MHI Vestas Offshore Wind

Submission to Ministry of Energy and Environment regarding

Energimyndigheten's proposals for an offshore wind support mechanism

Date: 21 August 2015

Introduction

MHI Vestas Offshore Wind believes Sweden is very well placed to secure low cost, reliable power from offshore wind which will broaden the energy options available to it. We welcome the proposal from Energimyndigheten on how to design an auction system for offshore wind. We believe a level of 15TWh offshore wind would be achievable. The proposals are ambitious yet realistic.

Summary

- MVOW welcomes the proposed scheme, it shows ambition yet is realistic
- The proposed use of auctions should deliver competitive prices, minimising cost to consumers
- The proposed 120MW early test round is a welcome starting point for the scheme, but its volume should be increased to provide a more realistic indicator of offshore wind costs
- The proposed implementation timescale is unnecessarily long and creates unnecessary uncertainty for projects
- We welcome the recognition that existing permits will need to be extended given the proposed implementation plan
- Consent extensions should allow for amendments to be made to enable significantly larger turbines to be installed, to minimise the cost of energy from individual projects and for society. Many of the existing consents assume turbine capacities of 3.5MW to 6MW, this should be expanded to 3.0MW to 10MW or be open ended given the long term scope of the proposals.
- We welcome the suggested sliding premium support structure as it reduces revenue risk whilst ensuring offshore wind parks operate fully within the market

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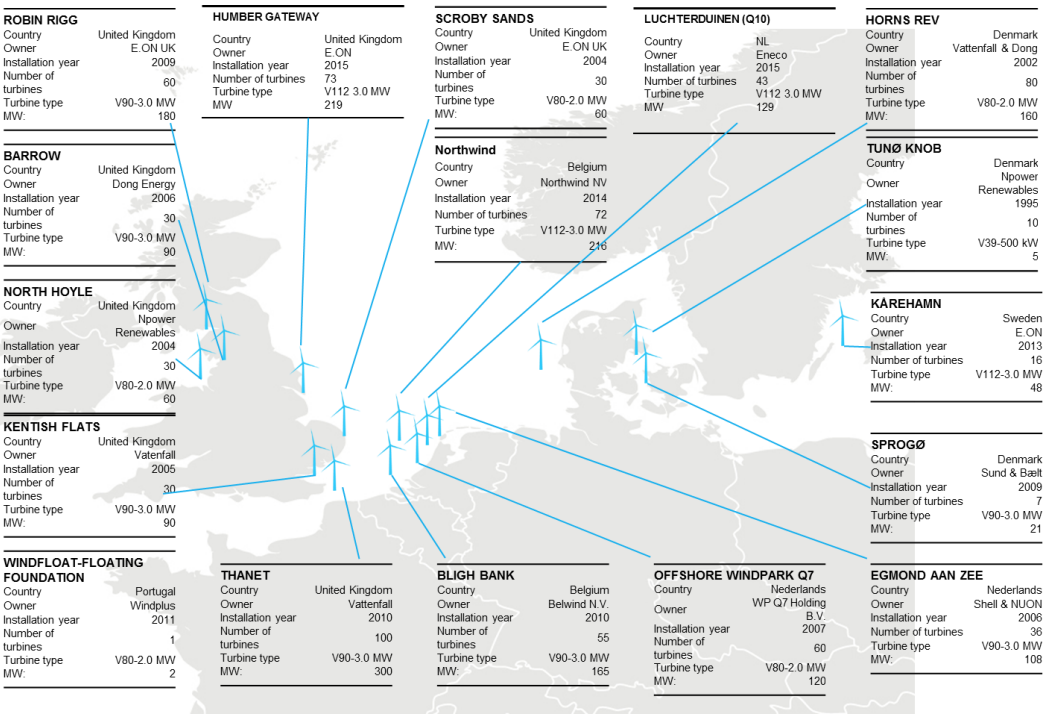
About MHI Vestas Offshore Wind

MHI Vestas Offshore Wind A/S (MVOW) is a joint venture established by Mitsubishi Heavy Industries Ltd (MHI) and Vestas Wind Systems A/S (Vestas). The company is owned 50:50 by MHI and Vestas. MVOW was established on 1st April 2014, and is headquartered in Aarhus, Denmark and employs approximately 850 people across Europe.

MHI and Vestas leverage their respective strengths to form a powerful partnership in MHI Vestas Offshore Wind. Since its foundation in 1884 MHI has sought to pioneer new approaches in advanced manufacturing and technology. MHI offers 700 industrial products and is organised across four business domains; Energy & Environment, Commercial Aviation & Transportation Systems, Integrated Defence and Space Systems, and Machinery, Equipment, & Infrastructure.

Vestas installed its first offshore wind farm, comprising ten 500kW turbines, at Tunoe Knob in Denmark in 1995. Since then it has installed over 2GW of offshore turbines, including the 48MW Karehamn offshore wind farm in Sweden.



MVOW offers two offshore wind turbines to the market; the largest, most powerful turbine in the world V164-8.0MW and the V112-3.XMW part of an existing Vestas platform.

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MVOW Technology – the V164-8.0MW

Since its establishment in April 2014 MHI Vestas Offshore Wind brought to the market the V164-8.0MW offshore wind turbine. The first V164-8,0MW turbine in Oesterild, Denmark in January 2014. It is operating extremely well. In October 2014 it became the most productive turbine in history, producing 192GWh in a 24 hour period.

The V164-8.0MW offers improved reliability, greater yield, as well as delivering savings by reducing the amount of balance of plant required by projects (fewer larger turbines require fewer foundations, less cabling etc). This helps to reduce the levelised cost of energy, which enables projects which utilise the turbine to operate as competitively as possible.

Ambition levels

We consider the scheme could support a volume of around 15TWh. Such a level would be ambitious but realistic. This level should now be considered in more detail. It is, however, well below the potential capacity of the existing pipeline of offshore projects. This means that only the very lowest cost projects will be progressed. Whilst this is good for consumers it creates significant long term uncertainty for those projects.

Proposed 'test' round

MVOW considers that the 'test' round should award a larger volume than the 120MW proposed. If the test auction is to be a realistic indicator of prices, the volume awarded should match more closely the 500MW planned for the longer term auctions. A smaller round is likely to lead to unrepresentatively high prices as economies of scale could not be realised.

Any consent extensions required should be undertaken on a timetable which would enable projects to compete in the test round. This would maximise the number of participants in the auction.

Auction mechanism

MVOW welcomes the proposed use of auctions to allocate subsidy to the lowest cost projects.

Recent experience from across Europe has shown that auctions can successfully lower the level of support required by offshore wind projects. The 2015 Danish tender delivered an outturn price of 103 EUR/MWh (excluding grid costs), and the UK Contract for Difference auctions delivered price levels of

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160 EUR/MWh, a 20% reduction on contracts awarded previously in the UK. The proposed use of competitive auctions will mean Sweden's offshore wind will be delivered at as low a cost as possible.

It is important that bidders can have confidence over the auction mechanism. The rules should be clear and simple. Whilst detailed rules are yet to be determined it is important that there is sufficient flexibility to ensure the full capacity is allocated, whilst allowing economies of scale to be realised for any 'remainder' project. For example if the winning bid was for a 400MW project the remaining 100MW may not be sufficient for the next highest bid to make a project viable. Capacity should be brought forward from the next auction where this is the case.

The scheme is being implemented over a long period of time to benefit from anticipated cost reductions. MHI Vestas does not consider this to be necessary as significant cost reductions are already being realised across Europe. The Swedish scheme has the opportunity to add to the cost reductions already being realised. Implementing the scheme more quickly would help achieve this.

Type of support scheme

We consider the suggestion of a sliding premium support mechanism would work well. It would give successful projects reasonable certainty over their revenues, whilst ensuring they operated efficiently in the wholesale market. It would be important that if 15TWh of production is secured from offshore wind, that it operates fully within the market.

MHI Vestas Offshore Wind would very much welcome the opportunity to meet with you to discuss the proposed scheme in more detail.

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