Simply Blue Energy

Simply Blue Energy
Woodbine Hill
Youghal
Co Cork

21st July 2020

Re: Simply Blue Energy Response to the Government of Ireland Consultation to Inform a Grid Development Policy for Offshore Wind in Ireland

Simply Blue Energy (hereinafter SBE) is an Irish blue economy project developer. We are the leading, early-stage developer of transformative and sustainable floating wind, wave energy and aquaculture projects in Ireland and the UK. At Simply Blue Energy our vision is to facilitate sustainable and transformative marine projects, by working with the oceans and enabling communities to benefit from blue growth.

Offshore wind has moved quickly from a niche technology to a mainstream supplier of low carbon electricity, becoming a favoured form of renewable energy generation. If we are to achieve future rates of offshore wind deployment, we will need to consider alternative technology. Utilisation of floating foundations offers increased flexibility for the siting of turbines, enabling access to locations previously inaccessible due to water depth constraints. This gives floating offshore wind (FLOW) a key advantage for accessing areas of higher average wind speeds leading to increased yield and capacity factors.

In early 2020, SBE partnered with Total for the development of its c.100MW FLOW demonstration project in the East Celtic Sea. The pre-commercial scale project will be developed by Blue Gem Wind (SBE/Total joint venture company) under the project name Erebus and will facilitate the parallel development of a local supply chain in advance of the roll-out of full commercial scale developments.

SBE is currently investigating the feasibility of developing a second floating offshore wind farm located in the Celtic Sea, off the coast of Cork. SBE intends to undertake marine surveys at the proposed site in order to inform the location and design of the offshore wind farm and cable route to shore. A Foreshore Licence Application to the Marine Planning Policy and Development Section of the Department of Housing, Local Government and Heritage has been submitted. Formal consultation started Monday 6th July and will run for the required 30 days. The proposed Emerald project intends to utilise FLOW technology to construct a wind farm in the vicinity of the Kinsale gas platform, c. 35-60km from the coast where water depths are up to 100m, which upon completion, will have a total capacity of up to 1 GW.

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The foreshore site investigation application for our Emerald Floating Offshore Wind Project and supporting documents are available on the department's website at https://www.housing.gov.ie/planning/foreshore/applications/simply-blue-emerald-site-investigations-possible-floating-offshore and on our dedicated project website at https://www.emeraldfloatingwind.com/ along with some additional project information and, to be made available shortly, simulated visualisations of the windfarm from shore.

For the above reasons, SBE has a strong vested interest in the Government of Ireland Consultation to Inform a Grid Development Policy for Offshore Wind in Ireland. SBE welcomes the opportunity to contribute to the consultation process, the outcome of which will have important consequences for offshore wind development in Ireland. Our responses to the questions posed by the consultation are below.

In short, we express a preference for Options 1 or 2 in our answers, with Option 2 as the most frequently promoted Option. However, we state that there is no "one size fits all". We see that the Irish Sea is already *de facto* an Option 1 model. An Option 1, developer-led approach, is also emerging in the Celtic Sea. A hybrid of Options 1 and 2 are suited to this area going forward. The Atlantic is a 'blank canvas'. Option 2 can be considered for the Atlantic in the short term. A more Plan-led approach may have merit for the Atlantic, but a fully State-controlled approach (Option 4) is unrealistic given the level of investment in time and money required to develop offshore wind farms.

Yours sincerely,

[redacted]
Simply Blue Energy

1) **With respect to key driver (i), cost levels, which of models 1,2,3,4, or variant of these, delivers the most satisfactory results? Which features of the model, or variant, are the most influential for your given choice?**

The consultation paper (and the Navigant options document) outlines four grid development options: i). **Developer led**; ii). **Plan defined** – developer consent and built; iii). **Plan-led**; developer build; iv). **Plan-led** model.

In our view, there is no "one size fits all". The development opportunities are at different stages of readiness for the Irish Sea, the Celtic Sea and the Atlantic area. Each of these potential offshore wind production zones have unique characteristics, i.e. based on their proximity to existing demand centres, grid connection infrastructure, metocean conditions, resource potential, and technology suitability (bottom fixed or FLOW). The Irish Sea is already

characteristed by a developer-led approach (Option 1), while the Celtic Sea has over 3GW of early stage / conceptual projects under consideration by industry, and could also be said to be characterized by a developer-led approach to a point (Option 1). The Atlantic area is the only area at present that offers a truly 'blank canvas' for new, plan-led approaches to offshore wind. However, as discussed later, such centralized/ State-led models (Options 3 and 4) have numerous limitations.

At the other end of the spectrum, a key limitation of the developer-led approach, from a grid connection perspective, is the reactive nature of the response from EirGrid and ESB Networks as per the description of how Option 1 would function. Uncertainty about grid connection and capacity options is a constraint that increases risk to the developer, and this is less than ideal in the offshore wind sector.

Option 2, where EirGrid proactively plans and coordinates onshore grid reinforcements for each RESS auction and the developer remains responsible for site selection and pre-development, as well as the consenting and construction of the offshore wind farm transmission assets, has to be a preferred option from an SBE perspective, considering our strategic interest in the Celtic Sea Production Zone.

The importance of the cost levels as a driver should not be underestimated. In 2019, Orsted commissioned a study on "Market design for efficient transmission of offshore wind energy", completed by German economics consultant DIW Econ Gmbh[1]. At either end of the market design scale for grid connection is the UK (developer led) and Germany (TSO led). The impact of market design is twofold. Firstly, the degree of integration of the generation asset and transmission asset is impacted. If the offshore transmission asset and offshore wind farm are developed by separate entities, it increases the co-ordination effort. When the both are bundled and developed by the offshore wind farm operator the co-ordination effort is reduced.

The following key aspects should be considered in the context of the critical cost level driver: Planning; Development and operating expenditures (short term cost efficiencies); Co-ordination and transaction costs; Innovation incentives (long term cost efficiencies); Cost transparency; Market openness and finance. Option 2 promotes the strengths of the State through planning, while developers, through direct competition, ensure enduring innovation and cost efficiencies thus reducing costs to the final consumer in Ireland.

Plan-led approaches may suit the Atlantic in time, but they should not be so prescriptive as to exclude 'bottom-up' proposals from industry for areas that are possibly outside of preferred zones.

Option 4, where the State controls the planning for and delivery of offshore wind, would appear to be anti-enterprise and anti-competitive.

The EirWind Blueprint identified that 25-30 new personnel are needed in government departments and agencies in the next 18 to 24 months, to process what is in the pipeline from Relevant Projects. The cost in terms of time and money in moving towards Options 3 and 4, which would require significant capacity-building and budget resources at government level, appears untenable.

Finally, the cost of not meeting targets in the Climate Action Plan/ Programme for Government (5GW by 2030), needs to be factored into decision making processes. Option 2 mitigates against this scenario.

2) **With respect to key driver (ii), environmental impact, which of models 1,2,3,4, or variant of these, delivers the most satisfactory results? Which features of the model, or variant, are the most influential**

[1] https://diw-econ.de/en/wp-content/uploads/sites/2/2019/05/DIW-Econ_2019_Market-design-for-an-efficient-transmission-of-offshore-wind-energy.pdf

for your given choice?

As stated previously, options 3 and 4 would delay the progress of the offshore wind industry. This would have consequences for Ireland meeting its decarbonization targets. Major progress has been made at multiple levels in relation to offshore wind in Ireland over the past 24 months. In a press statement from DCCNT yesterday (20th July 2020), Minister Eamon Ryan stated that Ireland is experiencing a 'renewable energy revolution'. This has been motivated by an understanding of the vital importance of addressing climate change. The pace of change needs to be maintained, if not accelerated. Options 1 and 2 facilitate the pace of change needed.

The current planning process for Strategic Infrastructure Development / Environmental Impact Assessment, provides for the environmental aspects of development of onshore substations and other related infrastructure, as well as due diligence in the consenting and construction of offshore wind assets. This applies irrespective of the options presented for consideration here.

3) **With respect to key driver (iii), future proofing and technologies, which of models 1,2,3,4, or variant of these, delivers the most satisfactory results? Which features of the model, or variant, are the most influential for your given choice?**

Future proofing from the perspective of grid infrastructure is linked to taking a long-term view. The consultation document and the Navigant study upon which it is based, is limited by its focus on the CAP and meeting 2030 targets. Given the long lead-in time for the development of offshore wind projects, there is a need to take a longer-term view of the grid development policy for Ireland. This point prevails irrespective of the Options that have been presented.

The Irish Sea Grid Study has helped to bring clarity to the Irish Sea projects. However, there is a need to take a long-term view of grid in the context of the FLOW opportunity in the Celtic Sea as well as for the Atlantic. Similar studies need to be applied, and solutions need to be recommended for the Route to Market for these unique production zones. The EirWind Blueprint recommends the need to take an integrated view, not only of grid for the Irish market (i.e. domestic electricity, CPPAs), but also of the role of interconnectors, supergrid and green hydrogen into the future. Effective Future Proofing of grid policy for offshore wind in Ireland requires a broader view of the both timeline and the scope than what has currently been presented by DCCNT. The opportunity around emerging FLOW technology, which will progress towards full commercial scale projects in the latter part of the decade, is fundamental to all of the above.

4) **With respect to key driver (iv), required infrastructure, which of models 1,2,3,4, or variant of these, delivers the most satisfactory results? Which features of the model, or variant, are the most influential for your given choice?**

Option 2 potentially provides the most satisfactory results on the basis that EirGrid pro-actively plans and coordinates onshore grid reinforcements and for each RESS auction, 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 CAP targets is made available in a timely manner. The developer remains responsible for site selection and pre-development and the consenting and construction of the offshore wind farm transmission assets. This is preferable to the reactive approach outlined in Option 1. Options 3 and 4 are not supported for the reasons outlined previously.

5) **With respect to key driver (v), compatibility with Relevant Projects, which of models 1,2,3,4, or variant of these, delivers the most satisfactory results? Which features of the model, or variant, are the most influential for your given choice?**

SBE has a strategic interest in FLOW, with interests in the Celtic Sea as documented earlier. However, it is worth noting that the progress of the Relevant Projects is of utmost importance to the progression of the offshore wind sector in Ireland, as these initial projects will pave the way for supply-chain development, increased confidence in the market, and provide relevant experience for decision-makers.

6) **With respect to key driver (vi), social acceptance, which of models 1,2,3,4, or variant of these, delivers the most satisfactory results? Which features of the model, or variant, are the most influential for your given choice?**

Social acceptance is vitally important for the offshore wind sector in Ireland. From an SBE perspective this is an extremely important question, and one that should be weighted strongly in the way that government proceeds with supporting grid connectivity into the future.

Ireland has been very late to the game in relation to Marine Spatial Planning. The National Marine Planning Framework (NMPF) is strategically important and SBE commend the officials that have led this process in recent years. The NMPF adopts a policy-led approach. It will be most effective when coupled with the Marine Planning and Development Management (MPDM) Bill. This is anticipated in Q1 of 2021, and SBE urge government to make every effort to achieve this delivery date. The Strategic Marine Activity Zones, provided for in in the MPDM, have yet to be clarified, but they provide a mechanism for joined-up thinking and community engagement in marine planning that has been largely absent up to now. It would appear that a plan-defined approach will be an inevitable outcome of the strategic direction of marine planning going forward. Option 1 is not compatible with this direction of travel. Option 2 - plan defined – developer consent and built - provides a good fit.

Option 2 provides the most satisfactory results with respect to community support for offshore wind for a number of reasons: i). the State defines a minimum distance to shore to enhance public support for offshore wind developments. This aligns well with the deployment of FLOW technology in deep waters. Limiting visual impacts of offshore wind will help with respect to Social Licence to Operate. ii). EirGrid takes a proactive approach to planning for onshore grid infrastructure. This can give clarity and focus to community engagement processes in the vicinity of onshore connection points. iii). The developer is responsible for engaging with relevant communities impacted by a specific offshore wind project, which again can be clearly defined. This project-level definition is critical to effective communication and engagement. In Option 2, developers are involved in the location from the get-go, providing an opportunity to build relationships and trust in a context specific manner.

Options 3 and 4 are not a panacea for Social Licence to Operate (SLO). It should not be assumed that government can be more effective than industry in achieving SLO. Options 3 and 4 advocate for sites developed by a State Body that can subsequently be auctioned to developers. This excludes the presence of the developer from the early stage of the project and dilutes the opportunity for key stakeholders to develop relationships with developers, - a pre-requisite for co-existence in the long-term.

At Simply Blue Energy we want our marine projects to make a tangible difference to world sustainability. We work with people who share our core values of integrity, courage, passion, responsibility and diversity and these values guide our behaviour and interaction with customers, the community and the environment. We believe this enables Simply Blue Energy to attract the best partners to our marine projects and enables stakeholders and the community to be confident in us as a responsible organisation. This is part of our value proposition to society, that is best facilitated by Option 2.

7) **With respect to key driver (vii), facilitating the timely development of offshore wind capacity to achieve the 2030 target, which of models 1,2,3,4, or variant of these, delivers the most satisfactory results? Which features of the model, or variant, are the most influential for your given choice?**

Options 1 and 2 provide the flexibility and access to developer capability needed to ensure that offshore wind comes onstream in a timely manner, ensuring delivery of the 2030 targets. A plan-led, centralized/ government approach to the development of offshore wind (Options 3 and 4) would result in delays to the realization of the industry. In fact, such a move could be detrimental to the current perception of Ireland as an attractive emerging market for offshore wind, and to the investment potential that this inspires. Furthermore, the development of an offshore wind farm is a costly business, requiring billions of euro in investment. Industry is equipped to take and manage the associated risks. The Irish government would have to put extensive processes around procurement, state-aid rules etc. in place, to facilitate Options 3 and 4. It is impossible to foresee how this could be facilitated in the coming decade without major implications for those projects that are currently in the pipeline, either as relevant projects or as early stage projects to be advanced, such as Emerald.

It is recommended that Government resources would be better placed in facilitating the role by use of effective decision-making processes, including progress in the MPDM Bill; Ocean Renewable Energy development Plan (OREDP) 2; the National Energy and Climate Plan (NECP); public awareness campaign; national offshore wind and fisheries forum; route to market strategy; specific strategic marine plans for the Irish Sea, Celtic Sea and the Atlantic etc., as outlined in the EirWind Blueprint.

8) Rank the key drivers in order of importance 1-7, which have the greatest impact on the choice of model.

All of the drivers are important. Given previous experience with the development and delivery of strategic infrastructure in Ireland (e.g. Corrib, Data Centres), Social Licence to Operate is critical to the success of a grid delivery model and to progress with the offshore wind sector in Ireland. Offshore wind development must pay particular regard to engagement with the fishing industry, to minimize disruption or displacement and to find ways to co-exist.

9) How important is it for Ireland to develop an indigenous offshore wind energy industry? How best can an indigenous industry be developed?

Ireland has an abundant wind resource, requiring the development of export markets to realise its considerable potential. The government has indicated that 30GW of FLOW could be developed, for example, off the west coast of Ireland going forward. This would position Ireland as a net energy exporter whilst achieving long-term energy security. The EirWind socio-economic study indicates that in 2030, 6.3GW of installed capacity could support 12,000 direct and indirect jobs. This includes employment in a wide range of industry activities, including planning and development, installation and commissioning, operations and maintenance. Peripheral coastal communities could be transformed by these new employment opportunities. It is extremely important that this potential is unlocked, through the development of local content in the supply chain. The development of the supply chain needs to be undertaken in such a way that as much local content as possible can be secured. Port clusters should be developed to act as catalysts for jobs and enterprise in the Irish Sea (e.g. Rosslare), the Celtic Sea (e.g. Cork Harbour) and the Atlantic coast (e.g. Shannon Foynes and Killybegs).

10) How should onshore and offshore grid connections be optimised? For example, should consideration be given to common hubs for adjacent projects?

The answer to this question lies in the interpretation of adjacency. Common hubs for grid connectivity onshore may lead to longer distances for offshore cables, depending on the distances between individual offshore wind farms

that are sharing key infrastructure. This would have consequences for developer costs.

The second factor influencing the answer to this question is the issue of scale and ambition. Innovative grid connection solutions are being proposed in relation to the original question of how to connect 6GW of offshore wind at a rate of 1GW for the Ijmuiden Ver wind area in the Dutch part of the North Sea. The TSO is currently examining the feasibility of establishing a large European offshore hub that would see numerous wind farms connected to the artificial island from where electricity would be distributed and transmitted over direct current cables to the North Sea countries, i.e. the Netherlands, the United Kingdom, Belgium, Norway, Germany and Denmark. The proposed HVDC artificial island would have a total capacity of over 30 GW. Innovative thinking is required in an Irish context to achieve route to market for FLOW at scale in the Celtic Sea and the Atlantic production zones.

11) Are there any further considerations which might reduce the cost to the consumer?

The offshore wind industry has been hugely effective in driving down techno-economic costs for bottom fixed offshore wind. Continuous technological innovation and development across the entire value chain may bring about substantial saving to CAPEX and O&M costs. Reducing the LCOE is particularly important for the realization of FLOW in Ireland.

12. Currently, developer compensation is not provided for delayed delivery of grid connections to renewable generators connecting to the network. Should developer compensation arrangements be provided for delivery of offshore grid connections to renewable projects? Similarly, who is best placed to bear the outage risks under the various options?

In Germany, the issue of potential penalties incurred by the TSO operating offshore transmission assets is an important consideration. In the scenario whereby the TSO does not provide the offshore transmission assets for connection of the OWF in a timely manner, penalties are payable to the offshore wind farm developer. It is permitted in Germany for the TSO to pass these penalties to the final consumer through the offshore liability levy. The choice of market design has a direct impact on the final consumer – a key point which must be considered in the selection process.

13. Are there any further drivers which should be considered when assessing a grid delivery model suitable for offshore wind development in Ireland?

As previously stated, the long-term view (i.e. beyond 2030 targets) and the macro-economic implications (i.e. export potential) of the grid delivery model suitable for offshore wind development in Ireland should be part of the analysis.

14. Overall, which model, or model variant, is most appropriate as an enduring grid delivery model for offshore wind in the Irish context?

Option 2 is potentially the model that is most aligned to the development of FLOW. SBE have provided feedback from the perspective of a FLOW developer, with interest in production zones in the Celtic Sea and the Atlantic.

SBE supports the position of the Marine Renewables Industry Association (MRIA), which also favours Option 2. The MRIA position is nuanced on the basis that amendments are required to Option 2 with regards to a State defined minimum distance to shore to enhance public support for offshore wind developments. This is less of an issue for FLOW projects, which are further offshore than their bottom-fixed counterparts.

SBE also fully appreciates the recommendations of the Irish Wind Energy Association (IWEA) in its submission to DCCNT on this matter. IWEAs advocacy of Option 1 with elements of Option 2, is influenced by the need to ensure that Relevant and Enduring Projects can deliver the 2030 targets. SBE are also aligned with the IWEA viewpoint that any transition to a plan-led approach will take time (e.g. coming onstream in the early 2030s), and is relevant to the development of offshore wind at scale (e.g. 30GW of FLOW in the Atlantic) for export.

15. **It is accepted that a transition towards the chosen enduring grid delivery model will be required to leverage the development of the Relevant Projects in the short term. Taking into account the high level roadmaps set out at Figures 5 and 6 above, what should this transition look like?**

A key feature of the high-level roadmaps that define the transition to an enduring grid delivery model is the fact that the timelines start now. SBE welcomes this consultation and is confident of the government's commitment to the next steps. Of the common 'no-regret' actions captured in the roadmap figures, the assessment of requirements for onshore grid reinforcements is part of the critical path.