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**OPINION

Developing the potential of Ocean Energy**

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| THE EUROPEAN COMMITTEE OF THE REGIONSnotes that the EU and its regions are currently at the forefront globally in developing the sector, and recognises that without sufficient action the EU risks losing its leadership;emphasises that development of the Ocean Energy sector is of interest to the whole of the EU, offering many investment and development opportunities, which are not restricted to coastal/island areas;asserts that, given the scale of investments required and a number of inter-linked barriers to be overcome to realise the potential of the Ocean Energy sector, coordinated actions between the different layers of governance in the EU and the engagement of the key stakeholders are essential;calls on the European Commission to develop the Ocean Energy Forum into an industrial platform to drive forward delivery of the key actions set out in the Ocean Energy Roadmap;recommends that strong consideration be given to developing an Atlantic Macro Region focused on developing Ocean Energy;recommends that appropriate and tailored strategies/technologies be developed for all the different sea-basins, harnessing existing experiences/development of advanced technologies for regions with less/different marine energy potential;reiterates its call for stronger political priority to be given to creating synergies between EU, Member State and sub-state (local and regional authority) budgets to support investments of key European importance, such as Ocean Energy; and calls on the EIB and European Commission to support investments in grid infrastructure and pre-commercial pilot phase projects;* stresses the importance of simplifying administrative procedures for planning and consenting at LRA and national level; and the need to plan Ocean Energy development into the process of Maritime Spatial Planning.
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| RapporteurRapporteur: **Rhodri Glyn Thomas** (UK/EA)Assembly Member for Carmarthen East and DinefwrReference documentOwn-initiative opinion |

**Opinion of the European Committee of the Regions – Developing the potential of Ocean Energy**

1. **POLICY RECOMMENDATIONS**

THE EUROPEAN COMMITTEE OF THE REGIONS

Importance of Ocean Energy

# underlines the important contribution of Ocean Energy to meeting the future energy needs not just of the European Union, but also globally; also welcomes its inclusion as one of the five priority areas of the Blue Growth Strategy and believes that the EU could be an important player in the sphere of ocean energy;

# notes that by providing a reliable and predictable renewable energy source Ocean Energy has the potential to:

* help deliver the EUs Climate and Renewable Energy commitments;
* contribute to diversification of the energy mix;
* contribute to energy security goals and help reduce intermittency of energy supply;
* create jobs and growth, contributing to diversification and regeneration of EU ports, island and coastal communities, many of which are in remote parts of the EU, and to tourism/leisure industries and aquaculture[[1]](#footnote-1);
* provide a rich source of intellectual capital, research, knowledge, innovation and skills enhancement (including in engineering, testing, manufacturing, transportation, installation, operation and maintenance of ocean energy facilities, port facilities);
* providing wider environmental benefits, for example coastal flood defences, stimulating new marine ecologies;

# points out that the fact that ocean energy involves so many different techniques means that it has to be developed at many different levels and in various contexts. The EU could be a successful global player in this sphere given its many coastal regions;

# notes the European Ocean Energy Roadmap (EOER) 2010-2050 estimates:

* Up to half a million jobs could be created in the EU by 2050, 26 000 direct jobs by 2020.
* Ocean Energy could satisfy 10 to 15% of EU power demand in 2050 (100 GW[[2]](#footnote-2) is suggested), powering 115 m homes.
* Switching to ocean energy could see significant reductions in CO2 emissions of 2.61m tonnes by 2020 and 136.3m tonnes by 2050.

# recognises the Atlantic Ocean has the highest potential for Ocean Energy in the EU, however, underlines the important contribution from the EUs other seas and water basins, including North Sea, Baltic Sea, English Channel, and Mediterranean;

# recognises the potential of clean Ocean Energy for the EU's many islands; harnessing this energy could contribute to the energy autonomy of islands and of peripheral maritime regions including in the outermost regions[[3]](#footnote-3), whilst also offering enormous economic and social development potential through the creation of local employment in these communities, including opportunities for the many small and medium-sized ports in the EU;

# emphasises that development of the Ocean Energy sector is of interest to the whole of the EU: opportunities to invest in research, knowledge, skills and development, manufacture and export of components, development of supply chains, are not restricted to coastal/island areas;

# emphasises the importance of an holistic approach to offshore renewable energy. A number of the challenges facing the Ocean Energy are shared with other offshore energy sources, for example access to grid and connectivity, and skills development;

# notes the different types of Ocean Energy: Tidal Range (e.g. Tidal Lagoons), Tidal stream, Wave Energy, Salinity Gradient Energy, and Ocean Thermal Energy Conversion (OTEC)[[4]](#footnote-4);

# notes the technologies for these different Ocean Energies are at varying stages of maturity, and with the exception of Tidal Range all are at the research and development stage, mainly small-scale pilots, no commercial-scale arrays in operation, with no consensus yet on preferred technology devices;

# stresses however that tidal stream and wave energy converters are attracting increasing commercial interest and may become increasingly relevant in the medium and long-term as they can generate energy at a wide range of locations.

The EU and its regions at the forefront … for how long?

# notes that the EU is currently at the forefront globally in developing the sector, with a plethora of small-scale demonstration and research activities in place, over 500 companies active in the ocean energy sector, and over 50% of the tidal energy activity globally; some projects have also reached financial close[[5]](#footnote-5);

# recognises that in many cases the drive towards developing ocean and marine energy is coming from sub-Member State level, for example, Cornwall, Brittany, Aquitaine, Pays de la Loire, Basse Normandie, the Basque Country, Cantabria, Galicia, Scotland, Wales, Flanders, Region Västra Götaland and more;

# notes, however, that despite industrial interest the engagement of a number of multinationals and energy utilities in research and development activities, the scale of investment has not matched other renewables sectors and deployment targets envisaged for 2020 have not been met;

# recognises that without sufficient action the EU risks losing its global leadership.

Challenges to development of Ocean Energy

# highlights a number of inter-linked barriers to be overcome facing the growth of the sector:

* Technological
* Financial
* Administrative/governance (including consenting/planning issues and availability/access to data)
* Grid related issues (connectivity)
* Environmental impact.

# underlines that whilst these challenges need to be addressed collectively, technology and financial challenges are particularly pressing, as without proof of concept and reliable technology the industry will find it challenging to achieve a breakthrough and prove viable;

# expresses its concern that the early stage of much of the Ocean Energy technology, combined with the high costs associated with testing in the ocean and seas – particularly in harsh and unpredictable conditions – provides a major barrier to large-scale investment, thus hampering advancements in technological development; this is a particular problem for private investors as proof of concept and scalability of technology are both key factors in access to finance and in unit cost reduction;

# reiterates the importance of environmental considerations set out in the Marine Strategy Framework Directive and its recent opinion on this subject[[6]](#footnote-6); supports further research and innovation to develop sustainable Ocean Energy solutions for testing and deployment activities, since the introduction of energy into the sea (noise, light, heat and radiation) affects the marine environment and marine ecosystems;

# calls on lessons to be learnt from the wind and offshore wind sector, notably for companies and research institutes to collaborate to avoid duplication of efforts and funding, and in fostering standardisation within the industry, which is necessary to enhance cost competitiveness.

EU level action and stronger coordination/cooperation

# asserts that, given the scale of investments required to realise the potential of the Ocean Energy sector, coordinated actions between the different layers of governance in the EU is essential, calls on the European Commission to organise a conference with the European Investment Bank, the European Parliament, and other EU institutions, working in cooperation with Member States, local and regional authorities (LRAs), research institute and universities, NGOs, the emerging industry, and potential investors;

# welcomes the initiative of the European Commission to set up an Ocean Energy Forum tasked with the publication of an Ocean Energy Roadmap to steer the development of this sector and intends with its opinion to ensure the roadmap takes due account of the strong local and regional dimension in the development of this emerging industry;

# calls on the European Commission to develop the Ocean Energy Forum into an industrial platform to drive forward delivery of the key actions set out in the Ocean Energy Roadmap;

# calls for the establishment of EU level targets for Ocean Energy as a clear statement of intent in order to provide investors with certainty for long term commitments;

# stresses the need for a coherent approach to all activities related to seas and oceans; argues that development of the Ocean Energy sector could provide the stimulus to the development of a Maritime Industrial Policy for the EU;

# welcomes the development by Ireland and Portugal of national strategies for marine and ocean energy; welcomes the inclusion of ocean energy by eight Member States in their National Renewable Energy Action Plans: UK, Ireland, France, Portugal, Spain, Finland, Italy and the Netherlands; and initiatives in other Member States such as Denmark and Sweden;

# calls for Member States to give strategic and political leadership in developing this industry through stronger support to research and demonstration projects on their territory; furthermore, underlines the importance of Member States providing stable regulatory frameworks and cost effective subsidy schemes for renewable energy sources to attract investors with long-term plans;

# reiterates its call for the creation of a specific Knowledge and Innovation Community for the Blue Economy[[7]](#footnote-7), since the development of skills and the transfer of ideas from marine research to the private sector have a crucial role in the development of ocean energy;

# stresses the need to capitalise on existing successful initiatives and partnerships[[8]](#footnote-8), to make full use of the knowledge developed in the framework of the Strategic Energy Technology (SET) Plan and its research pillar, the European Energy Research Alliance; i.e. include SET Plan, Smart Cities and Horizon 2020 actors in the development of local and regional energy strategy;

# welcomes, therefore, the inclusion of two separate calls for the ocean energy sector in the Horizon 2020 2016-2017 Blue Growth and Low Carbon Energy (LCE) work programme, (LCE 15 "Scaling up in the ocean energy sector to arrays" and LCE 16 "2nd generation of design tools for ocean energy devices and arrays development and deployment");

# points out the need to develop professional training for skills needed for the installation and maintenance of ocean energy plants which at the moment rest with oil and gas companies and encourage the sectors to share knowledge and learn from each other.

State Aids

# welcomes the State Aid approval given in April 2015 to a Portuguese scheme to support demonstration projects (50MW installed capacity) producing renewable energy from the ocean (wave energy, tidal energy) and innovative offshore wind technologies;

# notes many stakeholders describe the 2014 Guidelines on State aid for environmental protection and energy as being flexible to support demonstration projects in this area;

# calls for further technical analysis to be undertaken by State Aid experts, working with the Ocean Energy Forum to ensure the State Aid regime is sensitive to the particular challenges facing this sector, and will enable major public investments for example in grid infrastructure and large-scale pre-commercial pilot phase projects.

Atlantic Area Macro Region

# calls for future EU funding programmes supporting Territorial Cooperation including the Atlantic Area Transnational Programme, to be refocused around supporting the development of Ocean Energy;

# recommends that strong consideration be given to developing an Atlantic Macro Region focused on developing Ocean Energy; such an approach would provide a clear focus for the five Member States and nations/regions in this area to cooperate, and could potentially lead to a coherent Maritime Industrial Strategy for the Atlantic Macro Region, centred around renewable energy and connectivity;

# recommends that appropriate and tailored strategies/technologies be developed for all the different sea-basins, harnessing existing experiences/development of advanced technologies for regions with less/different marine energy potential;

# welcomes the Commission's Communication C(2015)6317 Towards an Integrated Strategic Energy Technology (SET) Plan and in particular the references to strengthening regional cooperation in the Atlantic sea board for ocean energy, to help achieve further cost reductions in this area;

Addressing financial challenges

# argues that significant public support, including through innovative private public partnerships, is essential for the to the development of Ocean Energy;

# recognises the essential role of the EIB's existing support mechanisms[[9]](#footnote-9); however, emphasises the need for new and innovative instruments at EU level that create a more favourable environment for supporting investments in "riskier" innovative energy technologies, especially those in ocean energy technology deployment;

# welcomes therefore the launch in June 2015 of the new InnovFin Energy Demonstration Projects by the EIB and European Commission, and calls on Member States and LRAs to encourage use of this new mechanism to support ocean energy projects;

# stresses the importance of investing in interconnections, especially between Member States and their regions, upgrading the transmission infrastructure to increase their capacity to absorb renewable electricity generation, investing in distribution grids, extending grids to remote areas as well as developing and implementing smart grid solutions;

# calls on the EIB and European Commission to prioritise use of the new European Fund for Strategic Investment (EFSI) to support investments in the Ocean Energy sector, including looking at how this fund can be used to support grid development and connectivity;

# welcomes the increasing focus on marine renewable energy in a number of Smart Specialisation Strategies (S3); welcomes the launch of the European Smart Specialisation Platform on Energy, and underlines the importance of ensuring this complements the Ocean Energy Forum's work;

# welcomes the inclusion in a Regional Operational Programmes of priority to investments in marine energy;

# stresses the importance of strengthening the link between the EU's energy policy and cohesion policy and calls on the European Commission to provide details of the priority given to Ocean Energy in the regional Operational Programmes for the ESIFs for 2014-2020 and to provide analysis of which regions are prioritising Ocean Energy in their S3s;

# welcomes the decision of the October 2014 European Council to renew the NER300 programme, and notes that from now on small-scale projects will also be eligible[[10]](#footnote-10);

# calls for a stable higher price for CO2 emissions and higher financing appropriations for (innovative) renewable energy projects under the new scheme;

# welcomes projects like Ocean Energy ERA-NET which aims to co-ordinate activities between Member States and regions agencies to support research and innovation in the sector, and looks forward to seeing a plethora of Ocean Energy projects supported under Horizon 2020 and other programmes like Erasmus+;

# reiterates its call for stronger political priority to be given to creating synergies between EU, Member State and sub-state (local and regional authority) budgets[[11]](#footnote-11) to support investments of key European importance, such as Ocean Energy;

Environmental and consenting issues

# asserts that Ocean Energy can be developed in a way that enhances the natural environment;

# underlines the importance of ensuring engagement of regional authorities, environmental organisations and other NGOs in the Ocean Energy Forum and other strategic initiatives at EU level, and urges Member States, LRAs and industry, to work fully with such bodies, to ensure that this new industry is developed in a sustainable way, minimising impact on the environment;

# underlines the critically important role of Maritime Spatial Planning (MSP) in supporting the development of the Ocean (and marine) Energy industry, as this provides a mechanism bringing together the different users of the sea/ocean (energy sector, marine transport, aquaculture, fishing, recreation and nature conservation) to engage in a dialogue, to exchange information and take coordinated decisions regarding the use of marine spaces, helping to avoid conflicts between sectors, to develop synergies and to reduce negative impacts on ecosystems; urges Member States and LRAs involved in the preparation of MSPs to plan Ocean Energy development into this process;

# stresses the importance of simplifying administrative procedures for planning and consenting at LRA and national level, and highlights the recognised good practice in Scotland in this, where they have introduced sectorial marine planning, environmental research and strategic monitoring programmes, a one-stop-shop consenting body and consenting guidance;

# highlights the importance of access to data and information sharing, to avoid duplication, to reduce the costs of starting operations, and as part of the wider public interest in understanding the marine environment and potential impact of developments on the marine eco-system;

# underlines the importance of understanding, monitoring and researching the marine environment and ecology, in order to build a more comprehensive data set than currently exists, including carrying out extensive environmental impact studies, using an ecosystem-based approach to consider biodiversity hosted in these regions, and quantify the potential effects of devices on the marine environment.

Awareness and communication

# believes that communicating the benefits and potential of Ocean Energy, should be a key priority in winning over the "hearts and minds" of EU citizens;

# underlines the importance of dialogue and communication with all interested stakeholders, including fishermen, the aquaculture sector, and other marine/maritime users;

# underlines the role that the European Commission and the Committee of the Regions can play in raising awareness of Ocean Energy, for example through Sustainable Energy Week, Open Days Week of Cities and Regions, Covenant of the Mayors, and potentially through establishing new schemes.

Brussels, 14 October 2015

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| The Presidentof the European Committee of the RegionsMarkku Markkula |  |
|  | The Secretary-Generalof the European Committee of the RegionsJiří Buriánek  |

1. **PROCEDURE**

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| **Title** | Developing the potential of Ocean Energy |
| **Reference(s)**  | Own-initiative opinion |
| **Legal basis** | Article 307(4) TFEU |
| **Procedural basis** | Rule 41(b)(ii) of the Rules of Procedure |
| **Date of Council/EP referral/Date of Commission letter** |  |
| **Date of Bureau/President's decision** | 18 March 2015 |
| **Commission responsible** | Commission for the Environment, Climate Change and Energy (ENVE) |
| **Rapporteur** | Rhodri Glyn Thomas (UK/EA)Assembly Member for Carmarthen East and Dinefwr |
| **Analysis** | 17 April 2015 |
| **Discussed in commission**  | 30 June 2015 |
| **Date adopted by commission**  | 30 June 2015 |
| **Result of the vote in commission****(majority, unanimity)** | Majority |
| **Date adopted in plenary**  | 14 October 2015  |
| **Previous Committee opinions**  | Opinion of the Committee of the Regions on Renewable energy: a major player in the European energy market[[12]](#footnote-12)Opinion of the Committee of the Regions on Blue Growth: opportunities for marine and maritime sustainable growth[[13]](#footnote-13)Opinion of the Committee of the Regions on Blue Economy: realising the potential of our seas and oceans for jobs and growth[[14]](#footnote-14) |
| **Date of subsidiarity monitoring consultation** | n/a |

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1. [OJ C 62, 2.3.2013, p. 47](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2013:062:SOM:EN:HTML). See for example the proposed [Tidal Lagoon Swansea Bay](http://www.tidallagoonswanseabay.com/). [↑](#footnote-ref-1)
2. SI Ocean project [↑](#footnote-ref-2)
3. [Ocean energy converters demonstration](http://www.irena.org/DocumentDownloads/Publications/IRENA_Ocean_Energy_report_2014.pdf): e.g. the Canary Islands, La Réunion and Martinique. [↑](#footnote-ref-3)
4. Source: Ocean Energy Europe. [↑](#footnote-ref-4)
5. For example Meygen Project. [↑](#footnote-ref-5)
6. ENVE-VI-001. [↑](#footnote-ref-6)
7. [OJ C 19, 21.1.2015, p. 24](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2015.019.01.0024.01.ENG). [↑](#footnote-ref-7)
8. Joint Programs, JPI Oceans, SI Oceans, Seas-ERA, Ocean Energy ERA-NET. [↑](#footnote-ref-8)
9. EIB – EU institutions’ joint programmes: The 2020 European Fund for Energy, Climate Change and Infrastructure, The Global Energy Efficiency and Renewable Energy Fund and the European Energy Efficiency Fund, European Strategic Energy Technology Plan (SET-Plan). [↑](#footnote-ref-9)
10. The NER300 programme supports the demonstration of environmentally safe carbon capture storage technologies and innovative energy renewable energy technologies. [↑](#footnote-ref-10)
11. [OJ C 62, 2.3.2013, p. 32](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52012AR1778). [↑](#footnote-ref-11)
12. [OJ C 62, 2.3.2013, p. 51](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.C_.2013.062.01.0051.01.ENG). [↑](#footnote-ref-12)
13. [OJ C 62, 2.3.2013, p. 47](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2013.062.01.0047.01.ENG). [↑](#footnote-ref-13)
14. [OJ C 19, 21.1.2015, p. 24](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2015.019.01.0024.01.ENG). [↑](#footnote-ref-14)