20. Conclusion

Marine renewable energy is an emerging industry which has very considerable potential for economic growth and job creation. This can happen through the development, manufacture, deployment and operation of wave, tidal and offshore wind technologies and the creation of an indigenous supply chain in Ireland. Ireland can capitalise on its natural advantages in the area of marine renewable energy by following the Ocean Energy Strategy. The policy context for the ocean energy initiative and for addressing wave and tidal technologies is contained in the Programme for Government, the Sustainable Energy White Paper and the Ocean Energy Strategy 2005 (Marine Institute and Sustainable Energy Authority of Ireland). The initiative, announced in early 2008, will help establish Ireland as a leader in Ocean Energy technologies and to develop facilities that will enable the commercialisation of ocean energy products and services.

As part of the Ocean Energy Strategy, an offshore wave energy test site is proposed for the Belmullet area of County Mayo. The proposed test site will be called the Atlantic Marine Energy Test Site (AMETS). The test site will provide a grid-connected national test facility, to which full scale wave energy converters could be coupled during their final stages of pre-commercial development. The test site is an integral component of Ireland's Ocean Energy Strategy and will facilitate testing and validation of various wave energy converters in an open ocean environment. It will be operational for a period of fifteen years and will be decommissioned thereafter.

Ireland is in a unique position with regard to developing this new ocean energy renewable industry going forward. The technology to harness the wave energy resource is still at development and testing stages and no commercial full scale device is in operation as of yet. On the critical path for proving technology is the requirement for testing and demonstration in an open ocean environment such as at Belmullet. The test site will deliver this requirement and will also deliver the following benefits:It will support the delivery of Government and EU policy – implementation of the Ocean Energy strategy and job creation initiatives. Evidence (SQW 2011) shows that an Irish Ocean Energy industry could support 17,000–52,000 jobs and a net present value of around €4-10bn by 2030 (SQW, 2011).

- Support the delivery of Government and EU policy for implementation of the Ocean Energy strategy and job creation initiatives. Studies indicate that an Irish Ocean Energy industry could support 17,000-52,000 jobs and represent a net present value of around €4-10bn by 2030 (SQW,2011).
- It will facilitate the development of new technologies, thus supporting the Government's commitment to develop the smart economy.
- It will be the final test facility required by international industry to demonstrate and prove the commercial viability of ocean energy devices for deployment off the Irish coast. This will provide a focal point to develop and test ocean energy products and services in Ireland.
- It will provide a catalyst for new commercial opportunities to ensure Ireland and Irish companies are at the forefront of developments in ocean energy.
- It will enable important research into the development of ocean energy in the most extreme climates, helpingjustify investment in commercial projects that are more productive, but with more risk.

- It will provide a means to reduce dependence on fossil fuels, reduce emissions and develop an indigenous secure and renewable energy source.

The main benefit from this project will be to enable wave energy converter technology developers to test and modify their equipment in an open ocean grid-connected national test facility, thereby attracting developers to the site and encouraging the growth of an indigenous ocean energy industry in Ireland.

Proving WEC technology in such an environment is also critical to the future development of the ocean renewable industry as a whole. It will give confidence to investors to proceed to full scale commercial development and in turn help to develop a new and comprehensive indigenous Irish ocean energy industry. This could lead to the exploitation of the vast ocean renewable energy resource, ultimately reducing global dependence on fossil fuels.

The test site is an integral component of Irelands Ocean Energy Strategy and its development would trigger the growth of an indigenous marine renewable energy industry through spin off developments, in turn generating considerable job creation

The equipment to be deployed at the test site will have gone through a rigorous assessment process and will have been deployed at other ocean energy test sites where its characteristics will be well documented.

The most significant environmental impacts from the project have been examined and the best available mitigation has been applied in an integrated approach. As a consequence, there will be no significant adverse impacts on the environment arising from the development.

An AMETS Management Organisation will be established by SEAI to develop and implement adequate operating procedures to allow the broadest variety of operations to take place in a safe and controlled manner.

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Ireland's EU Structural Funds
Programmes 2007 - 2013

Co-funded by the Irish Government
and the European Union

EUROPEAN UNION
STRUCTURAL FUNDS

The Sustainable Energy Authority of Ireland is partly financed by Ireland's EU Structural Funds Programme co-funded by the Irish Government and the Eurpean Union.