

Inis Ealga Marine Energy Park

Floating Offshore Wind (FLOW)

Public Information Evening

Questions & Answers

Thursday 27th January 2022, 7-8pm

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DP Energy General – Simon De Pietro, CEO of DP Energy

How do you intend to factor in marine protected areas given that this project will be fixed long before the allocation of MPA's? Could this whole project not be open to legal challenge?

At a fundamental level and separating out the legal challenge question, first and foremost our view is it would be better if we treated all our oceans as worthy of significant protection not simply small areas that we deem of importance. Clearly there are areas which are particularly sensitive to human impact, and we need to take special care hence the requirement for Marine Protected Areas (MPAs) but also there is a need to consider that many of the species we encounter are mobile and may use both these areas and others.

In relation to the specific question there is no reason why wind farms and MPAs could not happily coexist provided the management measures enable that co-existence. What would be helpful in this regard would be the adoption of a collaborative approach between industry, nature conservation bodies and others to help inform discussions around site identification, possible management measures and the potential implications of these measures for licensing decisions. In England during the process to designate Marine Conservation Zone (MCZs) – like MPAs, developers worked collaboratively with UK Government, Regulators and Nature Conservation Advisors as a coordinated group. Adopting a similar approach in Ireland to help ensure industry can fully assist with interpreting information presented in the formal consultation as well as facilitating the discussion and resolution of any potential co-location issues on an engaged and scientific basis.

How much will the farm cost to develop?

We will answer this question in two parts.

How much does it cost to get to a financial investment decision prior to construction – so called DEVEX – or development expenditure?

This depends on the size of project and degree of environmental studies necessary but particularly on the level of geotechnical surveys necessary to understand ground conditions. That said a reasonable budget estimate would be somewhere between €50M and €100M so not a cheap undertaking.

How much does it cost to build – so called CAPEX – or capital expenditure?

Again, it depends on scale of project, technology deployed and engineering challenges but, in the round, you could assume a wind farm of this size will be around €2 billion.

Should offshore wind farms be part of a strategic planning initiative as they are needed at present due to the possibility of power cuts?

In a word yes but the question then becomes what is the best way to achieve this? All large infrastructure projects like offshore wind farms take time to permit, develop and construct so must be planned for well in advanced and since they deliver very significant amounts of power the electricity network also needs to be configured to take the power and again that takes time. Similarly, port facilities need to be upgraded and they need time to do this. One of the challenges in this whole equation is that whilst in an ideal world this could all be done in parallel and strategically, however, projects are currently permitted on an individual basis and that of course brings with it some uncertainty. A degree of this is happening already with guidance from Government setting out offshore goals, and Eirgrid already doing system reviews but there certainly could be more done, and in fact this is already happening in the 2030+ time frame where siting for projects may be more Government planning led rather than developer led. (That said its more than likely that the locations experienced developers would choose for wind development would also be similar locations to those identified in any plan led approach since we are all working to the same general goals of wind, grid connection, port facilities, seabed conditions, environmental sensitivity etc etc).

Who will own the Wind Farm once its built?

Whilst the project is being developed by the joint venture of DP Energy and Iberdrola ultimately the constructor, owner and operator will be Iberdrola. DP Energy will continue to support as necessary through that process as the project goes into operation.



Engineering – Adam Cronin, Head of Offshore

Will this project be making use of the now decommissioned gas pipeline for power cable ducting?

It is unlikely that the subsea gas pipeline will be used for ducting due to the unknown condition of the existing infrastructure, and necessity to separate subsea cables to prevent thermal energy losses. We are currently examining running the subsea export cables parallel to the existing gas pipeline.

Have DP Energy identified specific (i) staging ports and (ii) O&M ports that will be used to support the project?

Have you begun considering port options for installation and maintenance?

We are currently in consultation with several ports in Ireland regarding staging and O&M. Ideally, the staging port and O&M ports will be relatively close to the wind farm to reduce the construction programme and costs and enable quicker and safer access for O&M staff.

What is the lifetime of the farm? Would it be replaced upon expiry?

What is the life span of a turbine and how are they disposed of after their life cycle?

The design life of an offshore windfarm is typically circa 25-30 years. At the end of the design life the infrastructure may be replaced, upgraded, or decommissioned. Consenting for any of these options will be required.

How constrained would the new route near the proposed Celtic Interconnector be - will this be routed inside the subsea channel out of Youghal Bay?

Route options in the vicinity of Youghal Harbour are currently being considered and will be further developed and located after we undertake our geophysical and geotechnical surveys. Any cables in the location of the Celtic Interconnector would need to be designed to ensure that they do not impact upon the interconnector which will be constructed before Inis Ealga commences.

Firstly, the very best of luck with this fantastic venture. Adam's slides had a very challenging timescale from Construction to Operation. What upfront supply chain activities will be undertaken before construction begins?

DP Energy liaise directly with the supply chain and invite all expressions of interest from potential suppliers. DP Energy also engage with the Wind Energy Ireland Supply Chain Working Group and Enterprise Ireland, amongst other industry representative bodies in order to understand the status of the supply chain and provide relevant advice. We can also call on our partners Iberdrola who have a strong supply chain to support our projects. Upfront supply chain activities will include environmental surveys and studies, site investigation studies and surveys, design services, Wind Turbine supplier engagement etc.

Considering that this may be one of the first offshore windfarms in Ireland, what is the panels opinion on the supporting infrastructure (ports, contractors, suppliers etc.) available in Ireland to support construction and maintenance?

Will the existing Irish Offshore Industry be engaged in advance to scale up to support this project.

Supply chain issues are one of the main challenges for the development of windfarms in Ireland and Europe in general, given the current level of proposed development. DP Energy frequently engage with designers, contractors and suppliers, and ports to understand how ready Ireland will be for the proposed developments. It is critical that there is major investment in our ports and electrical grid infrastructure, and suitable training and upskilling to ensure that a highly skilled workforce is available to service the sector. Inis Ealga will be developed after the Phase 1 projects (primarily Irish Sea wind farms) have been developed.

Is there any reason why all the wind turbines will be located outside the 12-mile limit?

The main reasons to locate the turbines beyond 12 miles will be to limit the visual impact and, and higher, more consistent wind resource.

What form of sub bottom profiling will be used in this project and how damaging will this be to the marine environment?

It is likely that up to three systems will be used: pinger, boomer and chirper, depending on the seabed conditions. As part of our foreshore licence application for the site investigation works, an Appropriate Assessment Screening was undertaken by specialist advisors, Intertek. This screening concluded that the proposed site investigation works will not have a likely significant effect either alone or in combination with other plans and projects and will not undermine the conservation objectives of any Special Area of Conservation or Special Protected Area. Appropriate environmental monitoring and reporting will be undertaken during the survey works.

Is it envisaged that Youghal port be used in any way?

It is unlikely that Youghal harbour will be used for construction except for the berthing of some smaller vessels. The pier/port infrastructure in Youghal is unlikely to be suitable for the size of vessels required during the construction and operation & maintenance stages, however we will be engaging with the port authority as the project develops.



Grid – Sara Armstrong, Grid Manager at DP Energy

Does the cable infrastructure to carry 1 giga watt currently exist anywhere in Ireland?

There are existing 400 kV overhead lines which start at Moneypoint at the Shannon Estuary, and which transmit power to the East of Ireland. These lines can carry over 1 GW of power each. DP Energy is planning to connect the Inis Ealga Marine Energy Park to the electricity grid using underground cables. Undergrounding cables can transport less power than overhead lines, but they do not require electrical towers and therefore have significantly less visual impact. We are carrying out electrical design studies to determine the best way to connect the Inis Ealga Marine Energy Park.

Are you considering HVAC or HVDC connection (and possibly H2 production), and will this be a floating substation?

Work is currently ongoing to define the electrical design strategy, and we are considering several different technical options. Ultimately, the final design must adhere to EirGrid's Technical and Functional Specifications, and therefore we are consulting with EirGrid on different connection strategies.

The production of renewable gas such as green hydrogen will be essential to decarbonise Ireland's heat and transport sectors, and to help Ireland on its path to meeting its zero-carbon emissions target. Given the current plans for hydrogen in the Cork area, hydrogen is being considered as an offtake mechanism for the power of the energy park.

Floating substations are less commercially advanced as fixed substations. Given the water depths at Inis Ealga, the use of a fixed offshore substation is feasible. However, all options will be examined.

Is there any part of the plan (yet) to integrate the farm with EI2 in Aghada?

As mentioned in another question, we see green hydrogen playing a key role in decarbonising Ireland's heat and transport sectors in the future. We are engaging with many relevant stakeholders and are currently considering several options for offtake of the Inis Ealga Marine Energy Park power.

How many substations at sea will be needed?

At the project outset, we had initially defined up to three offshore substations. However, a smaller number is anticipated. The final design of the offshore infrastructure is subject to investigative surveys and environmental assessments which are key to informing the design.

What distance would any cable have to keep away from the Celtic Interconnector cable, if you were to choose the same channel to come in by?

A separation distance of tens of meters would have to be maintained from the Celtic Interconnector cables if the Inis Ealga Marine Energy Project was to use the same channel. This is to ensure that if any maintenance or repair work is needed on the Interconnector, EirGrid would have sufficient space to access the cables and to use any vessels or subsea equipment as needed. Both projects must be able to operate in parallel, without affecting or impacting the activities of the other.

What do you see as the potential grid connection options in the area?

Given the indicative size of the project of up to 1 GW, we are targeting the 220 kV electrical infrastructure in the area as potential grid connection points. DP Energy will work with EirGrid to determine the optimum point of grid location.

I've heard a lot about EMF coming from the cables, what effect does it have on animals or people?

Electric and Magnetic Fields (EMF) are emitted from many sources including electrical appliances like radios, microwaves and the wiring in our homes, and electrical lines and cables. EMF also comes from natural sources like the earth's geomagnetic field. EMF is measured on an electromagnetic spectrum, and the EMF from power lines falls under the 'Extremely Low Frequency' category, which is on the non-ionising end of the spectrum. (This category also includes radio waves, TV signals, and visible light). This means that they do not have enough energy to cause damage to human or animal cells. The consensus from the World Health Organisation and other health and regulatory authorities is that extremely low frequency EMFs from electricity cables and lines do not present a health risk.



Environment & Consenting – Edwina White, Environment and Consenting Manager at DP Energy

Will you be considering The Smart Whale Sounds project by Ocean Research & Conservation Association Ireland in terms of underwater noise pollution resulting from your activities?

An Environmental Impact Assessment Report, commonly referred to as an EIAR, will be prepared and submitted to An Bord Pleanála in support of our eventual planning application. The EIAR will comprise several chapters, with each chapter dedicated to a relevant topic.

For example, a typical offshore wind EIAR includes an Ornithology Chapter, a Marine Mammal chapter, a Fish Ecology chapter and also chapters dedicated to other key elements of the receiving environment such as Commercial Fisheries, Seascape, Cultural Heritage, Tourism, Socioeconomics, Traffic, Aviation, Hydrology, and more.

Each chapter of the EIAR will set out for the topic in question: **information on the baseline environment**; an appraisal of how the proposed development may impact that baseline environment; and any mitigation measures proposed to address any potential impacts identified.

Work has yet to commence on the EIAR for Inis Ealga Marine Energy Park. As a first step, an EIAR Scoping Exercise will be carried out in the coming months to determine the full suite of topics to be appraised in the EIAR.

The EIAR will be carried out by an independent expert consultancy who will commence work on the project before the end of February 2022. As part of their work to review and consolidate **information on the baseline environment**, the EIAR consultant will carry out a full review of all environmental information publicly available relating to the proposed project site. This will include a detailed review of all NPWS (National Parks and Wildlife Service) & INFOMAR (Integrated Mapping for the Sustainable Development of Ireland's Marine Resource) datasets for example, as well as other publicly available information including, but not limited to, any strandings and sightings information publicly available from organisations including Irish Whale & Dolphin Group, Irish Basking Shark Group and information arising from the Smart Whale Sounds Project underway by Ocean Research & Conservation Association Ireland (ORCA Ireland) in partnership with Huawei Ireland & Rainforest Connection. ORCA Ireland has made a summary of the Smart Whale Sounds Project publicly available here <https://www.orcaireland.org/smartwhalesounds>.

Are environmental impact studies undertaken during construction and operation of the wind farm? If so, can you elaborate on them?

The Environmental Impact Assessment Report will be submitted to An Bord Pleanála in support of an eventual application for Development Consent. This report will appraise the potential impacts of all phases of the project in its receiving environment, including the construction, operational and decommissioning phases.

A Construction Environmental Management Plan will be developed alongside the EIAR for implementation during the construction phase and to ensure mitigation of potential impacts of the construction phase on the receiving environment.

Depending on the conclusions of the EIAR, and on the conditions attached by An Bord Pleanála to the Development Consent, targeted environmental monitoring will be carried out during the construction, operational and decommissioning phases of the wind farm.

Are there any potential environmental benefits e.g., development of coral reefs?

The EIAR will appraise all potential impacts of the proposed development on its receiving environment, including positive impacts.

The EIAR will also set out proposed mitigation measures to offset any potential negative impacts associated with the proposed development. These mitigation measures will be site-specific and targeted and will be developed based on a solid understanding of the baseline environment at the project site.

What happens if you find an endangered species during your studies?

County Cork and the offshore area off County Cork are home to several protected species. Our two-year ecology survey effort will tell us which of those species are present within or in the vicinity of either the offshore or onshore project areas.

The EIAR for the project will examine potential impacts of our proposed development on all receptors, including protected species. And where potential impacts on protected species are identified, measures will be proposed to mitigate against same.

One of the most effective mitigation measures that a developer has in its arsenal is mitigation by design. And so, the EIAR & project design process will be interlinked for the duration of the development phase. In this way, the environmental constraints will inform the project design, with the project design in-turn informing the environmental appraisal.

Are you looking at all animals or just specific ones – are fish included?

We are looking at all species and their habitats. Fish species are included, right up to largest fish, the Basking Shark. The EIAR will include a dedicated Fish Ecology chapter that will appraise the potential impacts of our proposed development on fish species.

Is DP Energy doing the studies or is another company being paid to do the studies?

DP Energy is not carrying out the surveys. Independent expert consultancies have been commissioned to carry out the surveys on behalf of the project.

The Aerial Bird & Marine Mammal Surveys spoken about earlier are being carried out by APEM. Information on this specialist consultancy is available here: <https://www.apemltd.com/service/surveys-for-birds-and-marine-mammals/>

The landfall ecology surveys are being carried out by Limerick-based environmental consultancy, Ecology Ireland Wildlife Consultants. Information on this specialist consultancy is available here: <https://www.ecologyireland.ie/>

The EIAR will also be carried out by an independent expert consultancy.

What is the difference between MAC (Maritime Area Consent) and Development Consent?

The first key consent to be obtained is the Maritime Area Consent, often referred to as a MAC. In effect, a MAC is a seabed lease agreement between the Irish State and a project such as Inis Ealga Marine Energy Park. There is currently no live process by which a developer of a Phase 2 offshore renewable energy project, such as Inis Ealga, can submit an application for a MAC.

The government is currently establishing a new agency to process MAC, or seabed lease, applications from developers such as ourselves. This new agency will be called MARA (the Maritime Area Regulatory Authority). Once MARA is established, likely early in 2023, we will apply for a MAC for Inis Ealga.

Only once we have been granted a MAC by MARA can we then proceed to the next step, which is to apply for planning permission, also known as Development Consent, to An Bord Pleanála for their consideration.

As mentioned earlier, that application will be supported by our EIAR. An Bord Pleanála will decide whether to grant planning permission for the project. It will make this decision based on our application, the EIAR, and any observations made to An Bord Pleanála by third parties, including by members of the public.



Community & Stakeholder Engagement – Yvonne Cronin, Community and Stakeholder Liaison Manager at DP Energy

What can public feedback influence at this point?

We are at a very early stage of the project. We have applied for permission to survey the seabed. If we are successful with that application we will continue with survey design, and then for Maritime Area Consent, after that we will apply for planning permission. Every step of the application and development process will have public engagement, public consultation, and open and transparent channels through which to feedback and influence decisions made by DP Energy concerning the wind farm. We really want to hear from you and can only make good, fair decisions when we know about them, so public feedback can potentially influence many areas of the project.

We really need to highlight the billions of euros that Ireland can potentially earn from floating offshore wind instead of importing oil and gas. What are the key qualifications needed for our 3rd level institutions to service the industry, what is available now and what skills do we need to start training for? Is there potential to produce green hydrogen from this project?

DP Energy are currently working to create a career profile document that will detail the variety of jobs that are currently available and will be needed through every phase of the project -from short term construction jobs to the long-term operation and maintenance roles that will be necessary throughout the lifetime of the wind farm, including those roles involved with decommissioning or repowering. Given the current plans for hydrogen in the Cork area, hydrogen is being considered as an offtake mechanism for the power of the energy park.

What did the community in Dungarvan seek change to the plan?

There were several factors that contributed to the alteration of the cable route survey area. The Dungarvan community submitted responses which covered heritage, tourism, Gaeltacht, socio economic concerns and infrastructure. The land fall area being considered was also a long distance by land to the potential grid connection point in Aghada and Raffeen which also contributed to the final decision to discount it.

How big would a community fund be for a project of this scale?

The draft terms and conditions for the Offshore Renewable Electricity Support Scheme 1 (ORESS1) are still being discussed and finalised. The ORESS1 terms and conditions will be applied to the Phase 1 projects (6 projects in the Irish Sea and 1 on the West coast). ORESS1 will dictate the size of the Community Benefit Fund for all the offshore wind projects in the Phase 1 round. ORESS1 will inform ORESS2 which will be applicable to the Phase 2 projects of which we hope Inis Ealga will be part. Once the terms and conditions are finalised for ORESS2, we will be in a position to answer this question



Where do I send my CV?

We are delighted that you are interested in working with DP Energy, we are always looking for talented, passionate people to join our team. Please send your CV to Info@dpenergy.com.

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