

OFFSHORE WIND ACCELERATOR S4Y4

Clarification Question Responses

TWG-E – Impact of Grid Forming Capabilities on OWF Design and Operation

Date: 07/09/2023



#	Type	Question	Response
1	Generic	<p>3.2.i The Approach to Work should:" (Third bullet) "specify any input data, background IP, hardware or other inputs that the Bidder requires the Carbon Trust and/or the OWA Partners to provide."</p> <p>It is not clear if within the same Main Did Document the supplier should also identify and describe any associated background IP that would be supporting the project</p>	<p>If you suggest you are intending to use your own background IP or intend to request background IP from the OWA partners, then please outline this in your bid. It is also requested that there is full transparency of derivations throughout the project so please be mindful of this.</p>
2	Project Specific	<p>Can CT provide a list of all related documentation intended to be provided?</p>	<p>List of possible background IP, subject to approval from the steering committee and likely under NDA in cases:</p> <ul style="list-style-type: none"> • Selfwind deliverables • HVDC RES & HVDC-CI Literature Reviews • HVDC Black Start Demonstrator & SIF BLADE Wind Farm Design aspects. • BLAST Outputs • Hi-VAS 132kV Cable Data
3	Project Specific	<p>From the words used we interpret you are referencing a need to limit consideration to technologies at least TRL6 today which can be deployed to reach TRL 7-9 within the timeframes of a new project deploying within the next 5-7 years; would that be correct?</p>	<p>Yes TRL 5-6 would be preferred but, however it would be expected that the contractor makes best judgement based on their experience and a hard limit wouldn't be helpful. It is requested this literature review does not contain a vast number of sources and focuses on demonstratable case studies.</p>

4 Project Specific	We note that stakeholder engagement is not only identified in WP1 but WP2 also-is each WP expected to provide separate plans, or is the intent that one is generated in WP1 to cover the whole project?	It would be desirable to understand who and why the contractor plans to engage with throughout the whole project before commencing.
5 Project Specific	Are you expecting this to include different combinations of OWF and associated other devices in its connection providing GFM and GFL contributions, or are you referring to the modelling of the grid system to which the OWF arrangement is connected being expressed as a combination of GFM and GFL in addition to an equivalence? Or both of these scenarios?	This bullet point is aimed at understanding the capability of the OWF, utilising a combination of GFL & GFM equipment, and understanding the ratio between them for scenarios when there are high and low levels of synchronous generation on the onshore network.
6 Project Specific	<p>“The contractor should provide a market assessment... The market trends, drivers, and legislation that will impact the implementation and development of grid-forming offshore wind farms should also be assessed. This will involve analysing incentives, limitations, risks, opportunities”</p> <p>As market assessments can be interpreted to mean a range of activities, we would seek to confirm that the core offering would relate to the text as repeated to the above. (i.e it is not your intention for this activity to extend into CBA and pricing analysis surrounding these areas, for example.)</p>	The main focus is to understand the decisions going into the grid codes relating to grid forming technologies and what advantages, incentives, risks & opportunities developers can take from them, as well as what we can learn from other markets and their approach to GFM in their current or future grid codes. It is up to the contractor to demonstrate their approach to this in their bid.
7 Project Specific	We are aware that CT has previously analysed SSTI and is in the process of delivering work relating to control resonance analysis. In addition to documents relating to this work would CT be able to make available relevant models to be used as a basis for these assessments	This would be subject to approval from the relevant parties, however if deemed appropriate then it is a possibility. As this is an in depth topic, the focus should mainly be on the combination of GFM vs GFL equipment in the modelled windfarm, however if the controller interactions is studied too and provides clarity on mitigation strategies in line with this then this would be beneficial to research.

<p>8</p> <p>Project Specific</p>	<p>“Contractor’s should provide their own sources of data and information for this project, and they must propose the sources they plan to use. The OWA partners should not be relied on for the provision of information”</p> <p>Whilst an entirely new base model can be constructed in PSCAD for this work, this would incur additional resources to the adoption following review of any existing base model available from past CT projects and substituting in the relevant new areas of model.</p> <p>We would seek to confirm if this would also be an acceptable approach, which would be dependent upon the ability to share that model from previous work to the relevant contractor for the new work for their review.</p>	<p>The OWA may provide its existing models, subject to approval from the steering committee.</p>
<p>9</p> <p>Generic</p>	<p>“Unless otherwise stated within the Contract, the Carbon Trust will assume full ownership of all Intellectual Property Rights arising from the Contract and the OWA Parties.”</p> <p>We are expecting that any background IP will be explicitly noted in the contract such that this clause will not apply. We are open to making available such background IP used under this project but would expect to retain continued ownership of it.</p>	<p>OWA will assume full ownership of any foreground IP developed within the project. Please make clear in your proposal the background IP you plan to use and how you wish to agree on its use.</p>
<p>10</p> <p>Generic</p>	<p>“The Carbon Trust reserves the right to alter the requirements of the Contract, as detailed in the Final Scope of Work, should this at any time become necessary in the interests of the OWA or where acting in accordance with the instructions of the OWA Parties. In the event of any alteration of the contractual requirement, payment</p>	<p>It is stated that any changes should be agreed with CT & the contractor.</p> <p>Please suggest any amendments to wording of the contractors’ conditions in the tender certificate.</p>

under the Contract shall be subject to fair and reasonable adjustment to be agreed between the Carbon Trust and the Contractor and recorded in writing.”

Whilst we understand and respect the need for the CT to act on behalf of the OWA in managing the contract and that this may lead to changes, we would request that the words be updated to reflect that changes to scope be enacted by agreement- we also note that this may not only influence price but also timeframes and resource allocations. There is also the question of when such changes occur- it may take place at a point where existing work is nearing completion and as a result there may be benefit in agreeing whether such work should be completed/ wound up in a particular way reflecting activity to date.

11

“The Contractor acknowledges and agrees that the Contract has been awarded for the purposes of the OWA Governing Agreement and that all the OWA Parties have an interest in its outcome.”

The OWA Governing Agreement is Carbon Trusts contract with the 9 developer partners that defines the OWA programme. This clause only states as much, and the agreement does not require to be communicated with the contractor.

Generic

It is not clear to the supplier what this clause means in practical terms- are there aspects of the OWA Governing Agreement that need to be specifically communicated to the supplier? If so can it be clarified when this will take place? If alternatively are these requirements covered within the existing clauses of this agreement in full & can this be confirmed within this clause? (and in that situation is the clause really necessary?)

<p>12</p> <p>Generic</p>	<p>“If the Carbon Trust gives the Contractor notice that in its reasonable opinion any person should be removed from involvement in the Services, the Contractor shall as soon as reasonably practical take appropriate steps to comply with such notice, and in any event such person shall be removed within fourteen (14) calendar days.”</p> <p>The need for such a clause is understood, however in the unlikely scenario this is applied, it may lead to a practical challenge in the backfilling of supplier resource that would in certain cases take longer than 14 days to address. It would therefore be helpful to link this clause to other clauses relating to project change in order to address the consequence to the project arising should this clause in an unlikely scenario be enacted.</p>	<p>The clause does not suggest the person should be replaced within 14 days. Reasonable understanding will be applied to any project changes under these circumstances.</p> <p>Please suggest any amendments to contractors’ conditions in the tender certificate upon bid submission.</p>
<p>13</p> <p>Generic</p>	<p>“without prejudice to Condition 16.1, if the Contract is terminated by the Carbon Trust under Condition 16.1 the Contractor shall have the right to receive a pro rata payment of the instalment of the Contract Price next falling due for payment”</p> <p>It would be helpful to clarify the structure of payment milestones in relation to this clause. not all of the work packages reflect costs which build up linearly over the duration of the activity, with some activities requiring front loading of resource.</p>	<p>Contractors should break down the cost and intended use of hours in the bid price calculation sheet and this will inform the payment milestones. Any further clarification can be discussed at the contracting stage of the tendering process.</p>

	<p>Either agreeing more milestones, or instead pro-rating against an agreed and expected resource profile would be more representative here.</p>	
<p>14</p> <p>Generic</p>	<p>“Services in an amount of not less than £5,000,000 for each and every claim and employer’s liability insurance in an amount of not less than £2,000,000 for each and every claim together with such other insurances as are required by law to be maintained by the subcontractor in relation to the provision of the Services.”</p> <p>It would be helpful to understand the rationale for this and other related damage clauses in relation to the scale, duration and nature of the intended contract form ahead of finalising legal terms on an acceptable basis.</p>	<p>Can be discussed during contracting.</p>
<p>15</p> <p>Generic</p>	<p>Overall contract liability, consolidation of terms</p> <p>Several terms, some bounded, other unbounded relate to this same topic. In final legal term formulation these will need to be consolidated and the overall intent better understood.</p>	<p>Please suggest any amendments to contractors’ conditions in the tender certificate upon bid submission.</p>
<p>16</p> <p>Generic</p>	<p>Overall terms relating to termination/ changes to scope/ focus, scale of redress</p>	<p>As above.</p>

carbontrust.com

+44 (0) 20 7170 7000

Whilst reasonable steps have been taken to ensure that the information contained within this publication is correct, the authors, the Carbon Trust, its agents, contractors and sub-contractors give no warranty and make no representation as to its accuracy and accept no liability for any errors or omissions. Any trademarks, service marks or logos used in this publication, and copyright in it, are the property of the Carbon Trust. Nothing in this publication shall be construed as granting any licence or right to use or reproduce any of the trademarks, service marks, logos, copyright or any proprietary information in any way without the Carbon Trust's prior written permission. The Carbon Trust enforces infringements of its intellectual property rights to the full extent permitted by law.

The Carbon Trust is a company limited by guarantee and registered in England and Wales under Company number 4190230 with its Registered Office at: Level 5, Arbor, 255 Blackfriars road, London SE1 9AX.

© The Carbon Trust 2023. All rights reserved.

Published in the UK: 2023