



Grid Development Policy for Offshore Wind in  
Ireland

EirGrid Consultation Response

22<sup>nd</sup> July 2020

## 1 Summary

EirGrid welcomes the opportunity to make a submission to the Department of Communications, Climate Change and Environment on the consultation to inform grid development policy for offshore wind in Ireland. EirGrid supports the need for robust policies to develop the electricity grid in a safe and secure way. This is necessary to meet projected demand levels, to meet Government Policy, and to ensure a long-term, sustainable and competitive energy future for Ireland.

EirGrid Group operates and develops the electricity system in Ireland. Our 2020 – 2025 strategy is shaped by climate change and the transition of the electricity sector to low-carbon, renewable energy. We have a unique role to play in leading the radical transformation that is required. Our purpose is to transform the power system for future generations.

Our primary goal followed by our three supporting goals are as follows:

- Lead the island's electricity sector on sustainability and decarbonisation,
- Operate, develop and enhance the all-island grid and market,
- Work with partners for positive change and,
- Engage for better outcomes for all.

It is with our strategy in mind that we have set out this short paper, summarising EirGrid's views on how to effectively support the development and delivery of Offshore Wind required for Ireland's Climate Change ambitions. It is provided against the backdrop of the recently concluded Options Paper on Offshore Grid Models by Navigant.

EirGrid recognises the key role that offshore wind will play in meeting Ireland's energy needs in the next decade and beyond. EirGrid is fully committed to effecting the transition by working together with our strategic partners and looks forward to supporting the Department of Communications, Climate Action and Environment in making this critical decision at this key juncture for the development of the industry.

## 2 Overview

- Ireland has ambitious 2030 climate targets, including a target to develop at least 3.5 GW of offshore wind energy per the Climate Action Plan (June 2019) and a target of 5 GW as per the Programme for Government (June 2020).
- For a range of reasons (shorter project lead-times, readily connectable transmission network with spare capacity, shallower waters suitable for fixed foundation turbines, development works already complete by 3rd parties) a significant number of these offshore windfarms are expected to be connected off the east coast of Ireland.
- EirGrid believes a model which is primarily plan led by the State and where a developer builds and consents the windfarm and transmission connection is the most suitable model

for Ireland in the short to medium term and will be key to meeting 2030 offshore wind targets. In this model, the critical decisions remain in State control (designated connection point and grid capacity allocation), whilst leveraging the expertise and development legacy of existing developers. EirGrid therefore considers that Option 2 as set out in the Navigant Report is the most appropriate model to be adopted at this time.

- Given the lead time for the delivery of offshore windfarms (up to 10 years depending on the maturity of the project), it is important that a decision on the offshore wind delivery model for Ireland is taken in the short term in the context of 2030 targets.
- EirGrid recognises the growing policy momentum both at national and EU level to harness the significant renewable resource that the Irish Atlantic Coast presents. At a domestic level, the Programme for Government sets a clear ambition for at least 30 GW of offshore power. At EU level, we are also cognisant of the ambition recently expressed at the North Seas Energy Cooperation meeting on July 6th chaired by the German EU Presidency. The publication of the EU Offshore Renewable Energy Strategy later this year will also add further momentum for Ireland to play a central role in the future of clean power generation.
- EirGrid believes that many projects off the south and west coasts of Ireland will likely require floating offshore turbine technology (due to their deeper waters) and potentially a meshed grid approach (to effectively harness the huge potential capacity). Floating turbines are expected to be commercially viable around the turn of the next decade.
- We see this substantial increase in renewable power, for both domestic consumption and export via interconnection to the pan-European grid, as being best delivered through a more centralised model. Therefore EirGrid believes that models such as Options 3 and 4 as set out in the Navigant Report may be more appropriate in the longer term.

### **3 Short to Medium Term Grid Development**

Following consideration of the key drivers and underlying assumptions upon which the model options have been developed, EirGrid believes Option 2 is the most suitable model for Ireland in the short to medium term – which at present refers primarily to windfarms seeking to connect along the East Coast of Ireland.

- The key features of this Option 2 model are as follows:
  - The TSO pro-actively plans and coordinates onshore grid reinforcements and identifies the locations, capacities and timelines for the onshore connection points. In this way, EirGrid can optimise the upgrades of the onshore grid such that the connection capacity to meet the Climate Action Plan targets is made available in a timely / optimised manner.
  - The developer remains responsible for windfarm site selection and pre-development, and the consenting and construction of the offshore and onshore

wind farm transmission connection . Any transmission connection would be built to TSO functional specifications with oversight/due diligence during construction by the TSO/TAO.

- The State defines a minimum distance from the wind farm to shore to enhance public support for offshore wind developments.
- Wider transmission network reinforcements will still be planned by the TSO and built by the TAO.
- Option 2 recognises that there are a number of relatively mature offshore projects primarily along the East Coast. Advantages include:
  - TSO agrees the location and capacity of connection points, i.e. the critical grid planning decisions remain within State control,
  - Recognises the embedded know-how, intellectual property and development legacy of existing projects in the Irish Sea,
  - Leverages the expertise of developers who typically have experience of delivering offshore windfarms in multiple jurisdictions (identifying optimum sites, securing associated consents, construction),
  - Compatible with the recently developed Relevant Projects approach, i.e. can commence development quickly and takes advantage of the work already completed by developers on existing projects.
- EirGrid is also in the process of preparing a roadmap for how 70% renewables can be delivered by 2030. It is envisaged that a draft roadmap, which will cover network, power system operation and electricity market dimensions, will be finalised later this year and consulted on in early 2021. The integration of offshore wind will be a key feature of this roadmap.

## 4 Medium to Longer Term Grid Development

EirGrid believes that a transition to a more centrally planned delivery model (akin to Option 4 implemented in countries like Denmark) could be the optimum approach for the medium to longer term.

- The key features of the Option 4 model are as follows:
  - Zone and windfarm site selection and pre-development by State Body for Offshore Renewable Energy (ORE) development;
  - Offshore wind transmission asset development and ownership by TSO and TAO;
  - Onshore grid reinforcements developed by TSO and TAO in a pro-active manner.
- Navigant's Options Paper on Offshore Grid Models clearly demonstrates the potential development of offshore renewables in the longer term that could be located primarily off the South and West Coasts. EirGrid believes that those projects will likely require floating

offshore turbine technology (due to their deeper waters) and potentially a meshed grid approach (to effectively harness the huge potential capacity).

- International subject matter experts expect the key technological enabler (i.e. floating offshore wind turbines) will mean projects located off the South and West Coasts will be commercially viable around the turn of the next decade.
- In 2021, EirGrid will commence a techno-economic review of offshore windfarms off the south and west coasts – this will explore how Ireland could take advantage of the massive potential of offshore energy off the south and west coasts and potentially become a major contributor to a pan-European renewable energy generation and transmission system.
- It is likely that interconnection to other jurisdictions, the emerging ORE technologies and Power-to-X technologies will play an increasingly significant role in achieving Ireland's decarbonisation targets.