

Eirwind response to the National Marine Planning Framework Baseline Report

14th December 2018

Introduction

Eirwind is an industry-led research partnership focused on the development of a blueprint for offshore wind in Ireland. This document represents a response from the Eirwind consortium including the MaREI Centre, UCC, Brookfield Renewable, DP Energy, EDP Renewables, Enerco Energy, ENGIE, ESB, Equinor, Simply Blue Energy, SSE and Statkraft. As such, we represent a significant group of international and national stakeholders in the potential supply chain for offshore wind energy, electricity grid and gas/hydrogen networks, in unique collaboration together with the MaREI research team, to co-design opportunities for unlocking Ireland's offshore wind potential and amplifying the values.

The Eirwind Consortium commend the work to date of the National Marine Planning Team (NMPT), including the consultation process, and the comprehensive nature of the National Marine Planning Framework Baseline Report (hereby called the 'Baseline Report').

The National Marine Planning Framework Baseline Report outlines the benefits of marine spatial planning (MSP), described as *"a process that brings together multiple users of the ocean to make informed and coordinated decisions about how to use marine resources sustainably"* (p8). The development of such an approach to MSP is considered important in order to address the current gap in planning from the coastal zone to the outer limits of the Exclusive Economic Zone (EEZ) and continental shelf. Uncertainty around planning and consenting in the marine environment has been a constraint to the sustainable development of Ireland's marine resources, which MSP will go some way to addressing.

The development of MSP is also considered timely from the viewpoint of the Eirwind partners. To date, only 25 MW of offshore wind has been developed in Ireland on the Arklow Bank. (In contrast circa 1,837 turbines have been installed in UK waters with a total generating capacity of 7.2GW, enough to power over 6 million homes, providing associated benefits around job creation, energy security, and carbon reduction). Traditional barriers to development of offshore wind in Ireland are gradually being removed. For example, the consortium welcomed the announcement of the Renewable Energy Support Scheme (RESS) in September last year, although we eagerly await the publication of further detail. The global technology advancement leading to the reduction in the Levelised Cost of Energy (LCOE), the advantages of offshore wind resources in Ireland, the opportunities around the deployment of floating wind technology, and the rising demand in clean energy make Ireland an increasingly attractive emerging market for the international and indigenous developers within our group.

As a result, we urge consideration of key feedback points below, which arise following our joint consideration of the content of the Baseline Report. In doing so, we identified five key issues concerning: i). gaps in the report, ii). opportunities for the MSP plan going forward, iii) recommendations on zoning, iv). consideration of critical enabling infrastructure, and v). governance and administrative aspects.

What are the Gaps in the Baseline Report?

While the baseline report is undoubtedly an extremely comprehensive document, designed as a tool for discussion with multiple stakeholders at a relatively early stage of the MSP process, the report fails to provoke deep deliberation by lacking context - namely the urgency of the need to decarbonise the economy in light of escalating climate disaster.

The report also lacks a definition of sustainable development, which is necessary, given that 'issues of sustainability' are referenced for each marine sector described. Given that different stakeholders are likely to have different interpretations of the concept, such clarification is important.

While the mapping provided in the report is useful to indicate the spatial extents and impacts of various sectors, a fundamental gap is the lack of any effort to overlay the myriad of activities to represent some of the complexity of managing contested space, and the variability of vested interests in marine areas around the coast. The map used in the section on Marine Renewable Energy risks projecting a linear view of what is at stake. A more informative perspective would relate to the development potential of offshore wind. The low figures given for offshore wind (4,500 MW of offshore wind potential) relate to the Offshore Renewable Energy Development Plan (ORED, 2014), published in 2014. These figures do not reflect the current situation in the world and in Ireland, by taking the acceleration of floating wind into the pre-commercial market place into account. In order to further reduce carbon and other greenhouse gases emissions, Ireland needs to foster further RE development and integration with not only the electricity sector but with transport and other sectors. It is noted that the Irish transport and heating sector consumes 40% energy each whereas the electricity sector consumes only ~ 20% energy (Dinh et al., 2018). It should also be noted that the realisation of a strong pipeline of bottom-fixed wind farms in the Irish Sea has the potential to yield ~1,000 MW of capacity in the immediate future, and a further ~4,000 MW to be delivered before 2030. Taking the speedy and accelerating development of floating wind, further large-scale installations of both fixed-bottom and floating offshore wind in the Irish Sea, the Celtic Sea, and the Atlantic, can be delivered, and will possibly make up the total delivery of offshore wind power in Ireland up to 25 GW.

What should the Plan address?

The plan should identify and address the opportunity for the efficient and effective application of key principles to provide greater certainty for investors, developers, and other key stakeholders, going forward. Critical components of this approach should be to: -

- Put climate change at the centre of the plan as a priority principle, - to aid decisions on the nature and shape of instruments used to implement MSP. The MSP Directive is notably weak on climate change, and it is understandable that government may be reluctant to give precedence to any one issue. However, given the seriousness of climate change, as highlighted at COP24 at the time of writing, we argue that Ireland has an opportunity to take a leadership role in how it will integrate climate into MSP. For example, the reduction of carbon and other greenhouse gas emissions would be the well-known primary solution to climate change. Ireland can enable that reduction by fostering the development of offshore wind (Dinh and McKeogh, 2018).
- Promote integration of different marine sectoral interests through multi-use planning.
- Facilitate a forum to build trust and partnerships with relevant users, e.g. between offshore wind supply chain and fishing interests (learning from initiatives such as LAWCO – partnership for the management of catchments in the context of the Water Framework Directive).

Another salient model is the Crown Estate initiative on the Fishing Liaison With Offshore Wind and Wet Renewables Group (FLOWW). Established in 2002, FLOWW aims to foster good relations between the fishing industry and offshore renewable energy sector, to promote and share best practice.

- Incentivise co-development of marine activities, e.g. aquaculture and offshore wind.
- Ensure adequate resources for the implementation of the plan. As a priority, there is a requirement to increase human capacity within respective government departments and agencies.
- Provide clear guidelines on how and when the plan will be updated to reflect the dynamic, interactive, temporal and spatial nature of social-ecological systems. The statutory basis for updates every six years is noted, but stakeholders need to be made aware of, and understand the details, including how stakeholder engagement will be sustained on an ongoing basis.
- Adopt an evidence-based approach to planning and policy. With regards to wind energy, the plan should be developed on the basis of up-to-date data and information coming from credible and robust sources to reflect a holistic view of the scale of the offshore wind opportunity for Ireland. (Research underway in MaREI through Eirwind will help to inform on this scenario in a way that will be timely for the next phase of MSP).
- Align with international obligations such as targets for renewable energy, and the Sustainable Development Goals (SDGs), and United Nations Framework Convention on Climate Change (UNFCCC).
- Prioritise spaces for critical enabling infrastructure (e.g. new foreshore grid connections, new offshore hydrogen stations and transportation pipelines, new and existing grid interconnectors, ports etc.) taking into account future development and increase in capacity from 2030 to 2050. The addition/expansion in capacity of these infrastructures will require space, making advanced spatial planning important.

Zoning

The question of zoning for particular offshore activities is a difficult one to address. 'Hard' versus 'soft' measures relate to a *zoning out* approach versus a *policy-led* approach respectively. A 'hybrid' measure may have elements of both. From our perspective, there is no panacea, other than to take a sensible approach that does not unnecessarily hamper appropriate development, and that makes way for the advancement of technology.

The need for zoning for activities such as Marine Protected Areas is respected. The opportunity to enhance ecological biodiversity in areas adjacent to offshore wind farms should also be considered.

The idea of strategic development zones for offshore wind has potential to aid the development of the sector for Ireland. The imperative for this relates to the economic impact that can be anticipated through job creation, linked to the development of the supply chain. It has been shown, for example, in the UK, that for an economic boost of €2bn can be leveraged for every 1,000 MW of offshore wind installed (Catapult, 2018). Additional benefits such as security of energy supply make provisions for offshore wind a matter of considerable national interest and significance.

However, as a word of caution, it is important to avoid a model that risks being too prescriptive, for fear that lines on a map will limit the emergence of new, innovative opportunities for the use of marine space. There is also the issue of the adequacy of data for delineating zones for particular activities and the need to incorporate new data and information as understanding of the carrying capacity of the

marine environment improves. In response to this we recommend that changes over time can be integrated into an adaptive management system, through an iterative designation and review process, based on feedback and reviews from timely engagement with all relevant stakeholders (e.g. every five years).

It is also recommended that a technical approach can aid transparency in decision making, which is central to nurturing trust among different users. Such an approach should make best use of data, constraints and opportunities mapping, and the use of GIS to show what and how weightings have been applied to different criteria. (As previously mentioned, the principle of mitigating against climate change, given its stated importance, should be given a high weighting).

Finally, there is a question of scale, and an acknowledgement of perhaps the need for zoning to be applied and to become more specific the closer you get to shore, as a result of a convergence of interest groups in relatively shallow waters, bays and estuaries. Shipping lanes, navigation channels and port facilities connect offshore development with the terrestrial environment in the coastal zone. Integrated Coastal Zone Management (ICZM) has proven to be effective all over the world for dealing with contested coastal areas. It is essential that terrestrial and marine based planning frameworks are aligned. In order to achieve this the marine planning framework for Ireland should pay serious attention to ICZM, and the subject, long neglected by successive governments, should be reconsidered on the cusp of an era where a sea-change is anticipated in the utilisation of Ireland's coastal and marine resources.

Infrastructure Investments required to reach the sustainable potential of Ireland's Ocean Resource?

National targets to double the GDP from the maritime economy of Ireland by 2030 are relatively modest (1.1% to 2.2%). Nevertheless, there has been little progress on this since the targets were set in 2012 (Government of Ireland, 2012). The strategic intent of the industry partners within the Eirwind consortium alone, is testimony to the interest in Ireland as an emerging market for offshore wind, and the likelihood that it will be offshore wind, above any other sector, that will deliver on the 'Blue Growth' targets for job creation set by government.

Priority infrastructure investments that need to be made to unlock the potential of Ireland's offshore wind resource relate to the deployment of offshore wind at scale over the next decade. As technological progress pushes the frontiers of marine deployments into deeper and more hostile waters, such as off the Atlantic coast, the scale of ambition, for offshore wind (which could easily exceed 25 GW), is impeded by access to grid and interconnectors, making investment in the Super Grid critical. The planning for spaces and investment in such offshore grid and interconnectors (including the on-going Celtic Interconnector project) should account for their increasing capacity in the future.

The Irish Ports Offshore Renewable Energy Services (IPORES) report emphasises the role of ports in facilitating future large-scale developments (IMDO, 2012). Planning for port development in Tier 1 and other ports, for installation, and operations & management of offshore wind, needs to consider existing, as well as future and new port capacity. The MSP process needs to consider the IPORES 2 report when it is published in January 2019.

In parallel, investment in testbed infrastructure, such as hydrogen infrastructure (offshore stations, transportation pipelines, ports and logistics) will facilitate offshore production and storage of hydrogen from offshore wind power and transportation to shore or exporting directly from offshore

stations, is important to meet the domestic markets and to develop national capacity to address export potential (Dinh et al., 2018). Alternative routes to market, such as power to gas, distribution by gas carriers and new energy storage solutions, could become standard, given the pace of innovation around energy vectors, transport and battery technology (Eirwind, 2018). This needs to be factored into public sector investment plans, as well as being factored in to marine planning scenarios.

Finally, offshore wind, alongside multiple other maritime sectors, depends on investment in different modes of marine data acquisition, from research vessels to ocean data repositories. However, these data are being collected and managed by different organisations depending upon their functions and needs. There are possibly overlapping/gaps among these data repositories. The formation of a national centre for ocean and maritime data would effectively manage these repositories, and support the dynamic and temporal evolution of the MSP in the future.

Administration and Governance for implementing and monitoring the National Marine Planning Framework?

The elephant in the room in the development of the marine planning framework is the blockage in the system on foreshore consenting. A robust and coherent marine planning *and* development system is essential for investment, as developers require clarity on the administrative and regulatory landscape. Progress must be made on the Maritime Area and Foreshore (Amendment) Bill, (MAFA Bill) in 2019 to avoid the risk of potential investment in offshore wind being lost.

There is also a need to streamline the current regulatory system, which is unnecessarily onerous and complex. The Eirwind consortium recognise that this may, in part, be an outcome of the MSP process as it is currently envisaged, and welcome a move in this direction.

Unfortunately, there is more than one elephant in the room. The second relates to a resourcing issue. The lack of human resources in government departments and agencies is a major constraint, as officials simply do not have the bandwidth to engage in meaningful planning and management. The inability of government to prioritise and address this issue sends the wrong signal to private sector investors. This needs to be addressed in the Department of Communications, Climate Action and Environment (DCCAE), in the Sustainable Energy Authority of Ireland, and in the Department of Housing, Planning and Local Government.

A vision and strategy for marine planning are not enough. The long-term key to success will be execution. As such, goals, timelines and indicators need to be set for the MSP process, with *process* being the key word.

The third issue concerns elements outside of the administrative and regulatory arm of government. It relates to objections to large-scale infrastructure projects from civil society. Social acceptance is largely viewed in terms of individual projects, which gives rise to isolated fixes such as community benefits, co-ownership, or more consultation. The Eirwind consortium view a social licence to operate as a wider set of relationships at multiple scales. There is a need to take a far more integrated and strategic approach to considering the social dimension of wind energy deployment, involving a wide range of stakeholders and framed by the needs of the energy transition, including more innovative processes for democratic deliberation. Ongoing research within the Eirwind project will be relevant, and should be taken up, by policy makers.

Conclusion

In conclusion, we are poised at the threshold of an unprecedented period of investment in the offshore wind energy sector. Ireland's natural wind energy resource makes Ireland an exciting, potential emerging market. In order for the dial to shift from *potential* to *prime* emerging market, policy makers need to take a systems-based approach to create the stable conditions for investment; deliver an effective, well-resourced regulatory system; and send the right economic signals to encourage the development of the industrial supply chain.

Ireland's new Marine Planning Framework is a welcome development, but it is not a panacea. It needs to be developed and delivered against a backdrop of clarity, vision, foresight and integration on multiple, parallel issues, such as consenting and infrastructure investment. It also needs to respond to the urgent context of climate change, and Ireland's staggeringly underwhelming performance on meeting 2030 climate targets (EEA, 2018).

The challenges of evolving and delivering MSP, given the complexity of issues and stakeholders that need to be included, are acknowledged. Eirwind industry and research partners stand prepared to share the outcomes of Eirwind research, as appropriate, to facilitate evidence-based policy making as part of the MSP process going forward.

A range of issues and recommendations are presented in this submission, all of which are of considerable importance. In short, the offshore wind sector require: - i). A clear plan, i). a fit-for purpose consenting regime, and iii). a renewable subsidy.

MSP is a means to an end, not an end in itself. Above all, it is a process for engagement. We look forward to continuing to engage with the consultation process as it evolves to reach critical milestones in 2019, 2020, 2021 and beyond.

References

- Lange, M., O Hagan, A., Devoy, R., and Cummins, V. (2018). Governance Barriers to sustainable Energy Transitions – Assessing Ireland's Capacity Towards Marine Energy Futures. *Energy Policy* 113: 623-632.
- Department of Communications, Energy and Natural Resources (2014). Offshore Renewable Energy Development Plan. Available from: www.dccae.gov.ie, Dublin, 2014.
- Dinh, V.N. and McKeogh, E. (2018). "Offshore Wind Energy: Technology Opportunities and Challenges". *Lecture Notes in Civil Engineering* 18, 3-22, DOI: 10.1007/978-981-13-2306-5_1.
- Dinh, V.N., Pushpoth, V., and McKeogh, E. (2018). A hydrogen proposal for offshore windfarm efficiency in Ireland, *Hydrogen Power Theoretical and Engineering Solutions International Symposium (HYPOTHESIS XIII)*, Singapore.
- European Environment Agency (EEA) (2018). Trends and Projects in Europe 2018: Tracking Progress Towards Europe's Climate and Energy Targets. ISSN 1977-8449.
- Eirwind (2018). *Deliverable D5.1 Markets report-Identification of new and Future Markets* (draft submitted internally to Consortium on 1st November 2018)
- McKeogh, E., Cummins, V., Wheeler, A., Murphy, J. and Dinh, V.N. (2017). Feedback on Public Consultation on the Design of a new Renewable Electricity Support Scheme (RESS) in Ireland. *Submitted to the Department of Communications, Climate Action and Environment on 10th November, 2017.*