



## **DP Energy Response**

# **Offshore Wind: Consultation to Inform a Grid Development Policy for Offshore Wind in Ireland**

**Date: 22<sup>nd</sup> July 2020**

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22<sup>nd</sup> July 2020

By email to: [OffshoreWind@dccae.gov.ie](mailto:OffshoreWind@dccae.gov.ie)

Re: Offshore Grid Delivery Model Option Consultation – DP Energy

Dear Sir/Madam,

DP Energy is a renewable energy project developer of primarily offshore and onshore wind, solar and tidal energy, with a project portfolio spanning Ireland, the UK, Australia, and Canada.

DP Energy welcome the opportunity to provide a response to DCCAE on this consultation which will inform a suitable grid model for Ireland to support and ensure timely delivery of the ambitious targets of at least 3.5 GW of offshore wind by 2030 highlighted in the CAP and more recently 5 GW of offshore wind being tabled within the new programme for Government.

We are members of the Irish Wind Energy Association (IWEA) and we are fully supportive of their responses to the consultation questions. In addition, the following sections sets out DP Energy's key recommendations and our rankings of the Navigant report key drivers from the perspective of an Enduring Project Developer.

Thank you for the opportunity to provide a response. Please do not hesitate to contact us if you have any queries or wish to discuss our response in more detail.

Yours sincerely,

[REDACTED]

DP Energy

## 1 INTRODUCTION

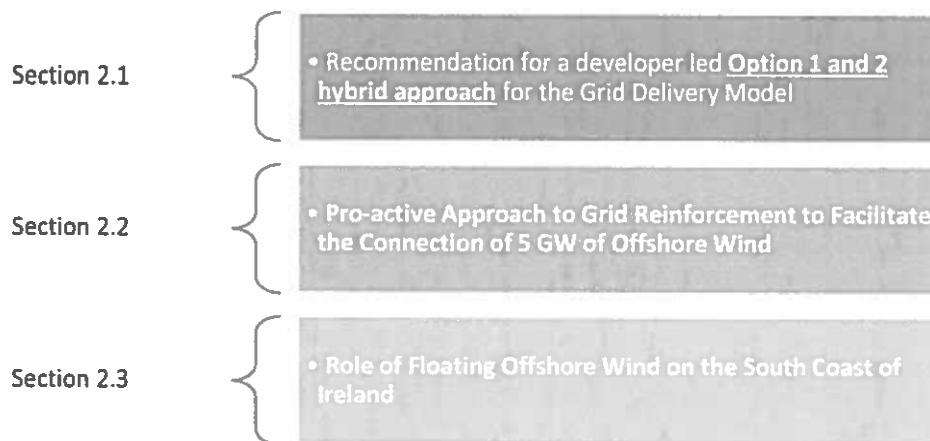
DP Energy welcomes the grid options paper that has been prepared by Navigant on behalf of EirGrid and delivered in support of this consultation.

The Navigant paper outlines four enduring grid model scenarios ranging from a fully developer led model, through hybrid approaches, to a fully state centralised model (or fully plan led model). Navigant also carried out a comprehensive review of international approaches assessed against key drivers. No weightings have been applied to the models as part of this process.

It is understood that the set of model options that have been provided by Navigant have been tailored for the Irish context but that the individual elements of each model presented could be combined in a variety of ways to form a wide range of additional model options. This flexibility is welcome and enables the formation of a suitable enduring grid delivery model for Ireland.

DP Energy are members of the Irish Wind Energy Association (IWEA) and we are fully supportive of their responses to the consultation questions 1 through 15.

In addition, DP Energy have outlined three key recommendations to be noted when considering the choice of grid delivery model, and overall, on how Ireland will meet its renewable ambitions. These are summarised as follows:



Subsequently, Section 3 ranks the key drivers from our perspective as an Early Enduring Project developer.

## 2 DP ENERGY'S KEY RECOMMENDATIONS

### 2.1 OPTION 1 AND OPTION 2 HYBRID APPROACH

DP Energy's recommendation for the preferred grid delivery model for Relevant and Enduring projects is for a developer led approach; namely an Option 1 and Option 2 hybrid approach.

More specifically, this hybrid approach would encompass the elements of the developer led Option 1 model, with the pro-active approach in developing early grid reinforcements proposed by the system operators in Option 2.

A marked change in policy to plan led necessitating a centralised leasing and consenting regime and their associated timelines would cause an unwanted delay in the current development progress of offshore wind that could effectively rule out connection prior to 2030. We believe that a continued developer led approach with close and continuous engagement with the system operators will be the best way to facilitate the timely development of offshore wind capacity to achieve the 2030 target.

Under Options 1 and 2 and with pre-emptive interaction between the developers and system operators, consideration could be given to issues like minimising cable routes, landfalls etc., thereby also minimising the cumulative environmental impact of Irish offshore wind developments.

The Navigant report has highlighted the risk involved in Option 1 in the reactive manner of onshore grid reinforcements undertaken by EirGrid and ESBN after auction success for projects which could impact project delivery and reaching 2030 targets.

This risk could be mitigated by the pro-active approach in developing early grid reinforcements proposed by the system operators in Option 2.

However, we have a number of concerns relating to two aspects of Option 2, which may hinder the development of current development and in the future, lead to inefficient auctions. Therefore, we would not wish these elements to be introduced.

#### (1) Minimum Buffer Distance

Applying a blanket buffer zone around the coast in Ireland will hinder the progression of both Relevant projects and the more advanced (early) Enduring projects, and therefore it is recommended that this requirement is not included.

Furthermore, reference to a buffer inclusion is inappropriate within a grid delivery model consultation.

DP Energy recognise that this requirement was added with a view to aiding social acceptance, and we understand the great importance that having community support has, and which needs to be handled very carefully. A national offshore wind awareness strategy is required in Ireland, whichever grid delivery model is selected, in order to ensure the public has confidence that the consenting and development process is handled appropriately. Any distance from shore should be decided upon locally and on a project by project basis taking advance of the best advances in seascape character assessment and visualisation tools. It is understood that the DHPLG are progressing these workstreams in parallel and as part of the delivery of the final National Marine Planning Framework.

**(2) Onshore infrastructure aligned to grid locations, and capacities**

DP Energy welcome the proposals for assessments on current hosting capacity of the onshore grid. Given the scale of the challenge to connect 5 GW of offshore wind by 2030 it is essential that onshore grid reinforcements are planned and progressed as soon as possible to ensure sufficient capacity is made available throughout the East and South coasts.

However, within Option 2, the transmission system operator can predetermine parameters within the auction i.e. grid location. It is important that the regulator has responsibility for delivering as effective and efficient auction as possible. Whilst an auction could be set up to minimise work needed on the onshore transmission grid this may not, overall, be the most cost-effective solution given the distortion this could bring to the auction price stack, which could result in significant additional RESS costs being paid for years afterwards. Further consideration is needed on this.

The additional resources and expertise needed for the pro-active design, planning, and development of the necessary grid infrastructure should be carefully considered. It is understood that the responsible infrastructure planning and connection departments within EirGrid will have competition for resources for progressing the infrastructure for onshore renewables and data centre connections, amongst other responsibilities set out in the Climate Action Plan. Ensuring suitable volumes of personnel will help safeguard against delays with aligning onshore and offshore grid infrastructure development.

**2.2 PRO-ACTIVE APPROACH TO GRID REINFORCEMENT TO FACILITATE THE CONNECTION OF 5 GW OF OFFSHORE WIND**

Lack of transmission capacity is likely to be the biggest challenge in terms of meeting our renewable energy goals. Grid connection feasibility and available capacity will be absolutely critical for the connection of the Relevant and Enduring Projects.

EirGrid should progress the design and consent of grid reinforcements based on the strength and certainty of the future renewable energy project pipeline and the Programme for Government 5 GW target rather than waiting for projects to obtain planning consent and accept connection offers.

We firmly believe that EirGrid need to prioritise the development of onshore transmission assets and associated transmission upgrades required for the connection and operation of both the Relevant Projects and the early stage Enduring Projects. It is recommended that the East Coast Generation Opportunity study is extended to the South coast and reflects the onshore reinforcements necessary to connect 5GW by 2030 and beyond that, to the West coast.

In 2020, EirGrid need to identify and start permitting in 2021 all the onshore grid reinforcements required to facilitate the Relevant Projects. A similar exercise should be completed in 2021 and 2022 for the Enduring Projects capacity which can be connected by 2030. This includes the large areas anticipated in the Navigant report such as the East Coast (North), East Coast (South) and South Coast. Developers have already identified and are actively developing sites on the basis of the signal provided in the OREDP.

### 2.3 ROLE OF FLOATING OFFSHORE WIND ON THE SOUTH COAST OF IRELAND

The new Programme for Government has committed to a new offshore target of 5 GW by 2030, the enactment of the MPDM Bill within nine months, floating offshore wind marked as key for R&D alongside plans for Ireland to contribute to a pan-European renewable energy generation and transmission system; taking advantage of a potential of at least 30 GW of offshore floating wind power in our deeper waters in the Atlantic Ocean.

Ocean renewables and floating wind on West Coast will face difficult met-ocean conditions affecting installation and operation compared to other zones in Ireland and need research and technology innovation to help these technologies withstand these harsh conditions. We would like to take this opportunity to emphasize the role that floating wind can play in the shorter term, pre-2030, on the South Coast where conditions are more benign.

Commercial floating offshore wind projects are being developed worldwide and should not be considered an emerging technology or limited to demonstration scale projects.

IRENA stated in their 2019 report, "Future of Wind: Deployment, Investment, Technology, Grid Integration and Socio-economic aspects" that 5 GW to 30 GW of floating offshore capacity could be installed worldwide by 2030. Furthermore, based on the pace of developments across various regions, floating wind farms could cover around 5% to 15% of the global offshore wind installed capacity (equivalent to almost 1,000 GW) by 2050<sup>1</sup>.

Figure 1 illustrates the floating offshore wind market activity from 2020 to 2025. The Quest Floating Wind Energy Offshore Wind database tracks and monitors projects and their supply chain from early planning to commissioning and operation and maintenance. Table 1 provides further details of their analysis of the potential number of floating turbine units from 2020 to 2025 (this analysis excludes existing demonstrator projects).

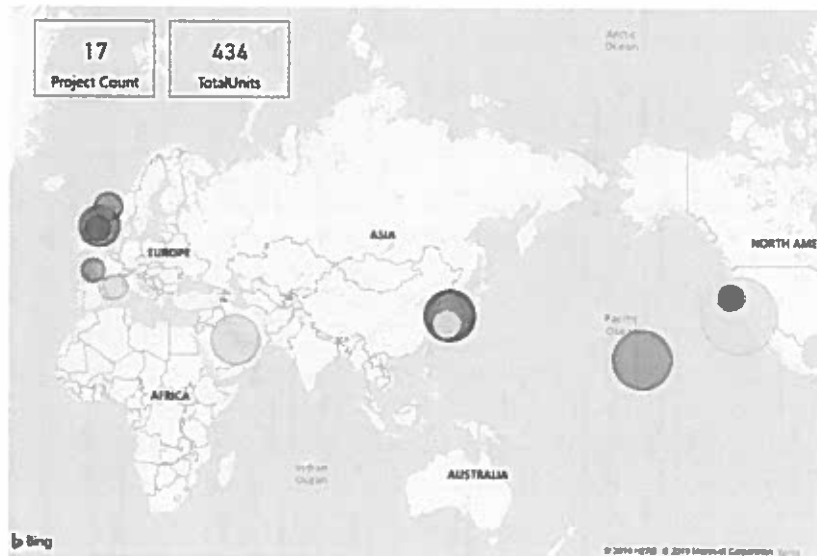


Figure 1: Location of planned floating wind pre-commercial and commercial projects (2020 to 2025)<sup>2</sup>

<sup>1</sup> [https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Oct/IRENA\\_Future\\_of\\_wind\\_2019.pdf](https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Oct/IRENA_Future_of_wind_2019.pdf)

<sup>2</sup> <https://questfwe.com/wp-content/uploads/2019/12/1-Number-of-Floating-Turbine-Units-FTU-out-to-2025-excl.-demonstrators-possibles.png>

Table 1: Planned floating wind pre-commercial and commercial projects (number of units for 2020 to 2025)

Name	Status	OnlineYear*	TotalUnits*
EFG Leucate	Under devel	2022	3
EolMed (Gruissan)	Under devel	2021	4
Groix & Belle-Ile	Under devel	2022	3
Hywind Tampen	Under devel	2022	11
KFWind	Under devel	2024	53
Kincardine Tranche 2	Under devel	2020	5
Provence Grand Large (Faraman)	Under devel	2021	3
Toda Sakiyama	Under devel	2022	10
Castle Wind (fmr Morro Bay)	Planned	2025	100
Donghae 1	Planned	2024	25
Donghae TwinWind	Planned	2024	20
Gray Whale	Planned	2024	25
Hywind Scotland II	Planned	2024	34
Magellan CIP	Planned	2023	5
Plembeck Floating WindPark	Planned	2025	50
Progression South	Planned	2025	68
Redwood Coast	Planned	2024	15
<b>Total</b>			<b>434</b>

There is an opportunity for Ireland to capitalise upon the momentum being generated. Ireland has access to one of the best offshore wind resources in Europe, with high wind speeds off our coasts. While fixed wind is appropriate off the East Coast of Ireland, the deeper water depths off the South Coast are more suitable for floating wind developments. Similarly, for the West Coast in the future. A focus on demonstration size projects will see us fall further behind other regions in floating offshore development, thus limiting the potential growth of our indigenous offshore wind industry.

### 3 RANKING OF KEY DRIVERS FOR ENDURING PROJECTS

Table 1 ranks the key drivers from the perspective of Enduring project developers. Evidently, each driver is important. Furthermore, there are difficulties in ranking them effectively given that some drivers are interdependent, and the full implications of each driver under the different grid delivery frameworks are unknown. That said, an effort has been made to rank these drivers in a manner that is in the best interest of facilitating Enduring projects to play a vital role in meeting our renewable energy targets, and optimising and leveraging the growth of the offshore supply chain initiated by the Relevant projects.

The drivers are separated into two categories:

- **Very High** impact on grid delivery model
- **High** impact on grid delivery model.

The key drivers are subsequently ranked as follows:

1. Facilitating offshore wind capacity to achieve the 2030 targets
2. Compatibility with Relevant Projects
3. Required infrastructure
4. Environmental Impact
- 5, 6, 7. Social acceptance, cost, and future proofing and technologies.

The reasoning behind these rankings is outlined in Table 1.

It must be noted that these rankings solely reflect the impact of the driver on the choice of grid delivery model. All the drivers are essential, and this ranking does not reflect their importance in the overall development of the offshore wind project.

*Table 2: Key drivers ranked for enduring project developments*

<b>GROUP 1: Very High Impact</b>		
<b>Ranking</b>	<b>Drivers</b>	<b>Reasoning</b>
1	Facilitating offshore wind capacity to achieve the 2030 targets	<p>The Enduring projects may be required to make up any shortfall in capacity to meet the Programme for Government's 5 GW offshore wind targets. Many Enduring projects are already in various stages of development off the East and South Coast, and the time delay introduced by a change in policy towards a plan-led process would hinder their development.</p> <p>Developing an Enduring grid delivery process, which leverages upon the Relevant projects, and also looks to the near future in terms of aligning the construction of onshore infrastructure will be key.</p>
2	Compatibility with Relevant Projects	<p>It will be essential that the momentum achieved by the Relevant projects is leveraged. Any delays introduced by a marked change in policy will introduce uncertainty and a multi-year gap in development, stalling the offshore wind industry. This could result in negative knock-on effects on supply chain confidence and project financeability. Key lessons can be learned from the development of the Relevant projects. Crucial improvements in policy and process (such as timely and proactive onshore grid infrastructure development) should also be introduced to enable more effective and efficient integration of future offshore projects.</p>



3	Required infrastructure	<p>It is essential that onshore infrastructure is built to enable the connection of offshore wind. Additionally, connections require a reasonable level of firmness. If high levels of constraints are anticipated, auction bids are likely to be higher as developers factor these constraints into their bids. Enduring project developers need confidence that the grid will be pro-actively developed in light of the 2030 RES-E targets and beyond, and that these reinforcements will be delivered in a timely manner. Early enduring projects are likely to be located on the South and East Coast. An immediate assessment of the grid capacity and reinforcements needed for these areas is essential, similar to the East Coast Generation Assessment, with the assessment taking the cumulative impact of the Relevant projects into account when assessing the available capacity.</p> <p>It is also essential that planning for the required infrastructure necessary to leverage the future 30 GW offshore wind potential begins immediately.</p>
<b>GROUP 2: High Impact</b>		
Ranking	Drivers	Reasoning
4	Environmental Impact	<p>Regardless of the grid delivery model chosen, the offshore developments will be subjected to full Appropriate Assessment and Environmental Impact Assessment under the Marine Planning Development Management legislation, and all environmental impact issues will be systematically assessed under this process.</p> <p>That said, the early enduring projects are at various stages of development and have already invested in site selection and pre-development works. Deviating to a plan-led process where the responsibility of site selection and consenting is instead transferred to a state body would stall the development of enduring projects.</p>
Grouping of 5, 6, 7	Social acceptance	A national offshore wind awareness strategy is required in Ireland, whichever grid delivery model is selected, in order to ensure the public has confidence in the consenting and development process.
	Cost levels	Cost is obviously a key factor to consider. However, the cost implications of the model selection are complex. Considering the uncertainty involved in carrying out a total societal cost comparison of the models, this driver has been given a lower rank than would normally be expected. The Navigant report has also highlighted that developer led delivery models allow for more innovation and increased competitive pressure. Given that national funding will have many

		competing priorities under the new Programme for Government, developer-led private capital should be leveraged where possible.
	Future proofing and technologies	<p>Early enduring projects may be required to make up any shortfall in 2030 target capacity, and therefore, there are concerns that any future proofing requirements introduced by the system operators would add additional costs, and potential delays for projects.</p> <p>Further analysis is welcome on the most optimum long term solution (which may include onshore or offshore nodes) which considers the nuances of the Irish electrical system. A full cost benefit analysis is needed before these options may be developed further. Sufficient time is needed for this analysis to be done; therefore, these solutions may be better utilised in in the longer term.</p>

### 3.1 POST 2030 ENDURING PROJECTS

DP Energy does not envisage a centrally planned grid model being able to facilitate projects for the 2030 RES-E target.

However, the potential advantages of a move to a more centralised, plan-led approach in the long term (post 2030s) can be seen, especially in light of the new Programme for Government ambitions to take advantage of the potential of at least 30 GW floating offshore wind in the Atlantic.

This approach would be welcomed; however, there are number of vital points that should be considered:

- If a transition to a plan led model proceeds in the longer term, the evolution must be signaled well in advance to industry, with consideration to projects already being developed in the relevant zones.
- Significant lead time for development of the offshore grid so that the developers have full visibility of grid delivery timetables before making investment decisions.
- Developers would welcome and encourage early and frequent engagement with the system operators throughout the plan design and development, with the view that a collaborative relationship will help deliver the most optimum and timely solutions.
- It is recommended that the planning needed for such a transition needs to start now (in parallel to the developer led approach), with significant evaluation given to the level of resources (system operators, An Bord Pleanála and all relevant state bodies) and expertise needed to enable the new grid delivery model and associated policies.
- In addition to facilitating future connections of projects post 2030, the longer term thinking needs to consider the export of excess generation over Ireland’s demand, and a route to market to maximise the 30 GW potential of Irish offshore wind.
- Strategies will need to align with the decarbonisation ambitions of the heat and transport sectors, with consideration of the role that hydrogen will play as an export vehicle.