmarking studies (OWA and external)
- Identify the most statistically robust method for analysing SCADA data
- Understand any implications for how model data should be generated, processed and/or interpreted specifically for the purposes of turbine interaction model testing
- Write this up in the form of a best practice document
- (Optionally) embody this in a Python tool that can be used repeatably by all OWA Partners for their internal SCADA data analysis

The research questions to be answered are as follows:

1. Wind condition filtering methods:

- a. Wind speed reference:
 - i. Is wind speed or power more trustworthy?
 - ii. If wind speed is more trustworthy, then whether nacelle anemometry, rotor effective (controller calculated) or some other measure should be used?
 - iii. Is some other reference e.g. farm thrust more appropriate?
 - b. Wind direction reference:
 - i. If a trusted direction reference (e.g. met mast) is not available, then single turbine direction or farm average direction?
 - ii. If using turbine / farm direction, should a true north and time-wise direction offset (controller setpoint update) correction be applied?
 - iii. If a direction correction required, how should this be done?
 - c. OPTIONAL: Atmospheric stability:
 - i. Does a suitable measured or modelled data source exist that permits robust filtering for certain atmospheric stability conditions?
2. Bin widths:
 - a. What is an appropriate wind speed bin width and increment? Is simply the maximum thrust coefficient range enough?
 - b. What is an appropriate wind direction bin width and increment?
 3. Turbine availability and curtailment handling:
 - a. Can a synthesis method be used to bring the wind turbines reliably up to 100% availability and 0% curtailment?
 - b. If synthesis is not possible, what are appropriate thresholds for filtering the SCADA data to not bias the PoP trends / AEP efficiency?
 4. Data period and seasonality:
 - a. What is the minimum amount of data (in total and /or per bin) required for a reliable PoP / AEP efficiency, and how does the volume of data trade off against the uncertainty of the results?
 - b. When do PoP trends / AEP efficiency become biased by seasonal effects?
 5. Spatial correction methods:
 - a. Under what circumstances is a spatial correction of the SCADA recommended to remove background gradients?
 - b. What method would be best suited for this purpose e.g. use of mesoscale model?
 6. PoP (power ratio) and AEP efficiency calculation methods:
 - a. What data aggregation should be used when calculating PoP? Examples are:
 - i. Mean of time-wise power ratio
 - ii. Ratio of mean time-wise power
 - iii. Median of time-wise power ratio
 - iv. Ratio of the sum of available power
 - v. Other (to be proposed and investigated by the contractor)
 - vi. What biases exist from each method accounting for statistical noise.
 - vii. What errors exist resulting from relationships between the filtering criteria and the final performance metric (selection bias)
 - b. Is the standard 10-minute averaging suitable for model testing, or is resampling to a coarser period better?
 - c. How is ideal AEP (un-waked) best established if only SCADA data is available?
 - d. How should an AEP efficiency (turbine interaction-impacted AEP / ideal AEP) calculation be performed?

2.4 The expected benefits of this work are in developing a common understanding of how to process SCADA data for use in model validation, boosting confidence in the models themselves.

2.5 Inputs to be Provided by Carbon Trust / OWA Partners

The OWA Partners will provide one or more sample SCADA datasets, as well as contributing to the review of existing methodologies via a workshop session and bilateral communications.

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 OWA 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 5 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 TWG. The Carbon Trust and TWG 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 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 SSP Project, any assumptions will be discussed with the TWG prior to the start of each Work Package.
- 4.9 The Scope of Work includes NUMBER Optional Work Packages. These are Work Packages that the TWG will reserve the right to execute or dismiss in the course of the Project. The Bidder's Approach to Work should address these Optional Work Packages, but they should be kept and highlighted as optional in the Bidder's Approach to Work.

WORK PACKAGES

Inputs to be Provided by Carbon Trust / OWA Partners

The OWA Partners will provide one or more sample SCADA datasets, as well as contributing to the review of existing methodologies via a workshop session and bilateral communications.

Work Package	Description of work
WP1: Review of Literature and Open-Source Methods	<ul style="list-style-type: none"> Review the SCADA data cleaning & processing methodologies used in a wide variety of wake model benchmarking studies in the open literature and used in previous OWA studies Capture the methods used by each of the OWA Partners in their in-house analysis, via bilateral discussions and/or a workshop session Review any relevant literature on the sensitivity of PoP / AEP efficiency (or other SCADA data products) to processing methodologies, and any recommendations on which methodologies should be used Identify and review the open-source tools available to support and standardise SCADA data analysis Summarise the findings in a technical report and presentation
Project Deliverables: <ul style="list-style-type: none"> - D01: Technical report on literature and open-source methods - D02: Presentation to the Technical Working Group (TWG) 	
WP2: SCADA Data Collection, Synthesis and Cleaning	<ul style="list-style-type: none"> Obtain at least one SCADA dataset from an OWA Partner If possible, source any other datasets that you have available To enable statistical methods to be tested rigorously, synthesise plausible SCADA datasets for one or more windfarm layouts, with scatter, unavailability and any other relevant issues correlated or uncorrelated with physical effects such as wind speed and direction Convert all of these datasets into a consistent, clean format suitable for subsequent analysis
Project Deliverables: <ul style="list-style-type: none"> - D03: Presentation to the TWG on the datasets to be used in subsequent WPs 	
WP3: SCADA Data Processing Investigation	<ul style="list-style-type: none"> Process the various SCADA datasets (real and synthesised) using various methodologies, and summarise the sensitivity of the results to each methodological decision Based on a combination of these results and first-principles analysis of the underlying statistical methods, make recommendations on how SCADA data should be processed for the purposes of model validation In light of these recommendations, comment on how the studies identified in WP1 should be interpreted, i.e. which can be

	considered trustworthy and which are open to question
Project Deliverables: <ul style="list-style-type: none"> - D04: Report on the SCADA Data Processing Investigation, including Recommendations - D05: Presentation to the TWG 	
WP4: (Optional) Recommended Practice	Subject to a decision to proceed from the OWA: <ul style="list-style-type: none"> • Summarise the conclusions and recommendations from previous WPs in a standalone document which can be released publicly. This should be capable of becoming a de-facto industry standard (e.g. future papers may refer to it in terms like, “Analysis conforms with OWA SCADA Processing Standard” or similar). Publication would be at the discretion of the OWA Partners.
Project Deliverables: <ul style="list-style-type: none"> - D06: Standalone report which could be made public 	
WP5 (Optional): SCADA Data Analysis Tool	Subject to a decision to proceed from the OWA: <ul style="list-style-type: none"> • Deliver a Python tool, and associated documentation, to undertake SCADA data processing according to the recommended methodology. This may build on existing open-source tools, but the OWA Partners must have the right to exploit the tool without ongoing license costs. • The released software should enable the results in WP3 to be replicated by the OWA Partners (subject to confidentiality constraints around the real wind farm data).
Project Deliverables: <ul style="list-style-type: none"> - D07: Python-based tool for SCADA data analysis - D08: Accompanying software documentation 	
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) <ul style="list-style-type: none"> • project management time (including sufficient time for review processes); • regular update calls with the Carbon Trust Project Manager and/or Technical Working Group 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 <ul style="list-style-type: none"> ○ the production of a 3-10 pages Executive Summary Report for the entire Project (for dissemination within the OWA); ○ the preparation of a Project Closeout Form (Carbon Trust

	<p>template) which includes a short summary of areas for future research and a documentation of all Project Deliverables;</p> <ul style="list-style-type: none"> ○ the preparation of a final presentation to the TWG; and, ○ time dedicated to presenting the main results, findings and outcomes of the Project in the form of a 1-hour webinar to OWA Partners. <p>Bidders should be aware that the Carbon Trust and TWG 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.</p>
<p>Project Deliverables:</p> <ul style="list-style-type: none"> - D09: Monthly flash reports - D10: Executive Summary Report - D11: Final presentation - D12: Delivery of webinar - D13: Project Closeout Form 	
<p>Expenses</p>	<p>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.</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 OWA Stage IV Contractors' Conditions.
- 5.2 The Carbon Trust and/or the OWA 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 OWA Stage IV Contractors' Conditions:
 - a. Subject to agreement, at least one SCADA dataset to use for the analysis.

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 £80-100K.
- 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

7.1. Technical & Financial Evaluation

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	<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, such as the relevant OWA TWG, to get information and manage potentially conflicting relationships.</p>

CRITERION 2: EXPERIENCE (WEIGHTING: 30%)

Description	Information required from Bidders
Experience in SCADA data processing	<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 support certain areas of experience are welcomed. All experience / case studies should be attached as an appendix to the Main Bid Document.</p>
Experience in using SCADA data for model validation	
Experience in and knowledge of statistical methods, uncertainty estimation and bias correction	

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 form 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 across the research community as well as the OWA Technical Working Group 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	<p>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 5.</p> <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>

7.2. Contractual Evaluation

Bidders are required to state any requested amendments to the OWA Stage IV Contractors' Conditions in their Tender Certificate. Any requests for amendments made after submission of the offer (i.e. not included in the Tender Certificate) shall not be considered by the Carbon Trust. On the basis of any changes requested in the Tender Certificate, the Carbon Trust may reject any bids where they consider there to be a high risk of not agreeing a contract in a timely manner.

The Carbon Trust has committed to reaching Net Zero by 2050. Our associated targets have been validated by the Science Based Targets Initiative (SBTi)². To meet the initial targets that we have set for ourselves, we encourage all our suppliers and sub-contractors to 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 OWA Stage IV 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 OWA Stage IV Contractors' Conditions. Please reach out if you need more information on this.

² <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 OWA Stage IV 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 OWA Stage IV 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.
Invitation to Tender (ITT)	The following group of documents: Description of Tender (this document); OWA Stage IV Contractors' Conditions; Tender Certificate template; Bid Price Calculation Sheet template; and Clarification Document (if applicable ³).
Main Bid Document	Has the meaning given in section 3.1. No template is provided.
Project	The Standardised SCADA Process or SSP 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.
OWA	Offshore Wind Accelerator

³ A Clarification Document will not be published if no clarification questions are received in relation to this ITT.

OWA Partners	A group of leading offshore wind farm developers supporting the OWA.
OWA 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.
OWA Cost Model Input Sheet	A form (to be provided by Carbon Trust) which the Contractor should complete in WPA to provide input into the OWA Cost Model.
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.
Technical Working Group (TWG)	A group consisting of technical experts appointed by the OWA Partners. The TWG will supervise the Project.
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 OWA programme 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.