

Written evidence submitted anonymously (GRD0020)

Consultation on Grid Capacity in Wales

<https://committees.parliament.uk/work/6475/grid-capacity-in-wales/>

Background: [The Respondent] is the most successful independent developer of offshore wind at scale globally. We have developed and consented over 3GW across GB. These projects represent approximately 20% of the UK's offshore wind capacity either in operation or under construction.

We are responding to this consultation with a particular focus on the impact that Grid Capacity Constraints may have on the Offshore Floating Wind sector in the Celtic Sea.

1. What are the current capacity issues facing the National Grid?

[The Respondent] is a developer of offshore wind. We engage with National Grid ESO and National Grid ET on a regular basis – most recently with regards to the proposed Celtic Sea Floating Wind leasing round. The onshore grid connection can often be the critical path for our projects, with connection dates sometimes 10+ years into the future due to the significant extent of enabling works required on the onshore transmission network.

The specific issues that we are aware of affecting grid capacity and grid connections in Wales include:

- The significant levels of existing contracted schemes planned to connect into North Wales, triggering widespread re-stringing and upgrading of 400kV circuits as far east and south as Ironbridge.
- The 400kV circuits out of South Wales have limited headroom and again a significant set of reinforcement works has been identified.
- A 2.5GW HVDC link is expected to be required between North and South Wales
- Physical space constraints at key substations including Pembroke 400kV risk sterilising grid connection opportunities.
- The consenting risk associated with new 400kV overhead lines is perceived to be significant, leading to National Grid being constrained as to the connection options offered.

2. How are the constraints on Wales' grid likely to be exacerbated as demand for renewable energy surges?

We believe that as both onshore and offshore renewable deployment accelerate, there is a clear need for a more responsive and anticipatory connection regime.

To date, the majority of transmission connection delays for offshore connections have been as a result of the need to significantly reinforce the network to accommodate power flows from large volumes of offshore wind and interconnectors. In response to this, National Grid and BEIS have launched the OTNR, with a view to improving offshore co-ordination. However, we are now beginning to see additional impacts from the recent increase in onshore large-scale renewables, and believe that without a full co-ordinated approach any gains from the co-ordinated OTNR process will be lost due to the additional onshore reinforcements which we expect to be triggered by the increasing pipeline of onshore solar PV and battery storage.

3. How can Wales unlock the grid and ensure that it is ready for future demand?

In light of the UK's Net Zero targets, we believe it is critical that the transmission connections are not allowed to form the critical path, impacting the current pace and ambition of the Offshore Wind Industry. We note, that currently:

- Onshore Grid Connection dates are currently the critical factor delaying a number of offshore projects. This must be avoided in future.
- Even once a connection date is agreed, TOs hold no liability for delivering connections on time, with liquidated damages set to zero as standard within all connection agreements.
- The lack of speed with which the Offshore Transmission Network Review is being carried out, including delays to the first Holistic Network Design, must be addressed to ensure the design process itself does not become a barrier to timely connections.

4. What can be done to incentivise investment in grid flexibility, in particular vehicle to grid technology and 'smart' charging?

No response.

5. What should be done to ensure that the grid, particularly in rural areas, can cope with the extra demand that will be generated from the transition to electric vehicles?

No response.

6. What level of anticipatory investment in grid capacity is required by the UK Government in order to ensure that Wales can deliver its decarbonisation roadmap?

No response.

7. How can the UK Government, the Welsh Government and Ofgem work together to improve grid capacity?

We think that BEIS' leadership in the OTNR shows their interest in developing a grid regime fit for large-scale deployment of offshore renewables and we note that key stakeholders for Wales, such as The Welsh Government, Ofgem and The Crown Estate, are supporting the process. Overall, we believe the involvement of these key stakeholders in the OTNR is very positive and vital for it to deliver on its aims. We think that consideration during and following the OTNR needs to be given to:

- Effective anticipation of the deployment of renewables to meet net zero is key to allow appropriate levels of anticipatory investment – specifically the inclusion of a plan for onshore renewables alongside offshore renewables in any co-ordinated transmission design (Holistic Network Design).
- Regulatory consideration in the next Transmission Owners price control review with a view to incentivising anticipatory investment and accelerated connection dates.

- Co-ordination between agencies including the Crown Estate who have a key role in determining the location and scale of offshore renewables.

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