

DELIVERING 40GW OF OFFSHORE WIND IN THE UK BY 2030

A high level roadmap



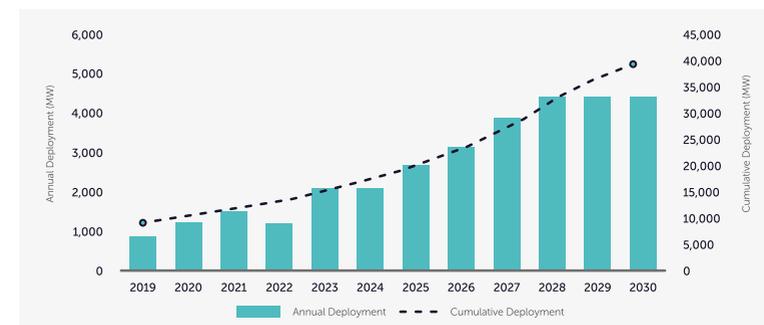


Introduction

SSE Renewables (SSER) has supported an increase to the UK's offshore wind ambition for some time and welcomed the manifesto commitment by the new UK Government to increase that target to 40GW by 2030. This will ensure that the UK continues to be the global leader on offshore wind, attracting significant inward investment, whilst also ensuring that we are on track to meet our carbon budgets in line with achieving net zero by 2050. Out to 2050 SSER sees at least 75GW as achievable, as set out by the Committee on Climate Change.

Given the incredible cost reductions achieved in offshore wind, making it one of the cheapest power generation technologies available by the mid-2020s, the UK Government's policy should be on maximising offshore wind deployment and developing a long-term sustainable supply chain which sees increased value brought to the UK.

As per the graph below, annual deployment of projects will need to increase from c.2-2.5GW per year prior to 2025 to between c.3.5-4GW between 2025 and 2030.



However, we believe that delivering 40GW by 2030 is only feasible provided enabling actions are taken by Government, regulators and stakeholders. Such a significant ramp up in deployment requires a corresponding increase in capabilities and cooperation across Government departments as well as within the offshore wind industry. Business as usual is not an option. To this effect, we suggest that a delivery plan is developed, building on the Offshore Wind the Sector Deal but ensuring that it is fit for achieving 40GW. This paper sets out SSER's high level views on the main actions that would need to be covered in the delivery plan.

Actions to enable deployment of 40GW of offshore wind in the UK by 2030

1. Removing barriers to the consenting process

As a responsible developer, SSER like its industry peers, is committed to the development of offshore wind in a sustainable way that minimises environmental impacts. However, the UK offshore wind industry is seeing more complex consenting issues particularly with regards to cumulative impact issues on protected species and with respect to European Designations of Specially Protected Areas and Special Areas of Conservation. There is a risk that future sites may end up with significant consenting issues or at best would see significant delay to the UK offshore wind aspirations.

To address this, SSER believes that there needs to be development and adoption of a strategic level approach to Marine Spatial Planning and the Habitats Directive derogation process across UK Government, Devolved Administrations and industry. This would not weaken environmental and species protection but would provide a more comprehensive approach than at present. In addition, SSER believes that there needs to be an assessment of the impact of all maritime industries with prioritisation for those industries contributing most to meeting the net zero objective, such as offshore wind.

Furthermore, SSER believes that significant additional Government resource and expertise should be allocated to the various Government departments and delivery bodies to ensure timely and cost-effective consenting of the projects needed to deliver 40GW of offshore wind by 2030.

2. Reform of electricity market design

40GW of offshore combined with a large amount of other zero/low marginal cost generation, such as onshore wind, solar and nuclear, is expected to have a significant impact on wholesale electricity markets, with an increasing number of periods of low or

even negative wholesale electricity prices. This will become an increasingly significant risk for the deployment of future offshore wind projects where merchant returns post CfD are a vital consideration for developers looking to submit viable bid prices in an increasingly competitive market. Long term wholesale energy price expectations are a critical factor when considering project life extensions and repowering of existing offshore wind farms after their subsidy ends.

Whilst the evolution of wholesale energy prices is uncertain, it would be prudent to undertake an in-depth assessment of whether policy and market design is fit for purpose. SSER encourages the UK Government to start this work now via its long-awaited Energy White Paper due in 2020, which will provide confidence to investors in offshore wind projects that there will be a long-term market framework fit for a net zero electricity system.

3. Promote deeper cross-departmental collaboration and resource to mitigate aviation radar constraints

Over half of the new offshore wind sites currently planned to 2030 may interact with current aviation radar systems. The Offshore Wind Industry Council (OWIC) Aviation Task Force is seeking deeper cooperation with and between Government departments (BEIS, MoD, DfT, Devolved Administrations), the aviation sector and related stakeholders. Government leadership is vital to delivering a framework for incorporating surveillance requirements that includes wind turbines within the baseline, to ensure the offshore and aviation sectors co-exist.

4. Develop a more efficient approach to development of the grid infrastructure needed to integrate offshore wind into the electricity system

The 'point to point' approach to the development of grid infrastructure under the current offshore transmission owner (OFTO) arrangements will not be fit for purpose for delivering 40GW of offshore wind by 2030. It is not an efficient approach to grid



planning; will add unnecessary cost and could present local acceptance problems for onshore connections in areas that already have higher density of network infrastructure. BEIS and Ofgem must adopt a more strategic approach to development of the offshore transmission network. This is highly likely to include the need for anticipatory investments in transmission infrastructure. The UK should collaborate closely with other North Seas countries on the development of a meshed North Sea grid which would see our common goals to develop more renewable energy achieved more efficiently.

5. Annual CfD auction rounds

The revenue stabilisation provided via the CfD will continue to play a vital role in developers delivering low cost projects and being able to secure project finance. However, there is already a strong case for moving to annual CfD auction rounds from the current biannual approach, as it maximises deployment of projects by allowing them to enter as and when ready. Achieving 40GW of fully constructed offshore wind projects by 2030, in SSER's view, is impossible to achieve without annual auctions from 2025.

Moving to annual auctions would avoid the rush to achieve consent which we have seen in recent years, which places an unnecessary concentrated burden on government consenting teams and statutory stakeholders. It also incurs unnecessary development expenditure for developers having to wait longer for an auction to come around. It would also be beneficial to the supply chain by providing more certainty and avoiding peaks and troughs in supply chain order books.

6. More regular and increased seabed leasing volumes

The upcoming seabed leasing rounds for offshore wind being conducted by The Crown Estate and Crown Estate Scotland are welcome. However, SSER believes that these leasing rounds needs to be built upon with a timetable set out for further regular leasing rounds in the 2020s. The volumes in the leasing rounds also need to be sufficiently large to support the deployment of offshore wind required beyond 2030 and factoring in that not all projects will be successfully developed.

7. Strategic investment to support development of UK supply chain

SSER continues to support and encourage the development of the UK offshore wind supply chain, including via its current offshore wind projects; funding to the Offshore Wind Growth Partnership; and broader involvement in the Sector Deal workstreams, to which SSER is committed. However, SSER believes that achieving significantly higher levels of UK content requires a strategic approach to investment from both industry and government in the facilities and capabilities needed to support the industry longer term. We should also be ensuring that UK companies are able to compete for contracts in the global offshore wind industry.

8. Strategy for floating wind needed

SSER believes that it is highly likely that some floating wind will be needed to deliver 40GW of offshore wind by 2030. Floating wind will certainly play a much more important role out to 2050 and beyond. SSER welcomes the UK Government's manifesto commitment to enable floating wind but this should be followed up on with a fully developed strategy and accompanying policies as soon as possible. The policy framework should acknowledge that direct competition between fixed bottom and floating wind technologies is not feasible in the near term.

9. Ensuring geographical diversity of the wind fleet

There is excellent wind resource around the whole of the UK but to date deployment has mainly been concentrated off the east coast of England. As we move to much higher levels of offshore wind deployment, ensuring geographical diversity of the fleet will improve security of supply; help mitigate price cannibalisation and see industrial benefits spread more widely.

Currently, offshore wind projects not located near to the South East of England, and particularly those in Scotland, are at a significant competitive disadvantage because they face much higher transmission charges. SSER believes that the locational element of transmission charging should be reviewed to ensure a levelling up between the South East of England and the rest of the UK

Conclusion

SSER will continue to work collaboratively with the UK and Scottish Governments, as well as with the wider industry and relevant stakeholders, to develop a plan to ensure that 40GW of offshore wind can be achieved by 2030 and the UK remains the global leader.



About SSE Renewables

SSER is a leading developer, owner and operator of renewable energy across the UK and Ireland, with an operational portfolio of around 4GW of onshore wind, offshore wind and hydro. Part of the FTSE-listed SSE plc, SSER's strategy is to drive the transition to a zero-carbon future through the world class development, construction and operation of renewable energy assets.

SSER owns nearly 2GW of operational onshore wind capacity with over 1GW under development. Its 1,450MW hydro portfolio includes 300MW of pumped storage and 750MW of flexible hydro. Its operational offshore wind portfolio consists of 580MW across three offshore sites, two of which it operates on behalf of its joint venture partners. SSER has the largest offshore wind development pipeline in the UK and Ireland at over 7GW.