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Ørsted's Response to Ofgem's OFTO Tender Process Consultation

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The Ørsted vision is a world that runs entirely on green energy. Ørsted develops, constructs, owns and operates offshore wind farms, bioenergy plants and innovative waste-to-energy solutions and provides smart energy products to its customers. Headquartered in Denmark, Ørsted employs 5,600 people, including over 900 in the UK. Ørsted is the largest offshore wind farm developer, generator and owner in the UK, and the world. We have wind farms with Offshore Transmission Owners (OFTOs) from every Tender Round, including the world's largest offshore wind farm, London Array. We currently have 9 OFTOs connecting our offshore wind farms, and have 2 more offshore wind farms currently going through the OFTO tender rounds.

Our ref. Ofgem OFTO Tender Policy
Consultation Response

Summary

We welcome Ofgem's consultation on the OFTO Tender Process for Future Tender Rounds, issued on the 8th March 2018. The OFTO regime has been in place for around 10 years, and Ofgem is right to consider and propose changes to the tender process to ensure it continues to deliver value for money for the consumer. Unfortunately, we consider that many of Ofgem's proposed changes to the tender process will not achieve Ofgem's ultimate aims of promoting clean energy, and lowering costs for consumers.

Our view is that many of these issues arise from the principles and fundamentals of the OFTO framework, which were designed in the early stages of the offshore wind industry. The offshore wind sector has developed significantly in the past ten years since then, when the expectation from BEIS and Ofgem was that the sector would be based on independent OFTOs designing, developing and building offshore networks. Now is the right time for a fundamental review of the OFTO framework, wider than the scope of this consultation, to ensure it continues to deliver value for money for industry and consumers.

OFTO Tender Policy

It is essential that for the OFTO tenders to function effectively, there needs to be significant competition, and the bidders need to be robust and capable of meeting their obligations within the licence. Within the proposed package of changes, we view that Ofgem has not considered the potential impact on the offshore wind farm, and how their costs may be affected or increased, and the consequential impact on consumers.

We also consider that Ofgem has not addressed some of the fundamental barriers to promoting effective tenders, such as the pressure on offshore wind farms to sell their assets early to meet the 18 month generator commissioning clause, and the small pool of bidders simultaneously and selectively bidding for OFTOs in each tender round.

Further to Ofgem's proposals, there are significant changes that can be made for both TR6, and later Tender Rounds, that will improve competition and the efficiency of the tender process. All offshore wind farms that will be built in the near-future will go through competitive CfD auctions, and Ofgem's cost assessment process should recognise that there is already competitive pressure on developers to reduce costs and build fit for purpose assets. The tender process should similarly recognise that these projects will have gone through a comprehensive series of milestones as part of the CfD, and should be similarly streamlined.

These proposals are significant and detailed, and we view that Ofgem needs to further engage with owners of offshore wind farms, and to more fully consider the impact on those wind farms, as any costs will feed through to consumers. We are disappointed that Ofgem has only sought pre-engagement with prospective OFTOs, the purchasing party within the OFTO tenders, and not offshore wind developers and generators¹, who are the vendors required to sell the OFTO assets. An efficient, robust OFTO tender process is essential to ensuring the tender is competitive, provides value for money, and drives down the costs consumers are exposed to.

OFTO Post-20 Years

Ofgem is taking the appropriate steps by looking at the framework for OFTOs after their initial 20 year revenue streams. Reviewing the current arrangements, and developing a detailed robust framework now will benefit consumers as:

- Offshore wind farm owners will have more clarity over the late life arrangements of the OFTOs, and will be in a better position to enact their late-life plans such as repowering or a life-extension;
- New offshore wind farms with the capability for longer lifetimes will have more certainty over their OFTO arrangements, enabling a longer lifetime valuation, which will drive down the costs of offshore wind.

In developing these arrangements, we view that any framework for the late-life arrangements of the OFTOs must follow these principles:

- The offshore wind farm owner needs a high degree of confidence and certainty in the OFTO arrangements and the running of the OFTO, to ensure they can plan their own late-life arrangements, such as lifetime extension, or repowering;

¹ We refer to offshore wind generators to represent existing and built offshore wind farms, and offshore wind developers to represent wind farms that are being developed or in construction

- OFTOs must maintain their assets in-line with good industry practice, enabling these assets to be fully utilised for their technical lifetimes;
- Offshore wind farm owners need visibility of the technical condition of OFTO assets, so they can appropriately judge and determine their own late-life plans.

Maintenance of the OFTOs

While OFTOs have generally had high availability, a rapidly changing offshore wind industry, and the potential for new and innovative solutions, such as implementing reliability-centred maintenance (RCM), expectations of life extensions and new asset management approaches, will require a different approach to O&M. To enable the industry to take advantage of these new innovative approaches, that will help to drive down operating costs, we suggest that Ofgem reviews the current maintenance framework, and the best way of ensuring that OFTOs remain fit for purpose, and allowing developers to have an active voice in shaping an OFTO's O&M and approach. Ofgem will also need to ensure the compliance framework for OFTOs evolves in-line with these approaches to O&M, and that all existing and future OFTOs are maintaining their assets in-line with good industry practice and their technical lifetimes. This will ensure that assets may be efficiently used beyond the OFTO's 20 year revenue stream and in-line with the lifetime of the offshore wind farm assets.

We have provided specific views to your question, and an expanded section on OFTO maintenance as an appendix.

If you have any queries on our response please feel free to contact me (almos@orsted.co.uk, 078 0759 2034).

Yours sincerely,

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Appendix – Consultation Questions and Answers

Our ref. Ofgem OFTO Tender Policy
Consultation Response

1. Have we identified (in Chapter 1) the right drivers for possible change to the OFTO tender process? Are there other drivers for change we should consider?

In setting out the evolution of the tender process Ofgem do not mention the largest change for developers – the requirement to close the transaction within 18 months from receiving the completion notice from National Grid. While we do not support an open-ended timetable, this regulatory long-stop date has significantly changed the playing field in favour of the OFTO, as the incentive to close the transaction is entirely asymmetric with no similar pressure on the OFTO to resolve issues in a timely manner.

This change should be included in Ofgem's review, to ensure that any changes to the tender process does not disadvantage developers, e.g. by requiring developers to agree to worse commercial terms in order to close the transaction. We support some of Ofgem's proposed solutions, such as bid-bonds, but Ofgem will need to ensure their whole package of solutions does not disadvantage developers. This will bring greater balance to the OFTO transaction process, and ensure that more efficient terms are reached.

2. Are the objectives of our review appropriate? Are there any other objectives that we should consider?

Ofgem's objectives for the competitive tenders for offshore transmission licences are to:

1. *Deliver transmission infrastructure to connect offshore generation, on a timely basis, and secure that OFTOs are robust and can deliver transmission services successfully over the licence period.*

We consider the first criteria to still not be wholly reflective of the preference for the generator-build model among developers. It is the developer of the offshore wind farm who is responsible for the delivery of the transmission infrastructure on a timely basis, and until a developer chooses to proceed with the OFTO build model, this part of the criteria is redundant for Ofgem's assessment.

We believe that Ofgem can more clearly define what is meant by robustness and successful delivery of transmission services. It is essential that any OFTOs are both financially robust, and have the technical capability to efficiently operate and maintain the OFTO assets. We also comment on the lack of alignment between the 20 year revenue period, and the licence period in later sections.

2. *Provide certainty and best value to consumers through the competitive process*

This objective is appropriate, but Ofgem should ensure that value to consumers is assessed on a holistic basis, as the OFTO regime is part of the overall delivery and

operation of the offshore wind sector. Some of the proposed changes in this consultation could have knock-on effects on other parts of costs for the offshore wind farm which will be passed through as increased costs to consumers, e.g. through higher CfD bids.

3. *Attract new entrants to the transmission sector*

We agree. There has been a change in the bidder pool over the five tender rounds, with some early participants leaving the market and a consolidation of successful OFTOs. TR5, which is underway, had significant overlaps, with many of the same bidders appointed for the Invitation to Tender (ITT) stage. Further, there were only 3 bidders appointed for both Walney Extension and Galloper and this would have been a good opportunity to have a new entrant. Notwithstanding the downward trends for TRS levels, we do not consider this as effective competition in larger tender rounds.

4. *Undertake streamlined and efficient tender processes*

We agree. This objective needs to be assessed against the impact of all participants in the tender process: Ofgem, OFTO bidders, and the offshore wind developers.

3. **With respect to the existing tender process arrangements:**

- a. **Are any different or additional arrangements needed to mitigate the risk of OFTOs not being financially or operationally robust?**
- b. **In particular, do you consider that our tender process would be robust to a Carillion-type scenario? Are there additional questions we should ask at EPQ or ITT?**

Ofgem should not relax the assessment of bidders' assumptions at the Enhanced Pre-Qualification (EPQ) stage and ITT. Ofgem should continue to require financial ringfencing of the OFTOs, and continuous reporting and independent audits. With some OFTOs now appointed successful bidders for multiple projects, Ofgem should also consider assessing the cross-portfolio robustness of the OFTOs and if appropriate consider stress testing. Similarly, in scenarios where successful bidders divest to other parties, Ofgem should ensure that the eventual owner of the assets fulfils the same requirements regarding financial and operational robustness as the original successful bidder. Further, developers should be consulted on an appropriate level of technical competence, and we would also recommend assessing technical competence against industry standards, such as ISO, where appropriate and feasible.

- c. **Do you have any other specific feedback on the existing tender process?**

We view that Ofgem's description of the timings of the current tender process are not realistic and do not match our experience. No project to date has concluded the Preferred Bidder (PB) phase within 6 months, and the recent trend for ITT has also

been longer than 6 months. While we would like the OFTO transaction process to be as short and efficient as possible, Ofgem needs to be realistic when setting the timetable, especially when considering options to start the ITT phase later.

We acknowledge that there is a trade-off between completing the transaction quickly and allowing more time than the planned 12 weeks for ITT Due-Diligence (DD) to allow bidders to gain access to information which may become available later in the project. The impact of the 18-month Generator Commissioning Clause and the ability of Ofgem and bidders to meet and staff multiple tenders need to be considered as well.

4. With respect to the moderate change package:
a. Do you believe this option would be an improvement over the current tender process?

We believe the EPQ process can be improved by Ofgem taking more active steps to encourage bidder diversity and new entrants. However, the significant change package of allowing an unlimited number of bidders is not realistic and would have a detrimental impact on our or any other vendor's ability to respond to questions and answers (Q&A) from more than 5-6 bidders.

We also do not agree that it would be beneficial to assess ITT bids only on the Tender Revenue Stream (TRS). The robustness of the OFTO bidders, and their ability to perform as successful asset owners depend to a large extent on their ability to perform Operations and Maintenance (O&M) to an adequate level. As developers, we are keen to see Ofgem's assessment of this assumption retained, instead of being watered down to a threshold or removed at ITT. Particularly as projects are becoming larger and situated further from shore which brings additional challenges for O&M. In order to keep driving down the cost of electricity and continue to reduce CfD bids, developers need to be certain that their sole access to the transmission system will be operated to the highest standard and any issues affecting the availability of the OFTO assets will be addressed as quickly and efficiently as possible.

b. Do you agree with our assessment of this package against the objectives?

We agree with Ofgem's concern that removing the 40% assessment criteria under section 8, and replacing it with a pass/fail threshold could be detrimental to innovation.

Bringing the TRS down would be positive for consumers as it would result in lower TNUoS charges. However, it needs to be balanced against the potential reduction in robustness of OFTOs, which could result in knock-on effects and increased costs of the connecting offshore wind farm as availability potentially declines.

c. Do you consider that there are questions that could be removed from the ITT questionnaire (For example, where there is overlap with the

EPQ, or where the approach is mandated elsewhere)? For what reason and benefit could they be removed?

No. Ofgem need to screen participants' submissions at both EPQ and ITT. In order to increase competition at ITT, the barriers to entry at EPQ should not be increased. For a new entrant, it would be beneficial to be able to qualify at EPQ, gain further knowledge of the project through ITT DD and then be able to submit a more comprehensive bid with robust underlying assumptions for Ofgem to assess at ITT. Removing questions from ITT and pushing the full assessment to EPQ would discourage new entrants and reduce competition as the thresholds would be easier to meet for existing OFTOs who have extensive knowledge of the tender process and existing projects.

d. Are there any amendments to this package that would improve it?

Please see our response to question 6.

e. What are your views on the most appropriate ways to mitigate the challenges of this package?

Ofgem should limit ITT bidders and if possible, ensure that a new market entrant is included in every ITT round. The maximum number of ITT bidders should be 5, or increased to 6, to ensure that a new market entrant can be included, provided all the EPQ robustness tests are met, including for the new market entrant. As we've stated previously, it was disappointing to see the same 3 bidders shortlisted for Galloper and Walney Extension and we are not sure this was conducive to competition.

We should also retain the assessment of assumptions (section 8 of the ITT questionnaire) to avoid undermining the robustness of bids.

f. Are there other considerations we should have taken into account that present practical or other challenges to implementation?

The management of Q&A from an unlimited number of bidders would not be efficient. Such an approach is likely to introduce significant challenges and costs for a developer. This would pose a practical issue with completing the ITT DD within the anticipated 12-week duration.

g. Where we were to allow conditionality only on particular elements of a bid, how should we take into account conditionality in bids which cumulatively raises concerns about the overall robustness of the bid?

Conditionality in the bids should be kept to an absolute minimum to ensure the correct bid is selected and TRS levels are set at a competitive stage. However, we acknowledge that in limited circumstances, it may be appropriate to include certain reservations in relation to major ongoing construction activities.

5. With respect to the significant change package:

a. Do you believe this option would be an improvement over the current tender process?

No. Please see comments about the EPQ proposals in our response to 4a.

Timing of ITT

We acknowledge that there is a significant benefit to running the ITT exercise with a well populated data room, and that more information will enable bids to be more certain with fewer reservations. However:

- The proposal to run the ITT exercise at a later stage is not feasible under the current framework with the 18 month deadline imposed by the generator commissioning clause. Delaying the start of ITT beyond the completion notice significantly increases the risk of breaching the GCC under the Electricity Act, which is primary legislation, and an action generators simply will not accept;
- The majority of a project's construction team winds down after the completion of their work scopes. While developers will usually retain resources to finalise any outstanding issues, delaying ITT beyond the completion notice will limit the availability of the project's resources to respond to bidders' Q&A and potentially affect the robustness of bids.

Also, Ofgem does not specify what they mean by more information being available, but we interpret this to mean that all significant construction issues are resolved (e.g. burial and remedial works for cables), and that all claims are settled with contractors.

TRS-only assessment

While this would reduce the administrative burden on Ofgem, we do not believe that unconditional, price only bids would have the intended effect. While comparability would be increased, there is also a risk that TRS bids would be increased as the bidders would have to include contingency for unknown events, or issues where they have not been able to gain an appropriate level of comfort at the ITT stage.

PB stage

We agree that it would be beneficial to introduce a bid bond, or similar mechanism to place an incentive on the PB to close the transaction. Currently the incentive to close the transaction is entirely placed on the generator, as breaching the 18-month generator commissioning clause deadline only has negative consequences for the generator. This is not beneficial from a consumer perspective, as the asymmetry in incentives can result in the generator having to agree to overly onerous commercial terms resulting in increased costs in order to close the transaction and avoid turning off the wind farm.

Any bid bond needs to be appropriately sized, to ensure that it has a proportional impact, and incentivises bidders to close the transaction without deterring new entrants. The penalties of the bid bond must have a concrete impact to ensure it is capable of influencing bidders' behaviour. Further, we recognise that designing an appropriately balanced bid bond can be difficult. We would recommend that Ofgem takes the initial steps to implement bid bonds, and that further refinements may be required in future tender rounds to ensure they continue to be effective and are fit for purpose.

b. Do you agree with our assessment of this package against the objectives?

No. In our view this will not provide best value to consumers when the impacts are reviewed holistically. It will also not support Ofgem's duties to support clean energy and sustainable development.

c. Are there any amendments to this package that would improve it?

Please see our response to question 6.

d. What are your views on the most appropriate ways to mitigate the challenges of this package?

We view:

- Remove or significantly amend the generator commissioning clause to allow ITT to start later without increasing the risk of the generator breaching the Electricity Act 1989;
- Limit changes to transaction agreements and TRS bids, but do not prevent changes altogether. Allowing no changes at the PB stage will likely result in ITT bidders pricing in a margin into their ITT TRS bids, which may be less efficient than allowing for solutions reached through commercial negotiations at the PB stage.

e. Are there other considerations we should have taken into account that present practical or other challenges to implementation?

Ofgem's assessment does not include consideration of the impact on the vendor, or the holistic impact and any knock-on effects the proposed changes could have. Ofgem's proposals to start the ITT stage later is incompatible with the existing 18 month deadline mandated by the generator commissioning clause.

f. What do you think of potential bid bond arrangements, pain/gain share mechanism and consequential changes to allow efficient unconditional bids?

Please see our response to 5a, where we set out our views on potential bid bond arrangements, alternatives and unconditional bids.

Our ref. Ofgem OFTO Tender Policy
Consultation Response

6. Are there any other packages of change that we should consider that would better deliver against the objectives?

We believe there are changes that can be made to the current process which would have a positive impact when assessed against Ofgem's objectives.

1. Streamlined qualification process

As the offshore wind market has matured, there have been no examples of projects abandoned or not finalising construction following a positive financial investment decision. We believe the qualification requirements were necessary in a less mature market, where there could be understandable concerns around speculative projects, and before there was sufficient experience in the market. The current state of the offshore wind market, including the transition to the CfD support mechanism is very different, and we believe this should be reflected in the project qualification process.

For example, under the CfDs, developers must prove that a contract is mature, both through the eligibility process for the auctions and through the requirements of the CfD. All CfD projects are required to have a Crown Estate (TCE) / Crown Estate Scotland (CES) lease for access to the seabed, planning permission, and a grid connection. After the CfD is signed projects are required to prove to the counterparty, the Low Carbon Contracts Company (LCCC), that the project is mature through the requirements for the Milestone Delivery Date (MDD). Ofgem could streamline its qualification process by relying on projects meeting the milestones set out in the CfD, the main applicable one being the MDD.

This would be an improvement on current arrangements by streamlining the tender process and reduce Ofgem's work at the qualification stage. For projects in the future that may be able to proceed without a CfD contract, a more light touch confirmatory approach could be considered.

2. Replace the PIM and IM with a VDD report

Ørsted produces a Technical Vendor Due Diligence Report (VDDR) as an input to the Total Estimated Cost (TEC) process at the moment. A similar report could replace the current Preliminary Information Memorandum (PIM) and Information Memorandum (IM), reducing the workload for the developer and ensuring that the sales material at the EPQ stage has the benefit of a third party review. We propose the full VDDR should replace the IM, with a comprehensive executive summary of the report replacing the PIM.

This would be an improvement on current arrangements by streamlining the tender process and reducing the workload required from the vendor at the TEC stage.

3. EPQ

We think there could be improved marketing of OFTO transactions. Currently, Ofgem launch the tender round at a marketing event in London. Based on our experience of partnership deals in the offshore wind sector, there could be significant benefit in a more extensive marketing exercise, supported by an updated investor's perspective such as the one produced by KPMG for an earlier tender round. As the offshore wind farms are becoming larger and more complex, there is scope for adding new entrants with different infrastructure experience and Ofgem should ensure that they do not miss the opportunity to engage with such parties ahead of the launch of tender exercises.

The EPQ assessment should not be made more onerous than today, as front loading assessment from ITT to EPQ could result in a barrier to entry for new parties with less experience of the regime. Further, Ofgem should appoint 5 ITT bidders, or 6 if required to include a new market participant for each project.

4. ITT

We view the following changes would make the ITT process more efficient:

- Link the start of the 18 month GCC to the start of ITT. We recognise this would require a change to legislation and is a more appropriate change for after TR6;
- Encourage bidders to be appropriately resourced at the ITT stage to ensure no delays to the transaction timeline and ensure comprehensive due diligence processes are undertaken by limiting conditionality / reservations in bids;
- Under the current regime, ITT should start as close to the issuance of the completion notice as possible (within a month) to reduce likelihood of developers breaching the GCC. Alternatively, an upfront exemption must be granted to extend the GCC;
- Streamline the Q&A process by: (i) improving the functionality of the data room; and (ii) removing duplicate questions and questions relating to information which is available in the data room;
- Retain bidder days but limit them to technical due diligence and remove the session relating to transaction documents (which are now broadly standardised);
- Retain an ITT assessment which covers both the TRS and underlying assumptions, in particular, the bidders' O&M solution and ability to provide an O&M offer compatible with the optimisation of the overall wind farm over its technical lifetime (not just the 20 year revenue stream).

5. PB

We consider that any changes to the TRS or TA should be strictly limited to construction issues arising post-bid submission and which are not disclosed in the ITT data room.

6. *Ofgem + bidder resourcing*

There needs to be a requirement on OFTO bidders and Ofgem to resource their tender teams appropriately to manage their workload in the tenders. Where tenders are sequenced, ie. not run concurrently due to resources, this can cause ITT to launch after the receipt of the completion notice. This requires an upfront exemption from the generator commissioning clause to appropriately protect offshore wind generators from the legal risks and commercial risks of potentially breaching the GCC.

7. *PB requirement to meet deadlines*

Bidder penalties should be implemented (eg. bid bonds, forfeiture of recovery of tender costs) if deadlines are missed or if the PB withdraws.

8. *Cost Assessment Process*

All offshore wind farms go through the CfD Allocation Rounds, where only the most efficient, cost-effective offshore wind farms win CfDs and are constructed. As a result, Ofgem should consider a significantly streamlined cost assessment process, recognising that the CfD process provides fundamental competitive pressure on offshore wind developers to reduce their costs and only construct cost-efficient wind farms, including the eventual OFTO assets.

7. **With respect to the other tender process changes considered that could apply to either the current tender process or any of the potential packages for change:**

- a. **Does Vendor Due Diligence (VDD) in practice reduce the total cost of a tender process? Are there any benefits in broad VDD? Are there benefits in a more focussed approach to VDD (for example a Certificate of Title)? Under what conditions and to what extent would bidders base their bid on VDD?**

We believe that there could be some benefits to using a standardised VDDR in the OFTO tender process, replacing the PIM and IM as part of the tender entry and EPQ phases. However, we do not believe that the introduction of a VDDR would significantly reduce the due diligence performed by bidders. The report would be prepared at a time when the project is still under construction, so there would be gaps in the scope, and we believe that bidders would repeat most of the due diligence anyway.

- b. **Are there other cost-effective ways in which the bidder data room could be improved to the benefit of all parties? Are there specific ways to further standardise the structure?**

Data room improvements

There is substantial potential for this aspect of the tender process to be improved to the benefit all parties. The current data room platform used by Ofgem has significant limitations, which increase the number of manual interventions and double handling of information by all parties using the data room. In our experience the software platform provided by Ofgem is likely to be a primary inefficiency of the data room and supplementary questions process.

Alternative platforms and solutions exist in the wider commercial M&A space which automate many tasks and improve functionality for users. Improvements or replacement of the existing platform may increase the efficiency for all parties and reduce overall costs (when Bidder and Developer costs are also considered). It is suggested that this should be explored by Ofgem in cooperation with end users.

Specific areas where the data room could be improved:

- Automated indexing ;
- Unique referencing of documents;
- Improved search functionality ;
- Improved download and upload of files;
- Increased file size limits;
- Improved security controls, including encryption and protection of data room information;
- Development of an integrated Q&A system (for supplementary questions);
- Flexibility, integration and compatibility with other data and document management systems used by developers.

Further standardisation of data room structures

In attempting to overcome the current data room platform's limitations, Ofgem should resist placing rigid or prescriptive requirements on developers to structure or name files in a particular way. The current data room platform and supplementary questions process already places a significant administrative and resource burden on developers (as well as other parties), and further standardisation risks exacerbating existing inefficiencies.

Ofgem should also resist further standardisation of data room structures due to natural differences in how projects manage information. Project specific factors and construction approaches will inherently lead to some diversity in how information is organised most efficiently by a project. Adding further structures and conventions, which do not allow for this diversity will prevent developers utilising existing project data structures for an OFTO divestment. A requirement to resource and support additional structures, for the sole purpose of an OFTO divestment, would therefore increase inefficiency and overall cost.

- c. What changes, if any, should we consider to our current bond spread methodology? Would an appropriate pain/gain share mechanism for**

bond-financed bids allow us to fairly assess bond and bank-financed bids on the same committed finance basis?

We have two comments on Ofgem's proposals:

- In our experience, bond investors can hold their price for around 3 months when bonds are placed in a private format;
- For bonds placed publicly, they are priced very close to financial close, however we don't see much value in adding a pain/gain sharing mechanism. The most volatile part of the price will be the base rate rather than the margin.

- d. Do you consider that we could adequately rely on a more confirmatory approach to questions? Are there particular documents or questions we could consider not requiring the bidder to produce, but instead confirm? Are there particular documents/requirements that are better left to the PB stage?**

We have no comments at this point in time.

- 8. Do you think approach of Ofgem, developers, and bidders to the tender process will need to change as projects become larger, further from shore and more expensive? What do you see as challenges from this change?**

Projects are changing and becoming more complex while the industry has continued to mature. Long distances from shore necessitate new technologies which bidders have to become comfortable with. Long distances from shore also require new and different approaches to O&M and resolving urgent issues, all of which need to be assessed. Healthy, Safety and the Environment (HSE) will also become more critical and complex with these newer OFTOs.

The design of the offshore substations are changing e.g. to include helidecks, communication equipment, and offshore wind developer's approach to design and O&M continue to evolve, with increased emphasis on holistic solutions encompassing the wind farm and the offshore network assets. In order to optimise the overall offshore wind farm and ensure the highest value to the consumer, not just from the OFTO sales process, it is important that the OFTO can manage under these new circumstances, and there are the appropriate synergies between the generator and the OFTO. Ensuring the OFTO can continue to perform under these circumstances may require further changes to the tender process, and to allow offshore wind developers under generator-build a greater say in how OFTOs are managed.

We comment in more detail on operations and maintenance in a later section.

- 9. With respect to end of revenue term arrangements, where there continues to be a need for the OFTO, what factors should be taken into account when making decisions on OFTO revenue at the end of the normal 20 year term?**

In our view Ofgem needs to consider two elements to effectively consider this area:

1. What framework should there be for making decisions on the OFTO after 20 years?
2. What factors should Ofgem then take into account when making decisions on the OFTO revenue?

Currently, there is no firm framework for enabling decisions on the OFTO. The OFTO licence is technically indefinite, though many of the licence conditions are drafted based on the 20 year lifetime of the revenue stream. BEIS / Ofgem policy on OFTOs has set out some high-level solutions, such as extending the OFTO revenue stream, or re-tendering. However there have not been any details over how this process may be carried out, or when it would be carried out, and what issues would be considered. This adds uncertainty to any late life decisions of current operational offshore wind generators.

In our view any framework on late-life OFTOs need to account for these key principles:

- The decisions made on the OFTO must be driven by the connecting wind farm. The wind farm is the sole driver of the need for the OFTO and is fully dependent on the OFTO to reliably export clean energy;
- OFTOs must maintain their assets in-line with the technical lifetimes of those assets and good industry practice. OFTOs should not expect that their assets are allowed to degrade simply because the initial revenue stream only lasts 20 years, as that will raise risks, and potentially require further additional costly maintenance that could have been avoided;
- Offshore wind farms need to know the condition of the offshore network assets, to ensure that the offshore wind farm owners can make informed, efficient decisions about extending the lifetime of the connecting offshore wind farm. These decisions need to be taken soon to enable those wind farms to fully consider repowering and any planning implications;
- Ofgem should be open-minded about the possible late-life solutions, and not just the default solution which is an extension of the revenue stream for the existing OFTO. Examples include allowing the offshore wind generator to own the offshore network assets, or by granting the generator explicit rights within any potential extension or re-tender;
- Even with the default solution, which is an extension of the OFTO revenue stream, there are significant issues that need consideration. For example, would extensions be done on a rolling basis, eg. 5-year increments, or would Ofgem seek to do a single large extension.

Once these issues have been considered in any framework, we can then consider the specific elements that should be considered in setting the revenue stream. There may be differences in how these elements are considered depending on the solutions and framework that Ofgem chooses. The key elements for revenue are:

- It is essential that the framework is sufficiently attractive to own and operate the offshore network assets, especially as they will be fully depreciated;
- The potential, and the benefit of the OFTO delaying decommissioning;
- Additional maintenance requirements to ensure there is a high availability on assets performing as they get closer to the end of their technical lifetimes.
- Any incentives, such as on availability, will need to be carefully designed to ensure that OFTOs have the right incentive to deliver, even with reduced levels of TRS.

When should we begin to make these decisions?

We have answered this question by considering two issues:

1. When should Ofgem determine the framework for the late-life OFTOs?
2. When should Ofgem make individual decisions on the arrangements for each individual OFTO?

Firstly, we view that Ofgem needs to determine a framework for late-life OFTOs as soon as possible, and TR6 marks an appropriate point. This will ensure that existing offshore wind generators can develop their late life plans, or any lifetime extension or repowering plans with the certainty that there will be an operator of the offshore network. This will also align with other timescales for offshore wind farms, including the length of the planning consent, and the seabed lease from TCE/CES. Importantly, having this certainty will also allow future offshore wind farms to value having a longer lifetime, driving down the cost of future offshore wind projects.

Secondly, we think it is key that individual decisions are taken as early as possible, but the priority should be first establishing a framework. It is essential that the offshore wind generator is central to any discussions on any late-life OFTO, as they will be driving the need for the OFTO, and are fully dependent on the OFTO's ability to transmit their clean electricity. We also recommend that this framework supports and incentivises early decisions to be made on each individual OFTO. Further, if these decisions are not made with significant foresight, offshore wind generators will need to start preparing for decommissioning, due to both their legal obligations and the risk of not having a route to export power. Once a generator starts 'running down', it can be expensive or inefficient to change course and start to maintain the assets or extend their lives, which runs opposite to our and your aims to support the cost-effective production of sustainable energy.

10. Is there demonstrable evidence that we should consider changing the default revenue period away from 20 years for future projects? If so, what would be the most appropriate revenue period?

In our view, there is demonstrable evidence that the default assumption for the lifetime of the OFTO assets should be longer than 20 years for both existing and future assets. However, we do not think there is sufficient evidence to move away

from a 20-year revenue stream; the appropriate solution could possibly be an initial 20-year revenue stream, with a robust system to enable extensions. Currently, we think both options, to either keep or extend the default revenue period, need to be kept under review.

Historically, assumptions for the lifetime of the offshore transmission assets in the UK have been given in the region of 25 years, in-line with the expected lifetimes of the connecting offshore wind farm. However, most of the components used in offshore transmission have standards showing they are designed for 35-40 years, or have been used extensively in other situations where their lifetimes have significantly exceeded 25 years. Examples include platforms being used in oil and gas, subsea power cables connecting remote islands, and substation components such as transformers. Further, the industry now has gained significant experience over how OFTO assets degrade, and we know that when properly maintained these assets will last well beyond their original 25-year assumptions. Ofgem's expectation should be that OFTOs maintain these assets in-line with these extended lifetime assumptions, and not the 20 year duration of the TRS.

However, in our view there is not currently sufficient evidence to justify moving away from a 20 year revenue stream. Firstly, there needs to be evidence that OFTOs can be financed efficiently for longer than 20 years, and there will still be a competitive and cost-efficient tender. Secondly, even if we expect future projects to have longer than 20-year lifetimes, it might be more efficient to keep a 20-year revenue stream, and have a robust extension system, which would allow alternative options to be explored at the end of 20 years.

As a result, at this point in time, we recommend that Ofgem keeps their options open.

Maintenance of the OFTOs

In our view Ofgem should consider the Operations and Maintenance (O&M) of OFTOs, and the framework under the licence, as an explicit area to review as part of their TR6 policy changes. OFTOs have generally had high availabilities throughout their period of operation, apart from a few, notable, significant failures. However, this does not mean that OFTO availabilities will remain high as their assets age, and we have identified areas where the current framework can cause issues.

We have set these areas below, as well as some suggestions over how they may be improved. However we recognise that O&M is the core activity of a generator-build OFTO and these issues may need to be reviewed holistically. As set out in our answers to Ofgem's questions above, effective O&M is also a key issue to consider under both the assessment of prospective OFTOs, and the potential late life solutions for an OFTO.

Current levels of availability are not a sign of future availability

All offshore wind farms to date have been generator-build, and under generator-build offshore wind farm developers have very strong incentives to ensure that the OFTO assets are fit for purpose. Offshore wind farm generators are disproportionately impacted by OFTO outages as they face the full costs of lost production due to outages, without any compensation, while OFTOs are partially exposed to limited adjustments on their significantly smaller revenue stream.

As a result, we view that the high availabilities of new OFTOs could often be due to the assets being relatively early in their technical lifetimes, and the offshore wind farm developers taking steps to ensure they are fit for purpose. Early and effective maintenance plans, such as by implementing Reliability Centred Maintenance (RCM)² and explicit planning from day 1 based on the technical capability of the assets, and not the OFTO's initial revenue stream, are key. Also, new offshore wind farms are moving further offshore and will require new, and innovative solutions, especially to ensure any unexpected downtime and maintenance is handled quickly and responsively. As a result, we can't take the current high levels of availability as an indicator that availability will remain high, and need to proactively ensure that OFTO O&M remains fit for purpose.

Target Availability

OFTOs have had target availabilities set at 98%, and this target has not changed since the regime was initiated. Offshore wind developers should be aiming to develop and implement innovative solutions that drive as high an availability as efficiently possible, however the current framework sets availabilities at 98% and it's unclear how Ofgem treats developer-led solutions that drive availability higher. Further, Ofgem should consider the appropriate mechanism for assessing prospective OFTOs through the tender process where those OFTOs can, and/or should, be delivering higher than 98%, especially where a developer has implemented innovative solutions that drive availability higher.

Information Sharing

Broadly, the OFTO has no obligation to share information on its assets and their condition with the offshore wind generator, which mirrors the setup onshore. However, we view that offshore is a specific situation and there needs to be a different treatment, as the offshore wind generator is entirely reliant on the OFTO and the existing assets for exporting its power.

The importance of sharing information is critical when considering the potential late-life solutions of the offshore wind farm. As the OFTO assets are single-use, any decision on the late-life of the offshore wind farm should holistically take into account the condition of the OFTO assets. The offshore wind generator needs

² Reliability-centered maintenance is a process and programme of policies to manage potential functional failures in physical assets. There is a general standard, not specific to offshore wind, set out under SAE JA1011.

extensive, discrete information on the OFTO assets to be able to make that assessment, and this should explicitly be within the OFTO's framework, possibly the licence.

Maintenance Plans and the Assessment of OFTO's O&M

As we have set out above, in our questions on the OFTO Tender Process, assessing the technical capability of prospective OFTOs is key to ensuring an efficient tender. We view that Ofgem needs to also consider alternative approaches to ensuring that OFTOs perform efficient O&M.

Developers under generator-build have the opportunity to undertake efficient capital-expenditure and pursue opportunities with their suppliers that will enable more efficient O&M and higher availabilities. However, OFTOs are not under any specific obligations or strong incentives to follow or enact these opportunities. As an example, OFTOs are handed an O&M handbook by the offshore wind developer, but are not under any obligations to follow that handbook.

We recommend that Ofgem allows developers and generators a greater role in determining how an OFTO runs their O&M, or how prospective OFTOs are chosen based on their technical competency. At the least Ofgem, should consider ways of incorporating further standards and expanding on expectations of good industry practice. This will ensure that developers have the confidence that they can proceed with holistic designs, and engage with their suppliers to implement, modern and cost-effective solutions.

One clear example is the RCM approach, which is well-established and understood in other industries. RCM is a holistic approach to maintenance that is most efficiently considered at the design stage, and can cover functional and design requirements through to predictive inspections and life time assessments, with multiple objectives including cost-efficiency and ensuring the full technical lifetime of the assets are utilised. As a result, we recommend that Ofgem considers the optimal way to ensure that design decisions and O&M can be holistic, which will require developers and generators having a greater say in OFTO O&M; solutions could range from OFTOs being obliged to follow a developer's handbook, to ensuring that design specifications are explicitly considered and followed by OFTO's O&M.

Further, we view that Ofgem will carefully need to consider the OFTO's plans on Healthy, Safety and the Environment (HSE). While we recognise that HSE is not Ofgem's responsibility, Ofgem will need to ensure that OFTOs are carefully considering and taking new, cost-effective approaches to HSE, as the OFTOs' approach to HSE will need to change significantly, to ensure high standards can still be met with further from shore assets.