



## ***Marine Renewables Industry Association***

13 December 2017

Submission to *Commission for Regulation of Utilities Consultation on 'Enduring Connection Policy Stage 1 (ECP-1) Proposed Decision'*

### **1. Background**

There are more than 36GW applications<sup>1</sup> at present for connection to the grid which represents five times the size (currently: 7GW) of system requirements. The existing arrangement is to process connection offers in groups and so allow projects to share connection methods. In addition, there is a non-group processing approach or 'non-GPA'. This was intended to operate in accordance with public interest criteria to give small renewable and non-carbon generators (who would make a minimal impact on the system) a pathway to a rapid connection. It specifically included wave and 'experimental/emerging technologies'<sup>2</sup>. Since 2015, however, non-GPA has been dominated by a large amount of solar pv applications. Solar pv was considered to be an early technology when the scheme was established. Non-GPA in its current form is deemed by the Commission for Regulation of Utilities (CRU), therefore, to be unfit for purpose and distorting of the allocation of network capacity and the system operator's apportionment of scarce staff resources etc.

### **2. ECP-1 Proposals**

The Consultation suggests that the connection process proposed should be open to all projects regardless of technology used.

Key proposals for ECP-1<sup>3</sup> are:

- suspend accepting and processing further generation or storage applications under CER/09/099 or otherwise

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<sup>1</sup> The material in this section is drawn from *Enduring Connection Policy Stage 1 (ECP-1) Proposed Decision 2017* Commission for Regulation of Utilities [www.cru.ie](http://www.cru.ie)

<sup>2</sup> Op cit p20. 'Experimental and emerging technology' is meant to be assessed on a case-by-case basis under non-GPA.

<sup>3</sup> Op cit p27

- offer existing applicants which are being processed an option to be processed under ECP-1
- process connection offers in recurring batches, the first due to start in 2018
- cap the 2018 batch at 1000MW (or 50 connection offers)
- offer the first 400MW of the 2018 batch to DS3 providers
- *require valid planning permission* to enter the 2018 batch, but not from DS3 providers
- process small scale generation, autoproducers and qualifying trial projects outside the batch (non-batch process)
- remove the option to relocate capacity
- offer capacity on a non-firm basis

The application of this proposal to Marine Renewable Emerging Technologies (MRET<sup>4</sup>) would be damaging and would be out of line with the direction of travel of other Government policies. Section 3 below explains MRET and outlines its unique circumstances and promise. Section 4 outlines the policy background to MRET while the final Section sets out the MRIA's recommendations to mitigate the impact of ECP-1 on the MRET sector.

### 3. Marine Renewables Emerging Technologies

The Marine Renewables Industry Association (MRIA) represents wave, tidal and floating offshore wind and hybrid device (floating wind + wave) interests on the island of Ireland i.e. the new marine renewable technologies also known as Marine Renewables Emerging Technologies (MRET).

As has been pointed out in respect of ocean energy (wave + tidal) alone:

*'Ocean energy is abundant, geographically diverse and renewable. Under favourable regulatory and economic conditions, ocean energy could meet 10% of the European Union's (EU) power demand by 2050.....Ocean energy can be an EU industrial success story. With favourable support over the coming decade, Europe will obtain leadership in a global market, worth a potential €653bn between 2010 and 2050 and an annual market of up to €53bn, significantly benefiting the European economy. The successful development of a competitive European ocean energy industry would also place the European industry in a prime position to seize export opportunities in the global market...Today, 45% of wave energy companies and 50% of tidal energy companies are from the EU.... The global market for ocean energy could see 337GW of installed capacity by 2050, a third of this would be in Europe'*<sup>5</sup>

The opportunity in marine energy -resource rich Ireland has several possible dimensions – the ENTERPRISE and the ELECTRICITY MARKETS. There may also be scope for LOCAL ELECTRICITY SUPPLY. The ENTERPRISE element ranges from research and development and device manufacture to

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<sup>4</sup> Wave + tidal energy = ocean energy + floating and fixed offshore wind + 'hybrids' (i.e. combined floating wind and wave) = marine renewables. The Marine Renewable Emerging Technologies, therefore, are wave, tidal, floating wind and 'hybrids' while mature fixed offshore wind is excluded.

<sup>5</sup> *Ocean Energy Strategic Roadmap Building Ocean Energy for Europe*. Prepared for the European Commission, 2016. Available at <https://webgate.ec.europa.eu/maritimeforum/en/frontpage/1036>

operations and maintenance, finance and legal support. Ireland houses around 10% of the global population of wave and tidal companies alone as well as pioneers in floating wind and hybrids and has world-leading R&D and test facilities. There is a real opportunity to create a global hub for MRET in Ireland with major implications for jobs and income creation. Current unfavourable UK policy in relation to marine renewables may lead many UK based companies to look to Ireland for further development opportunities.

All of the stakeholders in Irish marine renewables accept that the enormous scale of the Irish wave and offshore wind resource (together with a limited resource in tidal in the Republic, although not in Northern Ireland where substantial tidal projects are in train) represents a potentially huge opportunity for ELECTRICITY 'EXPORT' via grid interconnectors. This is based on the likely emergence of an EU energy market and a European grid; potential demand for Irish electricity in England in particular; the development of wave, tidal, floating offshore wind and hybrid technology and other factors

Opportunities for MRET – once they reach maturity - to meet LOCAL MARKET OPPORTUNITIES in Ireland must not be ruled out. A lot of technical issues could be resolved over the next ten years: the intermittency of renewables will be addressed by new electricity storage solutions, particularly in the field of batteries; there may be technical breakthroughs which make, for example, wave competitive with traditional energy feedstocks; etc. One emerging element that may have a positive impact are 'hybrids': devices that combine (floating) offshore wind and wave energy devices.

It is likely that a mix of these innovative, emerging technologies will be required in Ireland. The ultimate mix will depend on the relevant commercial and technology developments, grid availability, system technology and diversity requirements, local consenting factors and the extent to which they are supported through their early development stages.

For years to come, the emerging marine energy technologies will march to a different drumbeat to their mature cousins. MRET is at an early phase although promising progress is being made in all areas. It is being pursued in a strategic manner by Irish policy-makers in light of the following factors:

- the economic potential of our great natural resources of offshore wind and waves (*the resultant electricity potentially can contribute to national needs and be exported*);
- we have a significant investment and even a competitive edge in R&D and other facilities (*we need to spur the development of devices to exploit the resource and also to create a strong Irish position on the value chain which would have a large impact on jobs and income creation, particularly in the West of Ireland*);
- a national ambition to capitalise on our early-mover position (*create a global supply base in Ireland in wave, tidal and other early technologies*).

In short, Ireland's support for MRET reflects a long-term and complex development goal which will not be realised to any significant degree until the mid-2020s at the earliest. At its most basic, Ireland's immediate need in MRET is to 'get metal wet' i.e. to get prototype devices deployed and tested and ECP-1 should be geared to this end with regard to MRET.

## 4. Policy Framework for MRET

Ireland—North and South—is a potential renewable energy powerhouse and the sum of its wind (both onshore and offshore), wave and tidal resources is deemed by Siemens to account for 1/3 of all such resources in Western Europe<sup>6</sup>.

Ocean energy development is a clear policy concern of the Government of Ireland. It has been singled out as a national priority for research and development support<sup>7</sup>. Supporting the emergence of this industry was set as one of a handful of strategic goals fixed for national energy policy to 2020<sup>8</sup>. The policy statement on the Green Economy, published in November 2012, also highlighted the potential importance of the sector and pledged support.<sup>9</sup> Ireland plays a leading role in a variety of EU supported projects e.g. Marinerg-i, the Bryden Centre etc

The UCC Beaufort building, part of University College Cork and headquarters of the SFI-funded MaREI Centre, was opened in 2015 and houses the *LiR* national ocean energy tank testing facilities. The new complex and MaREI Centre itself are among the key global centres in MRET and are in receipt of substantial financial support from the Department of Communications, Climate Action and Environment (DCCAE, previously the Department of Communications, Energy and Natural Resources-DCENR), Sustainable Energy Authority of Ireland (SEAI) and Science Foundation Ireland (SFI) with cash or contributions in kind from around 50 industry partners.

The *SmartBay* Marine and Renewable Energy test site in Galway Bay continues to support the progression of ocean energy and novel marine energy technologies through the TRL<sup>10</sup> stage gates. The test site has secured significant capital investment support from industry, SEAI and SFI. To date, a total of 12 industry and 44 R&D projects have been undertaken at SmartBay. Since 2012, a total of 35 different projects have been supported to use the facility under a special access programme<sup>11</sup>. In 2016, Irish SME *SeaPower* was awarded funding from SEAI to test their device at SmartBay. Phase 1 of the performance and survivability test programme was successfully completed in March 2017. SmartBay Ireland has been successful in EU funding applications, with 8 projects already funded, 1 project completed this year, 2 in contract negotiation stage and 6 proposals under evaluation by the European Commission.

To the north of SmartBay, work by SEAI is in hand to develop, on a phased basis, a full-scale test site (Atlantic Marine Energy Test Site, AMETS) at Belmullet in County Mayo. Although there is no MRET device at present which could survive at AMETS in winter (at least!), it is a

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<sup>6</sup> Siemen's presentation

<sup>7</sup> *Report of the Research Prioritisation Steering Group*, Forfas, March 2012

<sup>8</sup> *Strategy for Renewable Energy 2012-2020* Department of Communications, Energy and Natural Resources, 2012

<sup>9</sup> *Delivering our Green Potential - Government Policy Statement on Growth and Employment in the Green Economy* Department of Jobs, Innovation and Enterprise, November 2012

<sup>10</sup> Technology readiness Level (TRL)

<sup>11</sup> National Infrastructure Access Programme

smart investment in the future and ‘*successfully tested at AMETS*’ could well become a vital marketing tool in ocean energy globally.

The most important recent policy development in Irish marine renewables was the publication of the *Offshore Renewable Energy Development Plan*<sup>12</sup> (ORED) in February, 2014. The ORED contained a number of new initiatives including extra financial support, an Initial Market Support Tariff (IMST) for wave and tidal energy etc. It is being implemented by a Steering Group of officials representing all relevant Departments and agencies.

Financial support for MRET overall by Government has increased in recent years e.g. SEAI recorded support for more than 100 projects by early 2017 and has expended €14m to date in support of those projects. Policy work continues apace e.g. the recent consultations on tariff supports for renewables<sup>13</sup> while a mid-term of the ORED is underway<sup>14</sup>.

The main State funding for MRET companies has been provided by the SEAI Prototype Development Fund (PDF) and this has met the needs of the industry to date. The ORED envisaged up to a further €30m being injected into the industry from about 2018 through to 2020. The MRIA, in a paper published in late 2015, called for the establishment of a Pre-Commercial Technology Fund (PCTF), which would complement the PDF. The PCTF would broadly mirror the approach of Wave Energy Scotland (WES) but with modifications based on Scotland’s experience etc. Most importantly, the PCTF should complement, not duplicate, the work of WES. The document proposed that SEAI utilise an SBIR<sup>15</sup> mechanism to seek solutions to various issues (focused, but hopefully not exclusively, on wave energy) via a series of competitions and the provision of 100 % funding.

SEAI has since commissioned consultants to help them design an appropriate PCTF for the Irish market. The consultants (MRIA has been interviewed) are reviewing a range of funding mechanisms (SBIR, Grants, Prizes etc) to ascertain which is most suitable for progressing Irish technologies to the next stages of TRLs and what levels of funding are required to get access to AMETS and beyond. It is envisaged that PCTF will be launched in 2018.

In addition, it is understood that the European Commission will launch a Call next year under Horizon 2020 to run an EU wide PCTF -like scheme. Irish officials have indicated that it is something that they are closely watching and are lining up appropriate partnerships in anticipation of the Call. There will be a challenge to coordinate all of the three approaches – WES, PCTF and ‘EU PCTF’ – but, nonetheless, the approach is to be warmly welcomed, as it will bring extra funds into the industry. In regard to the PDF, it will continue to fund

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<sup>12</sup>ORED: *Offshore Renewable Energy Development Plan - a Framework for the Sustainable Development of Ireland’s Offshore Renewable Energy Resource* Department of Communications, Energy and Natural Resources, February 2014. The Plan deals with offshore wind energy as well as wave and tidal energy

<sup>13</sup> <https://www.dcae.gov.ie/en-ie/energy/consultations/Pages/Renewable-Electricity-Support-Scheme-Design-Consultation.aspx>

<sup>14</sup> <https://www.dcae.gov.ie/en-ie/energy/consultations/Pages/Public-Consultation-on-the-Draft-Mid-Term-review-of-the-ORED.aspx>

<sup>15</sup> Small Business Innovation Research, a mechanism whereby a State body can procure pre-commercial innovation solutions to issues

prototypes and its (intentional) wide terms of reference mean that the funding offered is flexible for a wide range of TRL developments.

Despite the progress recorded above, there is still much policy and practical work to be done. Most pressing of all, the ‘consenting’ legislation to support marine economic activity such as marine renewables is totally unfit for modern purposes (it reached the statute books in 1933!) and must be overhauled via *the Maritime Area and Foreshore (Amendment) Bill* which has been on the Government’s legislative programme for each legislative session since at least 2011! In addition, a consultation on the OREDP is underway as part of a mid-term review of the Plan while the future of the IMST will be looked at there and as part of the current Renewable Energy Support Scheme review where the public consultation closed recently with 1,250 + submissions received by DCCA.

## 5. Amendment to ECP-1

Current indications are that the earliest demonstration projects for wave will not be operational before 2020. We would expect to see a small number of demonstration wave projects (4-5MW each?) in operation over an initial 5-8 years period from 2020 before larger (e.g. 20 -30 MW) projects emerge in the late 2020’s to early 2030’s. There will also be a series of small-scale tidal projects in the next few years as well as demonstration projects in floating wind although ‘hybrids’ are unlikely to emerge until the mid-2020s at earliest. The wind related MRET projects may be larger in scale than their wave and tidal equivalents for technology related reasons

**Accordingly, the potential impact of the MRET on the grid for the next 5 to 10 years will be minimal.** The imposition of the ECP-1 proposals (summarised at 2. above) on MRET would have an adverse impact on the sector. MRIA contend that projects which fall within the MRET sector should not be required to have planning permission before being processed for a grid connection. There are a number of reasons for this.

First, there is no ready mechanism at present to acquire ‘planning permission’ for any marine renewables project and, thus, a requirement that applicants under ECP-1 must have ‘planning permission’ is unrealistic at the present time.

When the *Maritime Area and Foreshore (Amendment) Bill* reaches the statute books eventually, it will still involve a complex and lengthy process because for example, the seabed is owned by the State and can only be leased to promoters. Environmental consenting will be challenging and also lengthy.

Finally, access to grid is one of the fundamental issues which influence any investment decision. In the case of MRET, access to grid for demonstration and pre-commercial projects is critical to enable Ireland to compete with other jurisdictions, e.g. Canada.

MRIA propose that the Enduring Connection Policy should be amended to include an exemption to the ‘planning permission’ rule for MRETS up to a cumulative 70MW for the sector as a whole in line with our response to the Renewable Electricity Support Scheme consultation.

We strongly believe that the changes currently suggested would be interpreted internationally in a negative light. The realisation of Government ambition's in MRET is partly dependent on attracting firms from abroad (a realistic ambition in the light of Brexit which threatens Scotland's leading position in MRET) but this is hindered by the slow progress of much-needed 'planning permission' legislation for marine projects. The changes proposed to the grid connection policy for MRET would be seen as a backward step.

The proposed changes are also not consistent with the policy aspirations outlined in the OREDP. In particular, the investment made or underway in LiR/MaREI, SmartBay and AMETS; the advancing plans to introduce new funding schemes; and, above all, the positive approach being taken in the mid-term review of the OREDP.

A grid connection policy which supports and complements the many instruments in place or underway to develop MRET is a vital ingredient if we are to attain our national ambitions in marine renewables. The MRIA has three amendments to ECP-1 to suggest in light of the arguments advanced immediately above.

1. First, those projects which qualify as Marine Renewables Emerging Technologies should be allowed fast-track access to grid connections and, thus, e.g. a grid connection *application* should not be conditional on holding a 'planning permission'
2. Second, any MRET applicant for a grid connection should first be endorsed as being in the Marine Renewables Emerging Technologies category by the Department of Communications Climate Action and Environment
3. Finally, the grid connection policy for MRET should be reviewed as part of the policy formulation process which will ensue for all marine renewables when the term of the current OREDP ends in 2020.

Ideally, MRIA would like to see a 'One Stop Shop' where projects could be assessed for consent, tariff and planning permission in the marine renewable energy sector in line with best practice in other countries e.g. Norway.