

23 November 2021

National Grid Electricity System Operator (ESO) response to Offshore Transmission Network Review: proposals for an enduring regime and multi-purpose interconnectors consultation

Dear Colleagues,

We welcome the opportunity to respond to BEIS's Enduring Regime and Multi-Purpose Interconnectors (MPIs) consultation within the Offshore Transmission Network Review (OTNR). Our response is not confidential.


The ESO is the electricity system operator for Great Britain. We move electricity around the country second by second to ensure that the right amount of electricity is where it is needed, when it is needed – always keeping supply and demand in perfect balance. As Great Britain transitions towards a low-carbon future, our mission is to enable the sustainable transformation of the energy system and ensure the delivery of reliable, affordable energy for all consumers. The ESO holds a unique position at the heart of the nation's energy system. We use our unique perspective and independent position to facilitate market-based solutions which deliver value for consumers. The ESO is also a proud project partner of the OTNR and in the first phase of the ONTR we demonstrated there is benefit in delivering an integrated offshore network as quickly as possible to deliver better outcomes for consumers and coastal communities.

Since January 2021, we have been supporting the progression of activities in the OTNR to deliver an integrated offshore network, with workstreams in place to deliver over the short-term (Early Opportunities), medium-term (Pathway to 2030) and long-term (Enduring Regime) as well as a workstream on MPIs, which cuts across all three workstreams. We are now leading various deliverables for these different workstreams and in different timeframes to achieve an integrated offshore network in the short term and up to 2030, as well as supporting the development of an enduring regime.

There are significant links between the content of this consultation and the development of an enduring regime offshore more generally and other significant work programmes. Specifically, Ofgem's Electricity Transmission Network Planning Review (ETNPR), the BEIS and Ofgem work related to our Early Competition Plan, Ofgem's Transmission Network Use of System (TNUoS) charges Call for Evidence and the BEIS and Ofgem work on the Future System Operator (FSO) Programme. The ESO sees tremendous opportunity across these related programmes to further build on its existing roles to meet Government targets and get the best outcome for consumers. Therefore, the ESO is working holistically across these programmes to ensure alignment, strategic outcomes and a joined-up set of changes.

It is important that BEIS and Ofgem are also aligned across these programmes to ensure that decisions and outcomes are consistent, and that the risk of process complexity or inefficiency is reduced. For example, if there were different arrangements for onshore and offshore networks on 'strategic network planning activities', as are being considered by the ETNPR in relation to Centralised Strategic Network Planning. We therefore encourage Ofgem and BEIS to think holistically across these reviews to ensure consistent, strategic outcomes are delivered and welcome the wording on this in Ofgem's recent consultation on the initial ETNPR findings.

We are supportive and excited about BEIS's enduring regime consultation proposals and we agree with the aims and believe they can facilitate greater coordination in the long-term to help achieve Government net zero ambitions. Our key points on each of the four themes within the consultation are:

- We support the concept of a strategic seabed leasing plan, although further work is required to develop the concept, plan development and plan governance aspects. We think that network information should be one of the inputs used to develop the strategic seabed leasing plan to inform plan decision-making e.g. the potential connection costs and timescales associated with different seabed leasing options, etc. We expect that this network information would be provided by the strategic network planner and that once the plan has been approved the strategic network planner would then incorporate the plan data into both their whole system strategic planning activities (e.g. the Future Energy Scenarios) and their strategic network planning activities. We think it is too early to form a view on which organisation should take a lead role in the development and ownership of the strategic seabed leasing plan as it depends on its scope and interactions with broader network planning activities, although many stakeholders will be integral to strategic seabed leasing plan development and execution, including the ESO.
 - We support the concept of Holistic Network Design, but it must be undertaken as part of much broader strategic network planning activities and we think the ESO is best placed to take on this role, subject to further development work on the roles and responsibilities. It is important that this role covers both onshore and offshore network requirements, including strategic network investment requirements.
 - While it is too early to provide a definitive preference, based on the consultation, our working preference is Approach 2b (holistic network design with combined seabed leasing and financial support) including grid connection process alignment and coupled with both early competition (Option 5) and early transmission delivery, including anticipatory investment. This would be a radical change so significant further work is required to explore and develop this potential option for the enduring regime. However, we feel that each of these aspects together will unlock potential benefits in the enduring regime whilst mitigating some of the potential drawbacks linked to each component when in a different combination.
 - Again, while it is too early to provide a definitive view due to the ongoing Ofgem consultation on MPIs, we believe that MPIs should become a separate and distinct asset class. This would remove any doubt about the role and responsibilities (e.g. in licences, codes and standards) of MPIs in future.
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Our detailed responses to the consultation questions are included in the appendix below.

We welcome the opportunity to further discuss the points raised within this response. Should you require further information or clarity on any of the points outlined in this response then please contact Alice Etheridge in the first instance at alice.etheridge@nationalgrideso.com.

Yours sincerely,

A handwritten signature in black ink, appearing to read "M. Wright", is centered within a light blue rectangular box.

Matthew Wright
Head of Strategy and Regulation



Appendix: ESO response to consultation questions

Please note that throughout our response we have referred to a strategic seabed leasing plan rather than a Strategic Plan and we also refer to whole system strategic planning activities. This is to emphasise that the strategic seabed leasing plan is likely to be subsidiary in future to whole system strategic planning activities.

In addition, we have referred to Holistic Network Design where it relates to what is being consulted upon and we also refer to strategic network planning activities. Again, this is to emphasise that Holistic Network Design is likely to be subsidiary in future to strategic network planning activities.

We would encourage BEIS and Ofgem to agree and then consistently use relevant terminology across multiple programmes in respect of such activities e.g. OTNR, ETNPR, FSO Programme, Network Competition, etc. We would be happy to support the development of a consistent glossary of terms across these related programmes.

Q1: We think that a more strategic approach to the planning and development of offshore wind is needed to achieve the Review's objectives. Do you agree? Please explain your answer.

We agree that there is a need to take a more strategic approach to the planning and development of offshore wind generation in order to achieve the OTNR objectives. Given the timescales for delivery, this includes the associated onshore and offshore transmission infrastructure.

Within the context of the enduring regime offshore, we consider that any strategic seabed leasing plan should, by its nature, sufficiently help facilitate all elements of offshore generation through to a suitable point of onshore interface/connection. Whilst under the enduring regime a significant proportion of this will relate to offshore wind generation, consideration should be given to the enduring regime arrangements applying to all future offshore connections irrespective of the generation type (e.g. wind, wave, demand, etc), or at a minimum form a baseline foundation for these sectors to aim to emulate in order to reap the same net benefits. More specifically, we noted that in the context of the enduring regime offshore it is not fully clear what is in scope so BEIS should consider providing further clarity on what exactly falls within scope for future enduring regime arrangements.

We also agree that BEIS will need to further consider the impact on competition for Contracts for Difference in respect of several of the delivery models proposed and how these impacts could be mitigated. We note however, that the enduring regime combination we prefer at this point in time (as set out in our other responses below) would likely mitigate this issue, albeit with the consequence of potentially removing or reducing the available routes to a competitive advantage in some areas. The reason being that whilst there could be a reduction in the diversity of projects competing in an auction, due to more of the development activities being centralised, there will likely be greater interest in an auction (maintaining competitive pressure) due to a reduction in risks.

Q2. If you agree, do you have any views about the scope of the strategic plan? For example, should it cover generation or be limited to transmission?

In the context of the OTNR, we think that the scope of the strategic seabed leasing plan should be limited to offshore generation, or other offshore requirements in respect of future connections e.g. demand or MPIs, etc. Further consideration will be required in developing the concept of a strategic seabed leasing plan in relation to exactly what offshore technologies and offshore connection requirements should be in scope. It is important, as per Q5, that the strategic seabed leasing plan is developed in the context of wider strategic ambitions.

Regarding offshore technologies and offshore connection requirements within the strategic seabed leasing plan, as per Figure 3, we think that this represents a reasonable list of possible components in relation to generation. However, offshore transmission should not be in scope of the strategic seabed leasing plan and rather than having the network elements in Figure 3 as part of that plan, these network elements should instead inform its development as part of the strategic network planning activities, as are considered through Q6 to Q8.

Therefore, the strategic seabed leasing plan and strategic network planning activities should remain distinct activities with the latter being holistic rather than being solely related to offshore requirements. We think that there will need to be strong interactions between the development and ongoing maintenance of this plan and whole system strategic planning activities and strategic network planning activities. Whilst network elements will not necessarily be part of the strategic seabed leasing plan they will be essential to one being developed.

As an example, available network capacity might be an input into the strategic seabed leasing plan, and this would be provided by the party responsible for strategic network planning activities as per Q8. In providing such information, the strategic network planner would need to consider other relevant factors outside of the scope of the strategic seabed leasing plan, such as how and when network capacity is to be reserved in relation to a strategic seabed leasing plan, or interactions with onshore network requirements.

Q3. What governance arrangements would be appropriate for a strategic plan? For example, who should be the lead organisation, and what roles and responsibilities would other partner organisations have?

Until the scope of the strategic seabed leasing plan and its interactions with broader whole system strategic planning activities are clarified we think it is too early to provide a view on the most appropriate lead organisation to develop and maintain a strategic seabed leasing plan. However, in any case, there will be many stakeholders integral to the development and execution of a strategic seabed leasing plan so it is important that the lead organisation widely engages on its development and that there is a formal governance route in respect of it being approved or amended. One of the key stakeholders involved in this will be the ESO, especially if the ESO is to be the strategic network planner in future.

We would expect that the strategic seabed leasing plan will become an input into our Future Energy Scenarios and subsequent strategic network planning activities, as might be amended or enhanced via other programmes e.g. the ETNPR and FSO Programme. For example, with greater certainty on the future deployment of offshore wind from a volumetric, temporal and spatial perspective, greater weight could be given to this data within both whole system strategic planning activities and strategic network planning activities. It is therefore important that the strategic seabed leasing plan is robustly developed and has some formal standing so that it can become a meaningful process with a meaningful outcome. For example, to provide confidence in the pipeline of future offshore leasing rounds and to unlock potential for other aspects of the enduring regime offshore such as early competition and early transmission delivery, including anticipatory investment. We further explore this in our response to Q9 and Q10.

Q4. How should stakeholders be consulted during the development of a strategic plan?

We do not yet have detailed views in relation to the development of the strategic seabed leasing plan, although we expect that informal engagement and formal consultation will be beneficial to increase transparency and facilitate buy-in amongst key stakeholders.

Q5. What time-period should be covered by a strategic plan and how frequently do you think it should be updated?

The strategic seabed leasing plan should cover the relevant period of time associated with a specific appropriate long-term ambition, so 2035 for a decarbonised power sector and 2050 (and 2045 in Scotland) for current net zero ambitions in the first instance. However, it will not likely be feasible to create and fix the strategic seabed leasing plan for such an extended period of time. Therefore, whilst the strategic seabed leasing plan should look out to 2050 (and 2045 in Scotland) there should be a periodic or rolling period within it which provides greater certainty e.g. every five years. This would balance a long-term strategic seabed leasing plan with the need to retain flexibility within that plan to cater for the likely emergence of necessary future changes e.g. through technological innovations, etc.

Consequently, this strategic seabed leasing plan could dovetail with developments related to strategic network planning activities as the information from this plan could be an input into wider network development processes. It is important that the frequency of the strategic seabed leasing plan is aligned with broader strategic network planning activities such as the multi-year “Strategic Investment” (SI) designation contemplated by the ETNPR. Constantly changing a strategic seabed leasing plan will not give the certainty required to deliver a decarbonised power sector by 2035 and net zero by 2050 (and 2045 in Scotland). It is therefore also important that in considering the time-period covered by the strategic seabed leasing plan, and how frequently it is updated, there is consideration given to the potential interlinkages to the whole system strategic planning activities and strategic network planning activities considered here but also in respect of the ETNPR and FSO Programme.

Q6. We think that there is a need for a Holistic Network Design that plans offshore transmission for the long-term as an integrated part of a transmission network, Do you agree? Please explain your answer

Yes. As our Offshore Coordination Project Phase 1 report demonstrated there is potential consumer benefit from greater offshore coordination, and this is something currently being explored through the Pathway to 2030 workstream in relation to the development of the Holistic Network Design.

We believe that both Pathway to 2030 and the ETNPR are significant steps in the right direction towards a decarbonised power sector by 2035 and net zero by 2050 (and 2045 in Scotland).

The enduring regime arrangements offshore and the transitional arrangements between Pathway to 2030 and the enduring regime both require further consideration, as do any links to wider network planning developments in future, as are being considered by the ETNPR.

Q7. If you agree, do you think a Holistic Network design should also include onshore transmission?

Yes, but it is important that the arrangements for the development of an enduring regime offshore are considered more broadly in relation to strategic network planning activities, as is currently being considered by the ETNPR. Any strategic network planning activities, including those being undertaken for the development or execution of a strategic seabed leasing plan, will need to be considered in the context of the overarching approach for all network requirements, including those originating offshore.

More specifically, it is important that any enduring arrangements being developed via the OTNR are fully aligned with the overarching arrangements being developed via the ETNPR and FSO Programme. This will ensure that a holistic approach is being taken and this avoids the potential for offshore coordination benefits creating disbenefits on the wider system e.g. in relation to onshore connections.

Therefore, it is worth noting that whilst the strategic seabed leasing plan will be vitally important in relation to offshore drivers and links into whole system strategic planning activities and strategic network planning activities (including the identification of offshore SI), it will only be one of the inputs into those future activities.

Q8. Who do you think is best placed to undertake a Holistic Network design? Please explain your answer.

Based on our experience to date, the other programmes of work being undertaken by BEIS and Ofgem and our roles and responsibilities in relation to the Holistic Network Design within Pathway to 2030, we believe that the ESO is best placed to undertake strategic network planning activities in future.

However, it is important that further consideration is given to what this means in practice e.g. the delineation between strategic network planning activities and those activities related to detailed network design. We expect that whilst consideration should continue on the enduring regime offshore, positions will need to be consistent across the OTNR, the ETNPR and the FSO Programme.

Q9. Which delivery model would provide the appropriate balance of incentives and cost savings given the Review Assessment Criteria (Annex 4)? Please explain your answer

Prior to providing views on each of the potential offshore delivery models and further to similar views presented in response to the recent Ofgem consultation on offshore delivery models related to Pathway to 2030, we would first like to set out principles against which we considered each of the seven potential offshore delivery models. These four principles (and a short explanation of each) are as follows.

- *Competition Everywhere*: competition should be an element of the preferred model to drive innovation and cost efficiencies to benefit consumers.
- *Process Simplicity*: the preferred model should be straightforward and minimise hand-offs and transitions throughout the process to reduce complexity.
- *Developer Confidence*: any preferred model should give developers sufficient confidence in the delivery and security of their connection to the National Electricity Transmission System.
- *Development of Coordinated Offshore Transmission Owners (OFTOs)*: existing obligations of OFTOs (in respect of licences, codes and standards) may not be sufficiently robust in future for a coordinated Offshore Transmission System and, as such, additional obligations may be required e.g. in relation to network planning or customer connections, etc.

Based on the above, and in the context of the assessment criteria, we have initially discounted several options at this time for the following reasons:

- Option 1 does not include competition so this option would effectively give the TOs a regional monopoly over the delivery of offshore transmission, and as is acknowledged within the consultation, would likely not provide the best value for money for consumers. Taking these issues into account we do not feel that Option 1 satisfies the assessment criteria regarding competition (2b and 2c), risk allocation (2d), or end-consumer net-benefit (4a), and therefore it would not be our preference.
- Option 7 does not include a Holistic Network Design, implying that the legacy un-coordinated approach would be followed making it difficult to see how the OTNR objectives could be achieved. Taking this into account, we do not feel that Option 7 satisfies the assessment criteria regarding deployment acceleration (2a), or end-consumer net-benefit (4a), and therefore it would not be our preference.

- Option 3 and Option 4 could introduce unnecessary complexity into the process as they have different parties undertaking detailed network design and consenting, or detailed network design, consenting and construction. We feel that it will be a less complex, more efficient and more effective process if the same party undertakes detailed network design, consenting and construction. For example, if one party were to undertake consenting and another construction, the link between any commitments in the consenting process and the delivery of those commitments could be weakened. Similarly, with the separation of detailed network design and consenting, the balance between ongoing design iterations, the consenting envelope and stakeholder engagement is then at risk of not being efficiently managed. We therefore believe the same party must own detailed network design, consenting and construction. Taking this additional complexity into account, we do not see how Option 3 or Option 4 could accelerate deployment (2a) and perceive that appropriate risk allocation (2d) would become difficult to manage therefore, Option 3 and Option 4 would not be our preference.
- Option 2 and Option 6 include competition, which is beneficial, and both reduce process complexity, given that the same party is responsible for detailed network design, consenting and construction. However, each has its own challenges. Under existing network charging arrangements Option 2 may have less competitive pressure than Option 6 - whilst both options have downward regulatory pressure¹ the costs of offshore infrastructure are directed back at offshore generators under Option 6 and this is not the case for the onshore TOs under Option 2. However, depending on how it is to be implemented, Option 6 could reduce developer confidence, as one developer could be reliant on another developer for their connection, rather than relying on a licenced TO as per Option 2. Whilst we suggested that Ofgem further explore options similar to Option 2 and Option 6 in the context of Pathway to 2030, considering the nearer term implementation timescales for that workstream, we believe that under the enduring regime further improvements can be delivered so these options would not be our preference.

Therefore, in the context of the enduring regime offshore, Option 5² looks like the most attractive option at this point in time as it introduces competition, reduces process complexity, and based on our assessment broadly satisfies each of the OTNR assessment criteria. We also consider that if an early competition process is adequately designed and well timed, it could provide greater overall developer confidence. However, as is acknowledged within the consultation, an early competition process, and associated regulatory arrangements e.g. in relation to risk allocation and risk premium, etc, could potentially introduce process complexity. Again, this could be addressed by ensuring the timely and robust design of an early competition model offshore.

¹ For example, through the setting of allowances or the disallowance of costs which are not economic and efficient, etc.

² We refer to an early competition process throughout our consultation response in relation to Option 5, rather than to a very early competition process as described within the consultation regarding Option 5 - this description is used to align with our onshore Early Competition Plan. As highlighted earlier, consistent use of terminology across the various strategic programmes would be beneficial in future.

Introducing an early competition model into the development and delivery of offshore transmission would also be consistent with the expected direction of travel regarding onshore competition, as has recently been consulted upon by both BEIS and Ofgem. However, there will potentially be differences between any offshore and onshore early competition model arrangements in the short to medium term, for example in relation to the feasibility of non-network solutions for offshore transmission. We anticipate however that in the longer term, with a strategic seabed leasing plan and strategic network planning activities in place, potentially combined with early transmission delivery, that there could also be opportunities for non-network solutions offshore in future. This could, in turn, potentially accelerate capacity increases in the latter years towards achieving net zero ambitions. For these reasons and considering associated implementation timescales for the enduring regime, we believe Option 5 to be the most suitable approach to take forward to develop further at this point in time.

We also note that if an early competition approach is taken across both onshore and offshore transmission, there could be greater opportunity in future to harmonise the process and remove the current distinction between offshore and onshore competition arrangements. In addition, if both onshore and offshore early competition models were effectively harmonised this could enable further simplification e.g. through the centralisation of roles into fewer parties, or a singular party, across both onshore and offshore early competition arrangements.

10. At what stage should the detailed design and construction of transmission be conducted? Please be clear about which approach your comments relate to.

The consultation as written considers the potential benefits and drawbacks associated with either early or later detailed network design and consenting of offshore transmission.

However, we are of the view that there is a third ‘middle-ground’ approach, similar to the one currently being explored under the Pathway to 2030 workstream, that should also be considered here. Under this approach, detailed network design and consenting will, depending on the project, commence plus or minus 6-12 months after seabed leasing has concluded and awards have been made to developers.

Our view is that the approach taken under Pathway to 2030 should act as the foundation for the approach under the enduring regime, and that to move the timing of offshore transmission detailed network design and consenting to a later point than which it is currently being undertaken for Pathway to 2030 would be a backwards step from where we are today in relation to these ongoing developments.

There are however challenges associated with early transmission delivery, as acknowledged within the consultation, regarding effective network design given the potential uncertainty of future connections. Therefore, the intention should be to utilise the Pathway to 2030 approach as a starting point and explore ways in which detailed network design and consenting (and so construction) could be brought forward to an earlier point in the process, whilst ensuring that consumers are sufficiently protected from the associated risks.

As is further outlined in our response to Q11 below, our views in this area have been considered within the context of our preferred high-level approach. More specifically, Approach 2b with a strategic seabed leasing plan and strategic network planning activities alongside early competition offshore, which in combination almost entirely removes the risk of stranded or underutilised assets.

Q11. Do you have any views on the relative merits of these high-level approaches?

1. Incremental change

2a. Holistic network design and delivery

2b. Holistic network design with combined seabed lease and financial support

In respect of the three high-level approaches provisionally set out above for the enduring regime, we agree that Approach 1 is unlikely to be viable as it is difficult to see how this approach would deliver the aims of the OTNR within the current timeframe.

Approach 2a is similar to the approach taken under the Pathway to 2030 workstream and it goes some way to addressing this problem by taking a more strategic approach by including strategic network planning activities. However, our current view is that further steps can be taken to expedite and streamline the delivery of offshore generation and associated transmission infrastructure under the enduring regime via more radical changes. As a result, whilst further work is required to explore and develop this potential option for the enduring regime, Approach 2b would be our working preferred approach as we think it is most likely to deliver the levels of coordinated offshore wind required in future. This further work includes consideration by BEIS of the potential links between Approach 2b and the consenting process in the context of the enduring regime.

We think that combined seabed leasing and financial support could reduce process complexity for developers and provide greater certainty at an earlier stage of the process as developers would be undertaking the earlier stages of project development without the uncertainty of whether they would be successful for financial support.

Our preference with regards to Approach 2b over Approach 2a is also subject to the combined seabed leasing and financial support process proving to be workable in respect of aligned seabed leasing and grid connections. We are currently exploring this with both The Crown Estate and Crown Estate Scotland and we will continue to collectively develop our thinking over the coming months.

For example, via a strategic seabed leasing plan and for strategic network planning activities, the ESO could have visibility of the full scope of the potential for future seabed leasing rounds, including capacities, locations and timescales. In turn, this would contribute to facilitating the design of a strategic network that not only delivers what we are aware of in terms of known requirements but also gives much greater confidence compared to the status quo on the expected future requirements. This could bring about efficiencies in the network design and delivery process, but it would require early sight of, and confidence in, the relevant information. It could also introduce potentially significant changes in seabed leasing and grid connection processes.

We consider that there are multiple benefits that would be gained through the setting out of a strategic seabed leasing plan and taking a more strategic approach to network planning arrangements, as we detailed within our responses to Q2 to Q8. For example, this would help to mitigate the issues described in our response to Q10 and enable transmission delivery to occur earlier in the process than is the case today due to the increased certainty regarding future offshore connection requirements. In turn, this would also likely help to facilitate aspects of an early competition model as the network need could be confirmed at a much earlier stage when compared to status quo arrangements. As above, any such strategic network planning activities would need to consider both onshore and offshore network need and transmission infrastructure requirements.

In summary, with a strategic seabed leasing plan and strategic network planning activities in place, we support efforts to emulate the model for offshore wind and transmission utilised in Germany but with the addition of the potential for network competition i.e. combined seabed leasing, grid connection and financial support being awarded in parallel to successful offshore developers, plus early transmission delivery and early competition.

We believe that if this model is correctly designed and implemented it would have the potential to virtually remove the risk of stranded assets, so consumers are not underwriting the cost of assets that might not be used or fully utilised. Indeed, this model is also potentially the lowest cost option for consumers and the system as a whole because it removes this risk of asset stranding, allows transmission investment to be optimised and built ahead of need (potentially using an early competition model as above) and removes risk for developers.

On a separate note, interactions with network charging as a result of the enduring regime offshore will need to be explored but it may be beneficial to consider if such questions would be better suited for exploration via the TNUoS Call for Evidence, which specifically invites views from stakeholders on offshore coordination.

As a final point, we also consider that the legacy radial connection arrangements (e.g. generator build) will likely need to be retained for any radial offshore designs identified via the enduring regime processes. This should be considered further as there is potential that an enduring model could also be applied to radial connections.

Q12. Does the current legal and regulatory framework, and Ofgem's options to regulate within that framework as described in the Ofgem consultation, provide an adequate enduring solution for the regulation of MPIs? If not, please indicate why not and what changes you think might be needed.

We think the current legal and regulatory framework is sub-optimal to provide the best platform to regulate MPIs. Whilst the Ofgem consultation (depending on the outcome) could resolve some of the associated challenges, there is still the potential that it could remain sub-optimal even once changes have been made as a result of that consultation. The reason is that there are many challenges to utilising the current framework which will differ slightly dependent on the model (i.e. interconnector-led and OFTO-led) and the approach taken in future. For example, the arrangements in relation to primary use could remain complex and difficult to manage on an enduring basis and there could be a more sustainable solution for the enduring regime.

To illustrate the above, there are several complexities with interconnector-led and OFTO-led approaches, such as whether the interconnector would need to meet the Security and Quality of Supply Standard requirements in the interconnector-led approach. Conversely, OFTOs are currently subject to these requirements which provide safeguards to ensure the network is designed to the expected standards.

Another challenge for both approaches is in relation to the primary purpose of the design and whether it would be to enable offshore generation or to enable interconnection. There are then also questions over access rights and who manages the relationship with the onshore network and amongst the various relevant parties and this would need to be clear in the licence and code obligations. Additionally, interconnectors and OFTOs currently interact with funding and charging regimes in different ways. Interconnectors are currently usually remunerated via the Cap and Floor arrangements, with those costs not usually being included in network charges. These arrangements are also currently under review by Ofgem in respect of MPIs. Alternatively, OFTOs are currently remunerated via Tender Revenue Stream arrangements, with those costs being included in network charges. Furthermore, consideration must be given to the distinct and different principles of the Connect and Manage approach applied to offshore wind connections and the Invest and Connect approach applied to interconnectors.

Whilst these challenges relate to the interconnector-led approach and OFTO-led approach, these challenges and the others being considered, including by Ofgem, would also be relevant to MPIs if they were a separate asset class. However, in the specific context of this question, there could be a more sustainable approach than via the status quo arrangements, even as amended as a result of the Ofgem consultation. We will, however, reconsider our views once the outcome of the Ofgem consultation is known to check whether our views change.

Q13. Do you have any views on the merit or necessity of defining a separate MPI asset class in UK legislation, or other legislative change? What might be the disadvantages of this approach?

Introducing legislation to define a specific MPI asset class would help clearly define the obligations of a single asset owner without the complexities of separate asset owners for both components³ of an MPI e.g. defining perhaps conflicting purposes of both components. The primary purpose of an MPI could also be determined, whether it be interconnection or facilitating the route for offshore generation to connect, and this will be the basis for the whole asset. The primary purpose will then, in turn, define licence requirements, including the need to meet code and standard requirements, as well as funding arrangements. It would therefore create a distinct set of obligations for an MPI and create a clear set of principles for the asset which are not open to interpretation. It is also worth noting that creating a new MPI asset class could be a significant undertaking as all aspects of the existing regimes for OFTOs and interconnectors would need to be considered e.g. licences, codes and regulatory funding arrangements, to clearly allocate rights, obligations and processes to MPIs.

³ Our views in relation to there being a specific MPI asset class relate to 'infrastructure' components (i.e. transmission and interconnection) and not 'generation', which we think should remain separate and therefore be connected to the MPI.

Q14. What changes might be needed to the current UK regulatory framework to address regulatory developments in other jurisdictions?

Firstly, consideration must be given to the market model for MPIs. The EU is exploring two approaches - the home market model and the offshore bidding zone model - which both present their respective challenges to the GB MPI market design. Under the home market model, parties have to forecast the cross-border capacity that will be required for offshore wind. Under-forecasting capacity results in costly remedial actions, whereas over-forecasting results in underutilisation. With the offshore bidding zone model, overall utilisation is optimised, but with the offshore windfarm needing to purchase interconnector capacity it could reduce revenues for offshore windfarms and discourage investment. Whichever approach is taken, the appropriate regulatory framework will need to be designed whilst also taking into consideration the market design in the EU. If GB opts for a different market design approach to the EU, the regulatory framework will need to consider how the two markets interact and ensure it still operates on a competitive landscape. If the EU decides on an offshore bidding zone approach and GB decides a home market approach, GB will receive the home market price, whereas the EU price would be a range between the two zones in the home market. It will be important to determine if the difference in prices will create a level playing field for wind farm revenues between markets.

The MPI regulatory framework will also need to consider the most appropriate market approach, how one market will interact with another market and the ultimate impact on revenues. There are also considerations from a market coupling perspective. As GB is no longer coupled with Europe for day ahead auctions the new framework will need consider the market coupling arrangements if/once these are developed. Finally, within the EU there is not a defined offshore regime - it varies by each Transmission System Operator - so there could be different requirements for each MPI, although this would likely also be the case, potentially more so, without the definition of a new asset class for MPIs. Close collaboration with EU bodies, including Transmission System Operators, will be important to ensure MPI interactions can be managed in the most efficient and effective way in future, including in respect of the offshore wind which is connected to MPIs.