Question No.	Question	Response
1	WP1: It states "STATCOM and battery energy storage OEMs should be consulted through questionnaires and virtual interviews." Will the contact details for these companies be provided from the previous project?	Some contact details of STATCOM and battery energy storage OEMs will be provided but the Contractor should not rely on the OWA for these contacts.
2	WP1: "The cost of upgrading equipment ratings shall be evaluated to enable investors to make decisions". Will existing ratings of equipment be supplied by the TWG members to understand whether the equipment requires upgrading, and to what level?	It's expected that the Contractor will engage with OEMs to receive information regarding available and potential future equipment ratings, the OWA members may be able to provide information regarding existing assets but the Contractor should not rely on receiving this data.
3	WP1: "evaluate the factors that may influence MW/MVAr despatch". These factors are multitude dependent upon the location on the grid, the seasons etc. Will these be agreed with the TWG-E as part of the 3 base case windfarms?	Based on the insights gained by the Contractor, they will make a proposal for each of the 3 base cases to be discussed and agreed with the TWG-E.
4	WP3: "utilise the Smart Battery STATCOM for substation back up supplies". STATCOMs are usually located at the onshore substation. Is the expectation for this project?	This was just identified as a possible additional/secondary benefit, others should also be evaluated. Yes, it's expected that the Smart Battery STATCOM will be located at the onshore substation.
5	Should ancillary services, grid code, etc be analysed in the context of UK regulations and market or is a broader view requested (e.g. covering other countries in Europe relevant for offshore wind)?	A broader view for key OW markets in Europe is required. As part of a previous OWA project (CPG) in 2019, we conducted an in-depth review of the current and future grid stability, operability challenges and any specific Grid Code requirements related providing

		ancillary services from wind farms. This review covered UK, Ireland, Germany, Netherlands, Denmark and Belgium. Previous ITT for the CPG project is available on request by email to rory.shanahan@carbontrust.com – WP1 report will be provided but some sections will not be up-to-date.
6	Fault current contribution is limited by power semiconductor devices. Will 1.15-1.2 p.u. be the limit or a higher current (e.g. 2-3 p.u.) is expected and to be considered in the context of this project?	It is expected that the Contractor will engage with OEMs to understand what level of fault contribution is available, even if short term and the timeframe available. Such an evaluation will establish if related services are desirable or not.
7	A battery storage capacity of 3 MWh is mentioned in Section 2. Is this a typical/recommended value of battery storage to be used in this project?	No, it was just mentioned that Modular units that can store 3 MWh of energy are available from a number of established vendors.
8	In the sentence “Assess additional/secondary benefits including oversizing units and the possibility to utilise the Smart Battery STATCOM for substation back up supplies.”, the point of oversizing is unclear. Does it mean “benefits even if it require to oversize some devices”? For substation back up supplies: is it intended to provide energy to WTGs in order to start the OWF when the grid is off (black start)?	We want the Contractor to assess additional/secondary benefits of the BAT-STAT. We also want the Contractor to assess the benefits of oversizing the BAT-STAT, which would enable additional capabilities and functionalities which may include playing a part in the black start of the OWF.
9	Which geographic area has to be considered in WP2 for assessing the market/regulation aspects?	A broader view for key OW markets in Europe is required. As part of a previous OWA project (CPG) in 2019, we conducted an in-depth review of the current and future grid stability, operability challenges and any

		specific Grid Code requirements related providing ancillary services from wind farms. This review covered UK, Ireland, Germany, Netherlands, Denmark and Belgium. Previous ITT for the CPG project is available on request by email to rory.shanahan@carbontrust.com – WP1 report will be provided but some sections will not be up-to-date.
10	Can the scope of the study include supercondensators as energy storage devices for given ancillary services?	The OWA are open to the assessment of other technologies that will provide similar or improved benefits to that of a BAT-STAT. However please consider the TRL in light of established battery storage.
11	It is understood that OWA will provide successful bidder with CBA model. Is it expected from the contractor to engage into an additional primary data collection to inform proposed study or contractor to base its study on existing data providing refinement and correction to the data where appropriate, for example as a result of workshops in WP1 or WP2?	It's expected that the Contractor will use the CBA model provided to them as a base point and this can be used to engage with stakeholders to refine and collect additional data for the updated CBA model.
12	Would it be possible to get the list and details (title, number of pages, summary…) of the reports? mentioned on top of page 10, that will be transferred to the successful bidder	Previous ITT for the CPG project is available on request by email to rory.shanahan@carbontrust.com. Only relevant information for use in the BAT-STAT project will be passed over to the successful Contractor.
13	In WP1, we are supposed to propose 3 base case windfarms for CBA. Should we identify these case studies when bidding or can we propose it during WP1 execution?	It would be beneficial to your proposal to provide your initial thoughts on these base cases and propose what might be interesting, but a full proposal would only be required during the execution of WP1.

14	Will OWA assist the successful bidder for the base cases selection and will OWA give guidelines, propositions or orientations?	Yes. Based on the insights gained by the Contractor, they will make a proposal for each of the 3 base cases to be discussed and agreed with the TWG-E.
15	WP3: When it refers to “Stability of such systems” in page 13, what is the perimeter of the “systems” (BAT STAT, BAT STAT+wind farm or the complete grid)?	The complete grid is the intention. From the point of view of avoiding continuous longer timeframe switching between modes rather than a dynamic response.