# Offshore Wind – Phase Two Consultation

Submitted by: The Mid-West Regional Enterprise Plan March 2022

## 1 Introduction

The Mid-West Regional Enterprise Plan welcomes the opportunity to provide its views on Phase Two of offshore wind deployment in Ireland. Given Ireland's vast offshore wind opportunity, current concerns about security of energy supply, and a recognised climate emergency this opportunity is particularly timely.

## 2 Background

The Regional Enterprise Plans are tasked with delivering on the government's priority of realising the enterprise and jobs potential in all of the regions and reducing regional disparities, and are integrated with national level policies and programmes including Project Ireland 2040, Enterprise 2025 Renewed and Future Jobs Ireland. The Mid-West Regional Enterprise Plan Stakeholders include the local authorities of Clare, Limerick and Tipperary, the enterprise agencies, higher and further education institutions, Local Enterprise Offices, the business community, and others, working together to address regional weaknesses and build a strong, sustainable and resilient regional economy for all.

The new Mid-West Regional Development Plan to 2024 was recently launched by the Tánaiste Leo Varadkar TD, and contains a bottom-up list of discrete actions aimed at delivering agreed regional strategic objectives based on the region's unique strengths. One of the region's most significant emerging opportunities is in offshore wind energy generation, and this is already generating significant international interest; this importance of the opportunity is reflected throughout our new plan.

We are already working with project developers, ports, local authorities, education providers alongside colleagues from other regions to develop local supply chains, to build the talent and skills to support emerging jobs, and to support the development of enabling infrastructure.

A significant portion of the seas most suitable for offshore wind development in Ireland have a water depth greater than 60m and therefore the use of floating technology will be required. We believe that increased emphasis should now be placed on floating offshore wind for a number of reasons, including:

- This type of technology will be used to harness the majority of Ireland's vast offshore energy opportunity,
- The technology is now proven, with many other nations showing real intent to deliver at scale prior to 2030,
- Ireland needs to start developing a national supply chain at the earliest possible juncture, to reduce project risks and attrition rates,

- Atlantic wind presents the opportunity for export to support European Climate goals,
- Atlantic wind presents the opportunity to develop value-add green enterprise to sustain our long-term national economy,
- This sector will generate significant direct and indirect jobs opportunities,
- Significant national port and transmission assets are available to support early projects delivered through the Shannon Estuary.

A key threat to the realisation of the significant opportunities lies with continued reluctance by government to embrace the emergence of floating offshore wind technology (FLOW). This reluctance is again evident in government's plans for Phase Two of offshore wind deployment in Ireland, and also in Eirgrid's 'Shaping our Electricity Future' strategy, both of which are short-sighted, rigid and unambitious strategies which put Ireland's 2030 targets at risk while also severely restricting a potentially large economic opportunity. To support our efforts we request that more consideration be given at this time to developing floating offshore wind projects.

## 3 Harnessing our Atlantic Energy Opportunity

Ireland has one of the largest areas of territorial waters in Europe and there have been numerous reports and studies identifying very significant offshore wind resources, particularly along the Atlantic coast. The Climate Action Plan and the Programme for Government (both updated in 2021) envisage at least 5GW of offshore wind to be operational in Irish waters by 2030 and an aspiration to develop at least 30GW of floating offshore wind by 2050. Both of these targets are to be applauded, however the real test will be in the actual delivery given the many project delivery risks and barriers that are in place.

The government has set out a three-phase plan describing how offshore wind projects will be developed in Irish waters to meet the national targets. Phase 1 deals with historical projects, which are located mainly off the east coast. Phase 3 will be a plan-led policy for the development of offshore wind projects beyond 2030. Phase 2 is the transitional phase, which will build on the generation provided as part of Phase 1 to reach a minimum of 5GW by 2030.

The current thinking in the system is that fixed bottom offshore wind projects will meet virtually all of the 5GW target however, there is also an opportunity for floating offshore wind to contribute pre 2030 and post-2030 the opportunities for FLOW will be significant.

DECC's consultation briefing document lists the following technologies as being at the development or early-stage commercialisation stage: Floating wind, wave and tidal, solar/wind/battery hybrid generation, green hydrogen and ammonia production, interconnector hybrids and other technologies, including co-location with other sectors. We believe that this position presents an outdated view of the readiness of Floating wind, given the significant validation of the technology over the past 3 years, and large number of projects now being pursued.

## 3.1 The Emergence of Floating Offshore Wind Technology

We acknowledge that OREDP II is in preparation, and that it will provide an evidence base for the identification of areas most suitable for the sustainable development of wind, wave, and tidal technologies. However, we also draw attention to the fact that OREDP I already contains many elements of this assessment, correctly identifying the major wind resource that exists along the Atlantic coast. Furthermore, the emergence of floating wind technology has resulted in a number of large-scale projects entering development in the past two years alone, providing robust evidence of the readiness of the technology and the anticipated cost-parity versus traditional fixed bottom solutions.

A significant portion of the seas suitable for offshore wind developments in Ireland have a water depth greater than 60m, and therefore to capitalise on the available wind resources around the coastline, the use of floating technology will be required. There are a number of floating offshore wind projects now in operation across the world, including two of the largest in Scotland. One of these projects, Equinor's Hywind project has consistently been the best performing wind farm in the UK, since being commissioning in 2017[1].

Currently, floating offshore wind projects are more expensive to construct than fixed bottom projects given that the floating foundations themselves are sizeable (and therefore expensive) but also because there has not as yet been sufficient deployment to develop a robust supply chain and resultant economies of scale that have been seen in fixed bottom wind in recent years. Industry analysis[2] has indicated that the Levelised Cost of Energy (LCOE) for floating offshore wind is likely to reach parity with fixed bottom wind sometime in the 2030's but only if there is a sustained deployment programme between now and then which will facilitate the development of the supply chain and the innovations which will drive down the LCOE.

2022 is going to be a year of breakthroughs for floating offshore wind in which we will see real progress towards the development of commercial-scale floating wind farms. The Crown Estate Scotland's recent "ScotWind" saw 15GW of FLOW projects being successful out of the 25GW total[3]. In addition to the ScotWind tender, France will announce the results of the world's first auction to actually build a large-scale floating wind farm – 250 MW off Brittany. And Europe will start operating its fourth floating offshore wind farm when Equinor commissions the 88 MW Hywind Tampen wind farm in Norway – which will use floating turbines to power oil and gas platforms, allowing a significant reduction in CO2 emissions from fossil fuel extraction.

Meanwhile Greece, Italy and Spain are advancing new strategies and legislation that will lead to auctions for large-scale floating offshore wind in the Mediterranean and Atlantic. The Greek Energy Ministry are aiming for a first auction in the first half of 2022. Italy's Ministry of Ecological

---

[1] Hywind Scotland Remains The UK'S Best Performing Offshore Wind Farm, Equinor.Com. https://www.equinor.com/

[2] FOW-Cost-Reduction-Pathways-to-Subsidy-Free-report-.pdf (catapult.org.uk)

[3] "Scotland Awards Seabed Rights For Massive Amounts Of Offshore Wind, Most Of It Floating | Windeurope". 2022. Windeurope. https://windeurope.org/newsroom/press-releases/scotland-awards...

Transition has received 64 Expressions of Interest for the development of floating offshore wind projects. The Spanish Government is also developing an Offshore Wind Roadmap and aiming for up to 3 GW of floating wind by 2030.

Ireland's reluctance to embrace floating offshore wind is putting our climate goals at risk, and harming our potential to develop a significant long-term economic opportunity for the nation.

## 3.2 Economic Opportunity

As discussed, the use of floating technology for offshore wind is still a relatively novel application. This provides an opportunity for early adopters of the technology to develop a supply chain without the need to compete with more established markets. This was demonstrated in the onshore wind industry, where there is a high correlation between the countries that were early to embrace the technology and those which have captured the lion's share of the supply chain in terms of turbine technology. Ireland has one of the highest proportions of onshore wind farms relative to the size of its overall electricity market and yet has not been able to capitalise on the turbine supply chain benefits given that these were already established in other countries such as Denmark and Germany.

The cost of the floating elements is estimated to be approximately one third of total offshore platform cost. In the short term it is likely that the turbine components will continue to be manufactured in mainland Europe, there are however solid reasons for floating foundations to be manufactured and/or assembled here. The business case for manufacturing foundations becomes even more compelling for Ireland if they are built from concrete rather than steel.

The continued failure of government and Eirgrid to be proactive in the pursuit of the FLOW space is concerning, especially in light of significant private sector investment and positive sentiment. With one of the deepest and most sheltered watercourses in the world, the Shannon Estuary has been identified as an ideal location from which to deliver major offshore energy projects. As home to a Tier 1 European port, and with consistent water depths of greater than 15m and widths of greater than 120m, it can accommodate the anchorage and servicing needs of the enormous vessels required to support large-scale initiatives. Below is a non-exhaustive list of current projects aiming to develop offshore floating wind projects in the region aiming to harness Atlantic wind but which will be excluded from Phase 2 of offshore wind development in Ireland if it proceeds as currently planned.

*Table 1 - List of Floating Wind Projects Currently in Development off the Clare and Kerry Coasts*

| Project Name | Team Proponents | Size |
|---|---|---|
| Green Atlantic at Moneypoint | ESB | 1.4 GW |
| Western Star | Simply Blue and Shell | 1.35 GW |
| Clarus | DP Energy & Iberdrola | 1 GW |
| Inis West 1 & 2 | Inis Offshore Wind | 2 GW |
| Rian | Tethra | 2.75GW |

A report completed by BVG Associates on behalf of ESB demonstrated that the construction and assembly of Green Atlantic at Moneypoint could create a total gross value added (GVA) of €934m to the Irish economy with over 7,000 direct person years employment and almost 5,000 direct person years employment[4]. Separately, Shannon Foynes Port Company have identified the potential to create up to 20,000 jobs in manufacturing and a further 10,000 industry jobs arising from supply chain opportunities by 2050[5]. Much of this spend and the majority of the jobs would be local in the Mid-West/Shannon Estuary region.

## 3.3 Grid Constraints

There is a clear recognition that floating offshore wind off the Atlantic coast has the capacity to supply multiples of the current Irish electricity demand and therefore the long-term development of the industry cannot be based on a typical grid-connected solution alone. However, in order to get projects established in Ireland Pre-2030, opportunities to connect to the grid will be required.

The Shannon Estuary in particular offers an ideal starting point for Ireland FLOW sector, with significant grid connectivity available at Moneypoint (915MW) and Tarbert (620MW). Both of these fossil fuel power stations are scheduled to cease generating power through fossil fuels long before 2030, meaning there is an urgent need to prevent significant national grid transmission assets from becoming stranded. Currently the ambition for grid development through Eirgrid's 'Shaping Our Electricity Future' does not acknowledge this opportunity, nor does it identify any real opportunities for FLOW projects to connect off the south and west coasts. There is a concern that this omission will lead to challenges for FLOW projects pre-2030.

## 3.4 Adding Value through Digitalisation

Current national energy strategy has focused project development to meet climate targets and deadlines (to 2030 and 2050). This approach places self-imposed limitations on our energy industry; a more progressive approach would be to accelerate high-volume project delivery in parallel with economic growth and emerging export opportunities.

Industries that consume large volumes of energy are becoming more reliant on the availability of renewable energy into the national grid to meet their own corporate goals. Climate change has been recognised as a business-critical challenge by forward thinking organisations, with a top priority being reduced energy consumption and a move to lower carbon energy sources. The world's biggest technology companies, names such as Google, Facebook, Microsoft, Apple and Amazon, have all made pioneering commitments to reducing their carbon footprint. This growing corporate responsibility to the environment represents a parallel jobs opportunity for Ireland, where plentiful green energy can be leveraged alongside a highly educated workforce enjoying high quality, low cost lifestyle to create a large number of high tech jobs.

[4] 2022. Data.Oireachtas.Ie. https://data.oireachtas.ie/ie/oireachtas/committee....

[5] "Offshore Windfall For The Estuary?". 2022. *Independent*. https://www.independent.ie/regionals.....

A key objective for government is to expand the nation's digital capabilities in order to future-proof the economy and provide high quality skilled jobs[6]. We support an aligned strategy for both renewable energy and digital job creation, in order to build a strong vibrant innovation and technology ecosystem that is amplified by future developments of our natural energy resources. This value-add can only be realised through the creation of high-quality jobs in the region and the associated economic uplift that occurs as a result. The overall success of Ireland future economic strategy will require strong support at all levels of government, from local and regional support onwards up to adoption by the national government and policy makers within the EU. A more ambitious and accelerated offshore wind energy strategy is crucial to enable this.

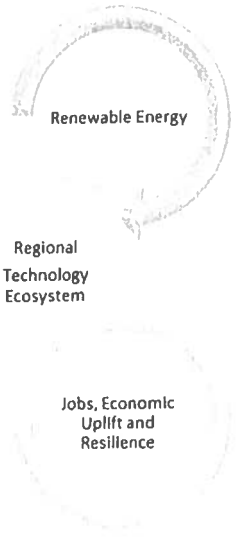


*Figure 1 – Adding Value*

## 3.5 Future Routes to Market - Hydrogen

Given concerns over the national electricity grid, particularly on the west coast it is necessary for our longer-term ambitions to explore alternative routes to market for our vast Atlantic offshore wind resource: the potential for the manufacture and deployment of hydrogen is seen as an exciting opportunity in this regard. At a domestic level, hydrogen is seen as a key enabler to decarbonise the Irish economy. In the short term, heavy vehicles such as trucks and buses will be powered by hydrogen rather than batteries and in the medium term, hydrogen is being investigated as an alternative to natural gas when it comes to heat and power.

In parallel to the domestic market, there is a growing demand for green hydrogen (and hydrogen derivatives such as ammonia) in mainland Europe that is manufactured from renewable energy (so called green hydrogen) as opposed to hydrogen created from fossil fuels. The expected performance of floating offshore wind farms means that hydrogen manufactured in Ireland will be cost competitive with other global sources and that opens a real export market opportunity. There has already been exploratory engagement[7] with the German authorities in this regard, with the Shannon Estuary again identified as a key European asset.

Taking into account both domestic demand for hydrogen and the exciting export opportunities, the West and South coasts are ideally based to be hubs for hydrogen supply chain in the coming years. Development of this supply chain should commence now rather than waiting for another

[6] "Ireland'S National Skills Strategy". 2021. Gov.Ie. https://www.gov.ie/en/publication/69fd2-irelands-national-skills-strategy-2025-irelands-future/

[7] "Shannon Estuary Presents 'Incredible Opportunity' As Renewable Energy Hub, Says German Green Hydrogen Commissioner". 2022. *Independent*. https://www.independent.ie/...

location such as East Coast Scotland to steal a march and capture the international opportunities before Ireland even makes a start.

## 4 Recommendation

We believe that Ireland needs a ring-fenced auction for at least 1 GW of floating offshore wind as part of Phase 2, to enable Ireland to reach the 5 GW target for renewables by 2030. Given the volume of large projects already in development, this would likely generate significant competition, and a number of high quality alternatives with major international investment. This action will also seed an industry that will enable Ireland to build a pipeline of projects into the future, and signal a new dawn for energy and economy in Ireland.

Sincerely,