



MARINE RENEWABLES INDUSTRY ASSOCIATION

WHITE PAPER

FORESHORE LICENCING & LEASING FOR MARINE RENEWABLES PROJECTS

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Executive Summary

Ireland's offshore renewable energy resources have significant development potential and are considered among the best in the world. The practicably exploitable wave energy resource is estimated at more than 75% of Ireland's 2006 electricity demand while our tidal resource also has significant potential. The Government's Energy White Paper (2007) includes targets of 75MW generated from ocean energy sources by 2012 and 500MW by 2020. In order for Ireland to achieve these progressive targets and optimise the socio-economic benefits associated with exploitation of its marine energy resource, it is critical that public and regulatory policy enacts effective delivery mechanisms.

Key to delivery is the implementation of an appropriate Foreshore Licencing and Leasing process. The existing process, currently under review, operates on a 'first come, first served' basis which is felt to be inappropriate for appropriate development of the resource in the national interest. In light of the current review, due to be concluded in 2009, MRIA has prepared this Paper to communicate the Industry view on an effective Foreshore Licencing and Leasing process for marine renewable projects.

A realistic timeline to develop, receive, consent and construct a marine renewable project is a number of years. This is due to the Environmental Impact Assessment and engineering design development that must be progressed in addition to the timescales for contract development, manufacturing and construction. Therefore, in order to ensure that Ireland takes a lead in marine renewables, it is imperative that a Licencing and Leasing process is put in place that allows development of early stage prototype and early commercial array demonstration projects to begin immediately. It is also critical to put in place a process that allows the longer term commercial development.

In light of this urgency it is preferable to work within the existing legislation and make only minor amendments to the current process. MRIA believes that the structure of the existing Licence and Leasing process is suitable, if used in conjunction with the following additions:

- Assess projects on a criteria basis taking into consideration the competence and capability of the developer and technology to develop and construct projects. This will allow the Government to identify projects with the capability to deliver and meet national targets.
- Put in place development milestones that ensure project developers are actively advancing a development strategy and discourage speculative developers from sterilizing sites.
- Remove the requirement for large deposits for prototype and early commercial array demonstration projects which do not deliver the desired intent in discouraging speculative development.
- Continue to hold an open round, without introducing 'Gates', and consider each project on its merits allowing the appropriate development to come forward in the timescales determined by the development of the technology.

It has been recognised that it is necessary for the Irish Government to complete a Strategic Environmental Assessment before constructing any major programmes for deployment of marine renewables. The SEA study is expected to be completed by the Autumn of 2010. However, offshore renewable developments in the UK have set the precedent allowing appropriate stages of development prior to SEA completion. Accordingly, MRIA feel it appropriate to allow the site investigation module of development works to proceed under the requisite Foreshore Licence. Ultimately the risk of the SEA negatively impacting a project will fall to the developer and not the Licencing authorities. Furthermore, the baseline data collected by early projects will strengthen and improve the quality of the SEA.

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1. Introduction

This White Paper has been drafted by the Marine Renewables Industry Association (MRIA) to represent the views held by the wave and tidal energy industries regarding the Foreshore Licencing and Leasing process in the Irish market.

There are a number of issues associated with the existing process which have forced the Department of Agriculture, Fisheries and Food (DAFF) to cease processing applications pending a review. The DAFF is considering a revised process and will hand administration of the process to the Department of the Environment, Heritage and Local Government (DEHLG) along with a proposal for revision of the process. This decision has been scheduled for 2009.

The Department of Communications, Energy and Natural Resources (DCENR) will, in the light of their policy responsibility for Energy, continue to maintain a watching brief in this area.

The following Paper provides recommendations to the DAFF and DEHLG in agreeing and implementing a strategy for Foreshore Licencing and Leasing. It recommends strategy in terms of short term reform for prototype and early commercial array demonstration projects and longer term solutions for licensing and leasing of large commercial scale projects.

2. The Marine Renewables Market

Ireland's offshore renewable energy resources have significant development potential and are considered among the best in the world. Detailed assessments of Ireland's tidal and wave energy resource were performed in 2004 and 2005 respectively. Employing techniques to define Ireland's wave and tidal energy resources and allowing for technical, practical and environmental limitations, the accessible annual tidal resource was estimated to be 2.6TWh¹ whilst the wave energy resource was estimated to be 21TWh². The wave energy resource alone would be sufficient to supply 75% of the Republic's 2006 electricity requirement.

Ireland is one of the few States whose geological continental shelf extends beyond a 200-mile limit (a 'marginier' state). It has the largest extent of marine territory in the European Union with over 652,000 km² (more than 10 times its land area). This represents a seabed 14 times the European average.

In October 2005, a National Strategy for Ocean Energy was published which proposes a strategy to enable the introduction of ocean energy to the Irish renewables portfolio. This was reinforced by the Government's White Paper for Energy (2007) which set initial

¹ Sustainable Energy Ireland (2004). *Tidal & Current Energy Resources in Ireland*.

² Marine Institute, Sustainable Energy Ireland (2005) *Accessible Wave Energy Resource Atlas: Ireland*.

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targets of 75MW generated from ocean energy sources by 2012, and 500MW by 2020³. In January 2008 the Minister for Communications, Energy and Natural Resources, Eamonn Ryan TD, announced a major programme of activity, grants and supports to develop ocean energy in Ireland. Over €26 million provided under the Sustainable Environment Sub-Programme of the National Development Plan 2007- 2013 will go to the sector over the next three years.

The associated benefits of development of wave and tidal power in Ireland include:

- *Socio-economic* benefits through job creation directly and indirectly related to project site and technology development, manufacturing, installation, operation and maintenance.
- *Reduced reliance on imported fuels* by harnessing an indigenous energy resource. Ireland imports over 90% of fuel to support its energy needs. This costs €1500 per head of population which is twice the EU average.
- *Diversification* of the electricity generation portfolio thus increasing security of supply.
- *Reduction in Ireland's carbon footprint* and contribution to the challenging EU appointed mandatory 20% 2020 carbon abatement target while simultaneously allowing Ireland to meet its obligations under international law.

3. The Current State of Marine Renewables

Exploitation of marine energy is currently a focus for a large number of potential markets worldwide. In 2006, the wind energy market in Denmark alone was worth €4.4bn and supported over 21,000 jobs. With the potential for equivalent socio-economic benefits resulting from the exploitation of marine renewables, a significant level of activity in technology development and demonstration has been stimulated.

The UK is currently considered to be leading the world markets in marine energy through the creation of an attractive consenting and economic regime. However, many other markets worldwide are competing to advance on the UK's lead. In order for Ireland to optimise the socio-economic benefits associated with exploitation of its resource, it is critical that it targets an ambitious strategy of delivery. Key to this strategy is the implementation of an appropriate Licencing and Leasing process.

The types of projects being targeted by the marine renewables industry, based on the stage of technology development, are currently as follows:

³ The Governments White Paper for Energy (2007)

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- *Prototype Demonstration* – This involves deployment of single test devices, intended as proof of concept. They may be partial or full scale, and may or may not be connected to grid. Examples of these include Wave Bob and Ocean Energy’s deployment at the 1/3 – 1/5th scale test centre at Galway Bay, and Pelamis Wave Power’s full scale prototype testing at the European Marine Energy Centre (EMEC) in Scotland. A number of developers are at the stage of building and testing their first device in real sea conditions.
- *Early Commercial Array Demonstration* – This type of project is a demonstration of a number of devices sub 20MW. A smaller number of developers have deployed prototypes and one has deployed a small array project. Several are currently in discussion with potential customers to move to this size of array demonstrations. This is the next phase of early commercial projects that is being targeted by the marine industry.
- *Commercial Deployment* – Deployment of projects of 20MW plus. Although no technology is currently ready to deliver such large commercial projects, the market is moving to progress this scale of development. It is believed that the timescales associated with development of larger projects align with the timescales for development of the technology.

A realistic timeline to develop, obtain consent and construct a marine renewable project is years. This is due to the Environmental Impact Assessment and engineering design development that must be progressed in addition to the timescales for contract development, manufacturing and construction. Therefore, in order to ensure that Ireland takes a lead in marine renewables, it is imperative that a Licencing and Leasing process is put in place that allows development of projects to begin immediately.

The UK has already commenced its first leasing round for marine projects in the Pentland Firth. Without any significant development activity in Ireland and without opportunities to deliver projects, the technology manufacturers will be forced to meet their production capabilities with projects in other markets. Consequently, ‘early mover’ advantage with the creation of a skill base required to support the industry will move away from Ireland and the Government’s targets will be missed.

4. **Foreshore Licencing and Leasing Historical and Current Position**

Exploitation of the Foreshore, the area from below the line of high water of mean tides to the 12 nautical mile limit, is governed by the following Legislation:

- The Foreshore Act 1933, as amended by:
- The Foreshore (Amendment) Act, 1992 (No. 17 of 1992)

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- Fisheries and Foreshore (Amendment) Act, 1998 (No. 54 of 1998) [chapter 4 and 5].
- Fisheries (Amendment) Act, 2003 (No. 21 of 2003) [this amends and extends the Foreshore Act, 1933]
- Maritime Safety Act, 2005 (No. 11 of 2005) [Part 6 amends the Foreshore Act, 1933 and prescribes a seaward limit of 12m for the foreshore for the first time]

The Foreshore Act requires a Lease or Licence to be obtained for the carrying out of works or placement of structures or material on, or for the occupation of or removal of material from, the State-owned foreshore. Under this Act, Leases and Licences are granted subject to the payment of fees.

The existing process enabling Licencing and Leasing of Marine Renewable projects was formulated in May 2001, as a direct result of the construction of the 25.2MW Arklow Bank offshore wind project. The procedure was detailed in the 'Offshore Electricity Generating Stations – Note for Intending Developers' document, produced by the Department of the Marine and Natural Resources (now the Department of Communications, Energy and Natural Resources). The note was drafted with offshore wind generation in mind rather than marine renewables. Subsequently, the competent authority for Foreshore Licences and Leases became the Department of Agriculture, Fisheries and Food (DAFF).

The procedure is currently a two-stage process, involving applications for:

- Foreshore Licence – to allow investigation and development of the site
- Foreshore Lease – to allow construction and operation on the site.

A summary diagram of the Licencing and Leasing procedure can be found in Annex A.

4.1 Foreshore Licence

A Foreshore Licence is required to assess the suitability of the site for the intended renewable energy project. Foreshore Licences are currently granted on a 'first come, first served' basis. A Foreshore Licence is generally granted for four years, not normally subject to extension. Multiple applications for a Foreshore Licence may be accepted for the same area, with the first applicant having first rights to development.

Foreshore Licences for Marine Renewables are granted at a nominal rent of 5€/year, subject to a refundable deposit of €100,000 to be made on the day of acceptance of Licence conditions⁴. The deposit is refunded provided the conditions of the Licence are

⁴ A separate Foreshore licence is normally required for plotting the route of cable from a proposed marine development to the national grid onshore. This is issued free and without further deposit, but the deposit held on the licence for investigation is attached to this licence as well.

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met and that a valid application for a Foreshore Lease is made within 12 months of the expiry of the Licence, unless it is proven that the site is unsuitable for electricity generation.

4.2 Foreshore Lease

When a Licence holder is satisfied that the site is appropriate, then application may be made for a Foreshore Lease for the development. The granting of the Lease allows construction and operation of the development, subject to agreed terms and conditions for a period of 60 years.

Application for a Foreshore Lease is contingent on the applicant having held a Foreshore Licence for investigation in good order, and on his making a valid Foreshore Lease application within 12 months of the Licence's expiry. A valid application must be accompanied by the following:

- Evidence of possession of the necessary authorisation/licence/other permissions from the Commission for Energy Regulation (CER) or other relevant authorities or evidence that these have been sought;
- Permission for connection to the national grid or evidence that such permission has been sought;
- Environmental Impact Statement;
- Planning Permission for onshore based works (where applicable).

In addition, the application must have: a full Business Plan covering the construction period and the first five years of operations; and a Tax Clearance Certificate or other document showing good standing with the Revenue Commissioners (or equivalent for applicant companies outside the jurisdiction).

A commercial rent is applied to any development. For offshore wind turbines this is based on the nominal output of each turbine (€3800 p.a. on a rating of 1MW – subject to review every 5 years), or a percentage of gross revenue (2-2.5%) – whichever is the greater – paid as rental over the site sought⁵.

4.3 Concerns with the Existing Process

There are a number of issues associated with the existing process.

- The 'first come, first served' basis stimulated a large number of speculative applications, driven by perceived future value of the opportunity. This issue was further compounded by a lack of qualifying data in the application form enabling developers to apply for sea space disproportionate to the scale of the eventual

⁵ EWEA (2002) Enabling Offshore Wind developments

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development. It allowed speculators with no skill-set in development to 'sterilise' sea space. It is likely that some of the current applicants do not have the capability to deliver projects and will sterilise the foreshore during a critical time for marine energy industry.

- There are a number of applications currently in the process, yet there have been various versions of the application forms. This negates certainty and consistency within the process and suggests that projects will be assessed inequitably using different criteria.
- Later application templates attempted to remedy the lack of qualifying data by asking for information on environmental and navigational interactions. However, the type of information requested appeared to be tailored toward an initial screening of site appropriateness rather than that of the project or developer. Provision of this information pre-empted the detailed consultation and Environmental Impact Assessment process that will be carried out through the Licence process. This information is inappropriate to collect in detail prior to the security of operating under an exclusive Licence as it expensive and time consuming to collect. A resource commitment of this scale is commercially unjustifiable prior to site security. Furthermore, there are no formal routes for appropriate consultation prior to a Licence being put into the process.
- The existing process uses a deposit of €100,000 to discourage speculative applications. In practice the effectiveness of the deposit was limited due to the absence of any qualitative assessments of the applicants' sincerity or timescales to progress development. Consequently, speculative applications were inadvertently encouraged as the perceived value of the asset is much greater than the deposit required. A deposit of €100,000 may discourage early stage technology developers as genuine activities incur substantial capital costs. The initial large outlay skews the risk profile of a project, and could discourage genuine technology development activity, especially in the context of the risk associated with investing in an emerging industry.
- Similarly a €900,000 deposit is required to secure a Lease. From a site developer's perspective this is seen as a punitive cost particularly as it is not correlated to the scale of application thus failing to incentivise developers to submit applications realistically reflecting their build capability. This may lead to over-reporting of scale and result in unnecessary sterilisation of sea area, inhibiting the entry of other market participants. Furthermore, an uncorrelated €900,000 deposit skews the capital exposure/risk profile, particularly for smaller scale construction projects.
- The developer must provide the Department with copies of all information gained in respect of the site, which will be held in confidence by the Department through the lifetime of the Licence, plus an additional 12 months. This may deter development and the investments made in site assessment have

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commercial value, which offset the risk associated with development. Socialising the outputs will have the inevitable affect of devaluing development.

5. Proposed Solution

It is proposed that, considering the urgency of the timescales required to enable the Marine Renewables industry in Ireland, it is preferable to work within the existing Legislation and make only minor amendments to the current process.

The solution should be considered in two phases:

- Short term reform to meet the requirements of prototype and array demonstration projects. These are the projects which are currently being built and deployed by the marine renewables industry, and it is critical that their development is not stifled at this nascent stage of development.
- Longer term reform to meet the requirements of commercial deployment. This should target development of larger projects with longer term desires to develop marine renewables in Irish waters.

To meet the requirements of each stage, MRIA believes that the structure of the existing Licence and Leasing process is largely suitable, if applied in conjunction with the following considerations

5.1 Foreshore Licences

- a) Hold a competitive assessment of the existing applications. All applicants would be assessed on their ability to deliver a fully consented site, access to viable technology, ongoing development strategy and the firm intent and resources to develop, construct and operate a marine energy project. Proposed criteria for assessment of a Foreshore Licence for a Prototype and Early Commercial Demonstration Array can be found in Annex B.
- b) Where applications for Licences overlap, the Irish Government should carry out a merit assessment considering the above criteria.
- c) As per the latest Licence application version, the requirement for the developer to submit information on site suitability assessment, such as environmental and navigational impact, should be removed. The Licence to investigate should be focused purely on determining those applicants which are capable of delivering a site and not on the feasibility of sites. Risk of site feasibility ultimately resides with the developer. The justification for developing the site will be fully presented in an EIA with the application for a Lease.

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- d) While the Licence exclusivity period should remain at 4 years, Licences should operate on a 'use it or lose it' basis. Developers will agree a set of development deliverables with the Government, which they must achieve in order to continue exclusivity through the Licence. Targets should be associated with milestones in project development such as implementation of surveys, scoping, environmental impact assessment etc. Time extensions to achieve targets should be allowed for any delays caused by factors outside the developer's control with the developer acting reasonably to progress the development in a timely matter. The Minister may at his discretion revise the targets to provide the Licencee with more time.
- e) For Prototype and Early Commercial Array Demonstration projects (sub 20MW) remove the requirement for a deposit to secure the Licence. This deposit hasn't achieved its intent to discourage speculators. The demonstration of commitment in effort and costs will instead be achieved using the agreed milestone deliverables as mentioned in point d) above. These deliverables which include activities such as Environmental Impact Assessment and survey work will have significant costs associated with delivery which will soon exceed the deposit costs. For longer term Commercial projects, the licence application deposit for site developers should be retained but scaled appropriately as per the scale of the intended projects.
- f) For ongoing Licence consideration, an open round should be held which considers each project on its own merits. This will allow the appropriate development to come forward in the timescales required by the development of the technology. A Gate process should not be held in the same manner as an offshore Oil and Gas offshore leasing round. In a mature market, the technology evolves and a clear and defined appetite and competency exists to develop projects. By introducing a 'gate' a rush of applications are stimulated, that are not necessarily representative of the appetite of developers to progress projects in an evolving market. This creates an administrative burden for the Government bodies, and consultees, and makes it necessary to consider cumulative impacts. This will ultimately slow down the deployment of early projects.
- g) The areas for investigation outlined in the Foreshore Licence application will be larger than required for the deployment of the associated arrays. This is to allow investigation work to be carried out which locates the optimal locations for deploying moorings spreads. It also allows for flexibility in planning layout when considering other sea uses as identified through the consultation process. However, Licenced areas should not be excessively large, so as to sterilise areas of seabed that could be used for other development activity. A phased approach to returning areas of the seabed should be implemented, once a decision has been made on the final site layout. Decisions on site layout and return of Licenced areas should be an agreed deliverable as per point (a).

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- h) Allow the Marine Institute access to full data sets but the ability to publish only meta data for information collected on the site. They can act as a broker with the developer and other parties to sell data sets and to support subsequent development. The viability of this proposal would need to be confirmed in the context of the Freedom of Information Act provisions.

5.2 Foreshore Leases

- a) Assess the viability of the project as proposed in the original Lease application and using the criteria detailed in Annex C.
- b) Remove the €900,000 deposit which is a disproportionately large cost when considering the costs of small array projects. Instead, agree delivery milestones with the developer, which demonstrate a commitment to development. These should be extended if the developer can prove that delays were outside of the developer's control, acting reasonably.
- c) Deposits should be complimented by pre-arranged delivery milestones agreed with the developer. Milestones should be extended due to delays outside of the developer's control, acting reasonably.

6. Interaction of a Strategic Environmental Assessment

It has been recognised that it is necessary for the Irish Government to complete a Strategic Environmental Assessment (SEA) before commencing major construction of marine renewable projects. The SEA study is expected to be completed before the end of 2010.

However, it is imperative that the SEA does not hinder the development of Marine Renewables projects at this critical stage of development of the industry, especially with regard to Prototype and Early Commercial Array Demonstration projects. There are numerous precedents in other European countries for allowing appropriate stages of development prior to completion of an SEA. In the UK, Ireland and Portugal deployment of offshore renewable prototypes and early demonstration sites were installed prior to completion of the SEA. For example, the deployment of Pelamis Wave Power's prototype in EMEC, demonstration array in Portugal and Arklow Bank's 25MW offshore wind demonstration were all deployed prior to the relevant SEA. In addition to this, larger scale development rounds have been carried out prior to SEA with the intent that the SEA will be carried out prior to leasing and construction. For example, in Scotland over 6GW of options have been granted to allow investigation of offshore wind sites.

Under the current process for Foreshore Licences/Leases a Licence only offers the right to carry out investigation and development activities for a fixed period. It does not offer

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ultimate certainty that a Lease, to allow construction and operation, will follow from a Licence. What it does offer a developer is exclusivity of development of that site, which gives the developer a major strategic advantage in the ultimate likelihood of obtaining a Licence. So commitment to a Licence does not mean commitment to a Lease which ensures that SEA legislation is not contravened, as has been demonstrated by the Scottish Offshore Wind investigation options.

Based on experience from development in the UK, it is likely that there will be limitations in how prescriptive the SEA can be in offering location guidance, due to the diversity of technologies that are being proposed and the ultimate lack of knowledge of their impact prior to major deployments. MRIA feels that it is appropriate to allow development under a Foreshore Licence to progress as the ultimate risk for the SEA negatively impacting the project will fall to the developer and not the Licencing authority.

Finally, the operation of the Licences to investigate in tandem with the SEA could also provide significant input to the development of the SEA study in terms of data and real experience in marine renewable site development. The two activities should be allowed to continue in parallel to ensure improved effectiveness for the SEA.

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Annex A – Existing Foreshore Licencing and Leasing Process

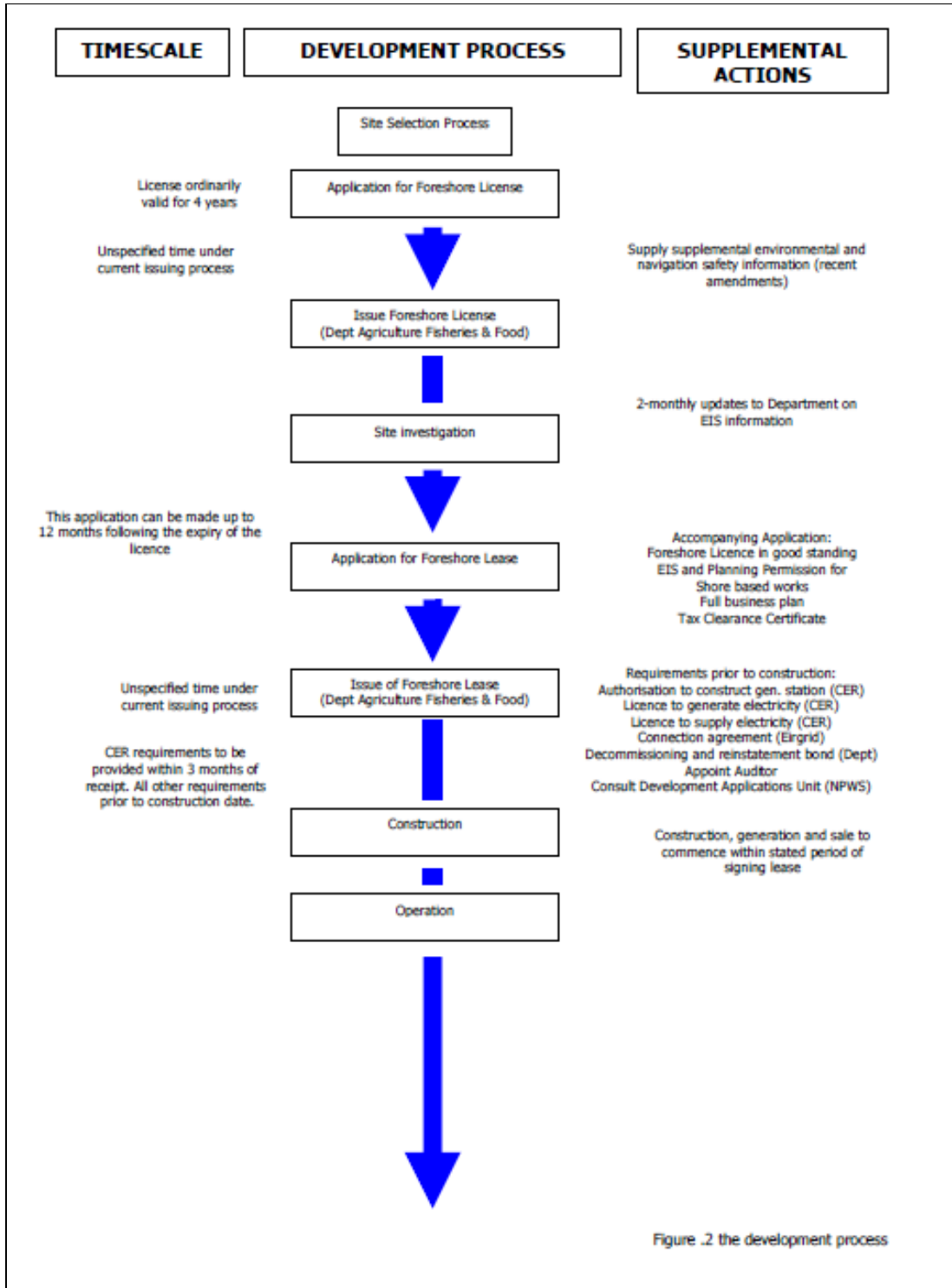


Figure .2 the development process

Annex B – Proposed Criteria for a Foreshore Licence

Assessment criteria for a licence to investigate the foreshore

Site Description

- Location
 - Outline of site provided in WGS84 and Irish National Grid (where possible)
- Size
 - Preliminary device layout
 - Estimate of **number of devices & configuration**
 - Annual energy production estimates
 - Installed capacity
- Landing points
 - Location of potential landing points
 - Description of onshore structures required
- Infrastructure
 - Estimate of vessels required during installation and operation.
 - Estimate of onshore infrastructure (road, water, telecommunications, electrical grid) which will be required during installation and operation of the site.

Site Development ability

The applicant should be assessed on their ability to develop a site to a fully consented stage according to the following criteria:

- Description of site investigation work to be carried out
 - The applicant must demonstrate an understanding of what work needs to be undertaken.
- Business plan & budget to deliver the site to a fully consented stage
 - The applicant must demonstrate a clear and realistic plan and budget to develop the site.
- Company finances and budget
 - The applicant must demonstrate firm access to sufficient funds to develop the site.
- Access to technology
 - Applicants must demonstrate that they have firm access to a credible technology which they intend to deploy on the site. This must be accompanied with a detailed description of the technology.
 - The applicant's proposed site size must be within the forecast production capability of the technology supplier.
 - These requirements will apply to the Prototype Demonstration and the Early Commercial Array Demonstration categories almost by definition i.e. applicants under either heading will wish to demonstrate a particular technology.

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- However, the Commercial Deployment stage is some time away and it is likely that there will be a degree of technology fusion when it is reached i.e. developers may have access to several proven technology suppliers and may not wish to specify one of them at the Foreshore Licensing stage.
- Site development expertise
 - The applicant must demonstrate an expertise in developing a site to the fully operational stage.
- Safety
 - The applicant must demonstrate its commitment to ensuring a safe working environment.

Site Construction ability

The applicant should be assessed on their ability to construct and operate a site according to the following criteria:

- Business plan & budget to construct the site
 - The applicant must demonstrate a clear and realistic plan and budget to construct and operate the site
- Company finances and budget
 - The applicant must demonstrate a route and strategy to access sufficient funds to construct and operate the site
- Site construction expertise
 - The applicant must demonstrate an expertise in site construction
- Site operation
 - The applicant must demonstrate an expertise in site operation
- Safety
 - The application must demonstrate its commitment to ensuring a safe working environment.

Annex C – Proposed Criteria for a Foreshore Lease

Assessment criteria for a licence to construct and operate

Description of the project

- General site description
 - A general description of the study area should be provided and for the purposes of such a description applicants should cover an area up to 20 km. from the boundary of the site and the cable(s)/pipe(s) to shore.
- Location
 - The applicant should provide an outline of site area in WGS84 and Irish National Grid (where possible).
- Technology
 - The applicant should provide a detailed description of the technology which they intend to install on the site. This should include details of previous tests and installations.
 - The applicant should provide a detailed description with dimensions describing the method of securing/anchoring the technology to the seabed.
 - Expected lifetime of project
- Size
 - Device layout
 - Cable(s)/pipe(s) description and route to shore
 - Cable(s)/pipe(s) description and layout between devices
 - Estimate of devices
 - Annual energy production estimates
 - Installed capacity
- Installation
 - The applicant should provide method of construction and installation of technology to be installed at the site.
 - Duration of construction and commissioning phase
- Operation
 - The applicant should provide a detailed description of the operation of the proposed electricity generation station.
- On-shore structures
 - The applicant should provide a detailed description of land based resources required during construction and operation phases.
- Emissions
 - The applicant should provide estimates of the quantity and type of expected residues and emissions resulting from the generating station (noise, light, vibration, chemicals, waste) during the construction, operation and decommissioning phases.

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- The applicant should provide details of plans to prevent spillage of oil or chemicals into the sea during construction and operation.
- The applicant should provide details of plans for dealing with and containing spillages of oils or chemicals into the sea.
- Safety
 - The applicant should provide details of plans in the event of accidents or emergencies.
 - The applicant must demonstrate its commitment to ensuring a safe working environment.
- Decommissioning
 - The applicant should provide details of plans for decommissioning and removal of structures.

Alternatives considered

- Alternative locations (including on-shore and "brown" electricity) considered and reasons for their non-selection.
- Alternative locations considered for connection to shore and reasons for their non-selection.
- Alternative routes for connection to shore and reasons for their non-selection.
- Alternative technology types.
- Alternative method of seabed anchoring.
- The "Do nothing" alternative.

Mitigation Measures

- Measures designed to minimise, reduce or reverse any adverse impacts identified.

Monitoring programmes

- Detailed proposals for proposed monitoring programmes during construction, operation and decommissioning phases as identified from the EIA process.

Licences and consents

- Licence to generate electricity from the Commission for Electricity Regulation
- Licence to supply electricity from the Commission for Electricity Regulation
- Grid connection agreement from either the transmission/distribution system operator.

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- The MRIA is aware, of course, of the 'Gate 3' process now underway which does not take account of the Government's targets for the Marine Renewables area and which automatically disadvantages our emerging industry as it will effectively tie down the scope for grid connection to existing mature technologies, such as wind.
- Planning permission for onshore works from planning authority(ies)
- Land options for all onshore works.
- Way leaves for all cables/pipes making landfall and onshore.