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Ørsted response to National Grid ESO Forward Plan 2019-2021

14 February 2019

The Ørsted vision is a world that runs entirely on green energy. In the UK, we develop, construct and operate offshore wind farms and innovative waste-to-energy solutions. We also offer flexibility solutions to our industrial and commercial customers as well as supplying them with electricity and gas. Headquartered in Denmark, Ørsted employs 5,600 people, including almost 1,000 in the UK. Ørsted is the largest offshore wind farm developer, generator and owner in the UK.

Our ref. ANDMH/NGESO

We welcome the opportunity to reply to the National Grid ESO Forward Plan. We see the role of the ESO as vital to shaping the market in accordance with its four roles¹ and supported by its seven principles to:

1. Support market participants to make informed decisions by providing user-friendly, comprehensive and accurate information;
2. Drive overall efficiency and transparency in balancing services;
3. Ensure the rules and processes for procuring balancing services, maximise competition where possible and are simple, fair and transparent;
4. Promote competition in wholesale markets;
5. Coordinate across system boundaries to deliver efficient network planning and development;
6. Coordinate effectively to ensure efficient whole system operation and optimal use of resources;
7. Facilitate timely, efficient and competitive network investments.

With the increasing penetration of renewables on the grid and the increasing need for flexibility, the need for a proactive, engaged system operator has never been greater. As electricity generation continues to be decarbonised, the system will need to reflect the increasing diversity of market participants who can support efficient system operation.

This response reflects our initial views on the ESO Draft Forward Plan 2019-2021 and how some actions could be brought forward to benefit system operation and consumers.

¹ Managing system balancing and operability, facilitating competitive markets, facilitating whole system outcomes, supporting competition in networks

We are supportive of the principles outlined by the ESO to facilitate its various roles

The roles and principles set out by the ESO respond to many of the changes that we are also observing. The pace of decarbonisation required to meet our shared climate change obligations means that the generation mix and its characteristics are rapidly evolving.

At Ørsted, we are taking an active role in addressing climate change. For example, in 2018, we commissioned the world's largest offshore wind farm, the 660MW Walney Extension in UK waters. Later this year, we will break this record when we commission our next project, the 1200MW Hornsea One offshore wind farm. We have also recently commissioned our 20MW battery storage project in Carnegie Road, Liverpool. This project allows us to continue to develop our understanding of the wider commercial and technical drivers required to balance the grid.

Alongside decarbonisation, the increasing decentralisation of energy will also present a challenge. The ESO rightfully sees amongst its four roles the need to maintain system operability and facilitate whole system outcomes to meet this challenge. For example, our 3.7GW of offshore wind capacity is able to offer frequency response, and our battery storage project participates in the Balancing Mechanism. We welcome ways in which we can collaborate with the ESO to develop product frameworks to enhance system operation and increase optionality for the ESO, as well as asset utility.

However, to further increase the utilisation of these existing assets in system operation, we rely on the other roles of the ESO and its supporting principles. Namely, the ESO has the ability to promote competitive markets, and facilitate the market by creating simple, fair and transparent rules for market entry and participation. We see it as vital for the ESO to establish the market framework under these principles, as it will increase the number and diversity of participants in the market, giving the ESO optionality whilst promoting competition and benefiting consumers.

We also see the ESO's four roles and seven principles as compatible with government energy policy. The Secretary of State's speech on energy² outlined four policy principles – A 'market' principle, an 'insurance' principle, an 'agility' principle and a 'no free-riding' principle. Ørsted supports these principles and particularly view the agility principle as important to an ESO operating at a time of rapid change. We would encourage the ESO to keep these high-level policy principles in mind when working alongside industry to deliver its Forward Work Plan.

The agility principle - Bringing forward actions in the ESO Forward Plan to accelerate change

As stated earlier, we rely on the ESO's roles and principles to develop simple, fair and transparent markets that promote competition. As a generator that shares the ESO's view of considering whole system outcomes, we believe that offshore wind generation

² Secretary of State Greg Clark MP's speech dated 15 November 2018 – 'After the trilemma – 4 principles for the power sector'

is also capable of offering ancillary services such as frequency response and Black Start, which we detail below. Enhancements to the market framework could be brought forward to create a level-playing field which will increase market participation and increase the utility of assets, driving system efficiency.

The ESO SNAPS process³ which has led to the Future of Balancing Services work has begun this process and the ESO Forward Plan for 2019-2021 could accelerate some of its actions and uphold the 'agility' principle to keep energy regulation responsive to change. Accelerating actions to bring procurement of ancillary services from wind energy would also meet the 'insurance' principle to preserve optionality.

We believe the timelines for bringing wind into services such as frequency response and system restoration can be accelerated beyond the timelines set out under the work programme for Principle 3⁴ to maximise competition for procuring balancing services via simple, fair, and transparent rules.

For example, the ESO Forward Plan suggests that trials for Commercial Frequency Response (FFR) from BM Wind could be procured as late as Q3 2019. As set out in our previous response to SNAPS and the Firm Frequency Response Review OCP-18⁵, we believe that offshore wind can already provide frequency response to a larger extent than what we are currently being procured for and we now seek the right framework to be able to fully participate. For system restoration, we are also examining the framework currently proposed under the trial for procurement of new Black Start sources and are concerned that its narrow scope may set precedents which exclude procurement from wind. We are happy to talk to the ESO directly about these points and will raise this within the Wind Advisory Group.

Lastly, we welcome efforts to continue to optimise BSUoS and actions to drive down costs so that they are lower than would otherwise be the case. We are hopeful that actions in the ESO-led BSUoS task force will help produce a more stable, predictable BSUoS charge that helps network users to maintain an accurate outlook on charges.

We have set out our views in more detail in the appendix overleaf, which contains our answers to the questions in consultation. Please do not hesitate to contact me (andmh@orsted.co.uk, 07827 283123) should you have questions about our response.

Yours sincerely,

Andrew Ho
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Ørsted

³ SNAPS- System Needs and Product Strategy

⁴ National Grid ESO Forward Plan 2019-2021, Principle 3, Performance Benchmarks, p38

⁵ Firm Frequency Response, Outline Change Proposals Document 18. Please see our response, dated 12 July 2018

Appendix - Further response to questions

Our ref. ANDMH/NGESO

1. Do you have any comments on whether our plans are heading in the right direction to meet current and future market needs?

We are supportive of the four roles and seven principles outlined by the ESO to facilitate its various roles. We view these as being compatible with meeting the requirements of the future energy system. The increasing decarbonisation of generation alongside the increasing sophistication of demand users and changing consumption patterns requires a forward-looking ESO to facilitate a whole system outcome whilst managing efficient system operation, which a well thought-out, competitive market can facilitate.

2. Please give us your view on whether we are targeting the right activities, for example those that will deliver most benefit for consumers?

Yes. Increasing competition (Principle 3) that can allow wind to provide services backs up the deliverable in principle two on uninterrupted safe, secure system operation (within Principle 2). This will deliver benefits to consumers as it utilises existing assets more effectively. We think the right activities are being targeted, but activities for procuring BM Wind services could be accelerated.

Frequency response

As per our response to OCP 18 for FFR⁶, we believe that offshore wind farms can provide more frequency response than what is being currently procured, but would require changes to the way in which firm response products are defined. Closer to real-time procurement of frequency response (e.g. a day-ahead market) for an asymmetrical product (i.e. a split between procuring upwards and downwards response) would allow wind farms to better participate today. Concepts such as aggregation of firm response from wind farms at diverse locations also warrant further consideration.

Additionally, as the ESO is already handling a large amount of wind forecast data, it is in a good position to ascertain the levels of additional availability it can get for frequency response from wind energy. Paired with more effective use of the 'power available' signal provided by wind farms, we would also expect to see increased procurement of wind farms in mandatory frequency response as well.

Black Start

We also believe that work on procuring BM Wind for Black Start services could also be brought forward with further collaboration from wind energy developers. We are aware of some work being undertaken under the Network Innovation Allowance to determine the Technological Readiness Level of wind to offer system restoration. However, we feel that solutions are already available that would already allow wind energy to be considered for procurement. This could be discussed at the Wind Advisory Group.

⁶ Firm Frequency Response, Outline Change Proposals Document 18. Please see our response, dated 12 July 2018

As per our response to the recent Black Start Procurement Event⁷ we think it is important for the ESO to outline its requirements for a Black Start product(s) so that projects can be designed with those specifications in mind for projects currently under development. Building system restoration capability in the design phase of a project rather than retro-fitting existing assets is a more cost-efficient outcome, and could be ready to deploy as incumbent providers begin to exit the market.

We are also concerned that the current Black Start Procurement Event may create precedents in contractual frameworks or product design that may preclude the conclusion of work on getting other technologies into Black Start. It may result in a framework being established that does not allow new technologies to enter. This would dissuade the creation of a level-playing field for market participants and reduce competition for the provision of this service. For example, the current Black Start Procurement Event represents a first real opportunity for new participants, but still applies an assessment criteria that favours incumbent generation technologies. We felt there was an opportunity to apply a more forward thinking, probabilistic assessment criteria to deliver a technology neutral stance to procurement.

There are significant opportunities ahead for the ESO to consider. Commitments by BEIS to implement further CfD auction rounds means that there is a significant pipeline of major wind farms in the design phase that can build existing system restoration solutions in if the procurement framework is opened up to allow further market participation.

Code modifications review

We are also hopeful for the ESO to deliver direction on the Energy Codes Review (under Principle 4) to tackle the current issues of accessibility and participation under the current process. We understand that the amount of modifications is partly related to the pace of change that needs to be delivered, but we are looking for ways that all participants can sufficiently comment and take part in the process amidst the volumes of work. The enhanced ability for all users to effectively participate is welcome, as a diversity of views is required from all users contributes to build the required flexible energy system that complements a decarbonised power sector.

3. We present in our plan, how our activities will meet and exceed baseline expectations between 2019-21 (see page 5 for definition of exceeding baseline expectations), do you have any comments on this?

BSUoS forecast vs outturn

We welcome the actions to monitor the outturn BSUoS compared against annual and monthly forecasts⁸. Particularly, we welcomed the introduction of low and high error bands to the monthly forecasts in 2018. Going forward, it will be important to benchmark the forecast and its accuracy against actual rates, in order to validate the

⁷ Black Start Procurement Event for South West and Midlands 2019. Please see our response dated 9 January 2019

⁸ National Grid ESO Forward Plan 2019-2021, Principle 4, Metrics 9-10, p51-52

forecast data. This is an important activity to undertake in order to continuously refine the accuracy of BSUoS forecast data, which many network users will sample as part of their own analysis of BSUoS charges.

Our ref. ANDMH/NGESO

Distributed Resource Desk performance

We also welcome the recent creation of the Distributed Resource Desk to dispatch smaller generators. We would be keen to understand the performance of this desk in the coming years, and the sorts of metrics that the ESO might propose to measure the success of the desk's operations.

4. Do you agree that our metrics will allow us to track our performance as we deliver against our plans?

In addition to our views outline in question two, platforms such as the Wind Advisory Group are good avenues to bring forward plans for procuring ancillary services from wind energy providers. Designed as an interface between the ESO and wind energy participants, it could serve as useful platform to gauge progress and track performance of wind energy related activities undertaken by the ESO.