



# Seanergy 2020



[www.seanergy2020.eu](http://www.seanergy2020.eu)

## Seanergy 2020 project

Seanergy 2020 is an EU funded project – Intelligent Energy Europe programme – and runs from May 2010 to June 2012. It is coordinated by the European Wind Energy Association.

The project will provide an in-depth analysis of the national and international Maritime Spatial Planning (MSP) practices, policy recommendations for developing existing and potentially new MSP for the development of offshore renewable power generation, and promote acceptance of the results.



Seanergy 2020

Delivering offshore electricity to the EU



## Delivering offshore electricity to the EU

Spatial planning of offshore renewable energies and electricity grid infrastructures in an integrated EU maritime policy

May 2012





# **Seanergy 2020**

## **Final project report**

**May 2012**

**Delivering offshore electricity to the EU:  
spatial planning of offshore renewable energies  
and electricity grid infrastructures in an  
integrated EU maritime policy**

**EWEA (coordinator),**

**ECN, 3E, CORPI, CRES, LNEG, SOW, UOB**

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## EXECUTIVE SUMMARY

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## The Seanergy 2020 project

Facilitating offshore renewables – wind, wave and tidal – through marine spatial planning (MSP) is the core objective of the Intelligent Energy Europe funded project Seanergy 2020. Seanergy 2020 does this by formulating and promoting policy recommendations on how to best address and remove MSP obstacles to offshore renewable energy generation, in order to implement the EU's Renewable Energy Directive (2009/28/EC). In doing so, it seeks to promote a more integrated and coordinated approach to MSP: that is, an approach that extends beyond national borders. This is particularly important since many human activities as well as ecological concerns at sea have a cross-border dimension. The geographical scope of the Seanergy 2020 project includes the Atlantic Coast and Irish Sea, the Baltic Sea, the Mediterranean Sea, and the North Sea.

The Seanergy 2020 project has centred its work on three main work packages or phases: firstly, analysis of existing national MSP practices and their impact on offshore renewable deployment, and identification of best practices (work package 2); secondly, analysis of different international MSP instruments and their compatibility with offshore renewable deployment (work package 3); and thirdly, analysis of the challenges and opportunities of moving from a national to a transnational MSP approach (work package 4). This third phase compiles findings and recommendations and draws up the overall project recommendations.

This report represents the final publication of the Seanergy 2020 project and presents findings from each of these three sections or phases of the project as well as overall project recommendations.

### What is MSP and why is it necessary?

The European sea basins host a number of different activities and resource uses, and as such provide important economic and social benefits to citizens not only in Europe but also worldwide. As a fairly new entrant to the sea, offshore renewables - notably wind but

also wave and tidal - are expected to play an important role in reaching the EU's 2020 renewable energy targets. According to their national projections, European Union (EU) Member States are set to achieve around 45 GW of offshore renewable generation capacity by 2020, which is more than a ten-fold increase of today's capacity. Offshore wind energy accounts for the majority of this development (approximately 43 GW) with the remainder (approximately 2 GW) coming from wave and tidal. The European Wind Energy Association (EWEA) and the European Ocean Energy Association (EU-OEA) confirm the projected role offshore renewables will play in 2020, with their expectations of 40 GW of offshore wind power, and 3.6 GW of wave and tidal capacity to be installed in the same time frame.

With an increase of more than ten times today's capacity in Europe in less than a decade, offshore renewables will require significant space at sea. As a newcomer, offshore renewable energy is competing with traditional sea users and other emerging activities for space. Many of these activities, such as shipping, cables and pipelines, coastal tourism and ecological and environmental protection, are also expected to increase significantly. With many such growing activities at sea, and in general increasing pressures and constraints, it is becoming urgent to manage the seas efficiently and effectively, in a coordinated fashion, not only nationally but also across national borders. This implies the need for adopting a more plan-based holistic approach whereby objectives of individual sectors are balanced along with the cumulative pressure on the ecosystem from combined human use, to ensure that any development is achieved sustainably. This is the essence of MSP.

MSP can be understood as a “process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives that are usually specified through a political process”<sup>1</sup>. The starting point for Seanergy 2020 is the observation that good MSP practices, be these at the national or transnational level, will be necessary as a consequence of the increasing demand for space at sea.

<sup>1</sup> Ehler, C. and Douvère, F., 2009, *Marine Spatial Planning: a step-by-step approach toward ecosystem-based management*, Intergovernmental Oceanographic Commission and Man and the Biosphere Programme, IOC Manual and Guides No. 53, ICAM Dossier No. 6. Paris: UNESCO.

## National MSP approaches

The first phase of the Seanergy 2020 project – work package 2 – analysed and compared the current MSP regimes in Member States with sea basins and the potential for developing offshore renewables. This analysis and comparison was conducted on the basis of seven criteria – policy and legal framework, data and information management, permitting and licensing, consultation, sector conflict management, cross-border cooperation and finally, implementation of MSP.

Key findings from this phase of the project, with regard to transnational MSP cooperation, are:

- National MSP practices largely reflect traditional planning procedures in EU Member States as well as national needs and priorities, and national institutional frameworks.
- In practice, three basic models for providing a legislative framework for national MSP were identified: i) extension of the basic (land-use) spatial planning regime out to sea; ii) creation of a specific legal framework for MSP within an overall legal framework for marine management; and iii) amendment to related legislation such as an existing Water Act.
- Within these three broad approaches there is no obvious ‘winner’. Any of these three approaches can be effective in enabling the deployment of offshore renewable energy when well designed and managed.
- There are several sources of soft guidance on MSP processes and best practices, e.g. the European Commission’s MSP Roadmap, the HELCOM-VASAB Baltic Sea MSP principles, and the UNESCO and Intergovernmental Oceanographic Commission guidelines on MSP. These have a large degree of overlap in the basic principles they espouse. Evidently, a more definitive and detailed set of guidance on national MSP best practices could be of use to Member States.
- Many of the existing frameworks for national MSP approaches do not have an explicit focus on transnational cooperation. Furthermore, the available ‘principles’ tend to deal with the issue of transnational cooperation in only a peripheral or basic way, typically by mentioning that it is important but giving few details on how it might best be structured, or when this should be done.

## International MSP instruments

The second phase of the project – work package 3 – analysed existing international MSP instruments, to identify critical elements that impact on a coordinated development of offshore renewables. This phase included two additional aspects; firstly, an inconsistency check between national offshore renewable zoning plans and zones designated as a result of the international MSP instruments in the relevant Member States. Secondly, it comprised an examination of offshore grid infrastructure and cable routing for a pan-European grid at sea, for which strategic planning at international level is necessary. From this work, a number of recommendations and conclusions were developed with regards to how international MSP instruments could be evolved to support offshore renewable energy.

The main findings from this phase are:

- Existing international MSP instruments do not explicitly consider offshore renewables.
- International MSP instruments do not have a strong direct influence on offshore renewables, but can have an indirect impact through their translation to national MSP. Arguably, current international MSP instruments do not stand in the way of the development of offshore renewables.
- There are limited opportunities to change, modify or create international instruments with regard to MSP and offshore renewables. These processes are lengthy and resource intensive. Additionally, international MSP approaches would have to build a very broad consensus which is likely to ‘water down’ their efficacy.
- Existing international structures should be used where possible. For example, current regional environmental conventions should be taken into account.
- Finally and most importantly, the numerous barriers to truly international MSP approaches strongly suggest that EU level action on transnational cooperation is the most appropriate way forward.

### Transnational approach to MSP

The third phase of Seanergy 2020 – work package 4 – focused on the challenges and opportunities of moving towards transnational approaches to MSP in support of offshore renewables. There are important interdependencies between national and transnational levels of MSP. National planning decisions can have an impact on other countries in the same region. Likewise, many issues and sea uses transcend national borders and must be discussed cooperatively. MSP approaches at the national level need to be compatible with a cross-border perspective, and vice-versa, to ensure that together they can deliver the best basis for decision making and planning.

Key findings from this project phase:

- Although there is strong support for cross-border cooperation on MSP from the European Commission, there is little to no firm guidance on how this should be achieved. Related to this, national MSP initiatives have not sufficiently integrated the international context and EU Member States do not have sufficient frameworks in place that will encourage future cooperation.
- For a transnational approach to be embraced by the EU Member States, it needs to be set up to overcome or avoid existing barriers. Thirteen specific barriers to transnational MSP were identified relating to issues of power, interests and capacity.
- Longer term planning frameworks are needed to deal with the significant increase in demand for space that is anticipated up to 2020 and beyond.
- Transnational approaches to MSP can benefit offshore renewables through additional efficiencies from cross-border coordination, reduced planning risks for developers and expanded opportunities for deployment and/or cost savings from shared infrastructure. This was demonstrated in a German-Dutch cross-border MSP case study. It highlights that MSP has the potential to bring real cost reductions for offshore renewables.
- The European Commission has limited options for intervention in MSP as this is, by and large, a Member State competence. Options include:


- a) voluntary guidelines encouraging cross-border cooperation,
- b) support of individual regional projects and initiatives,
- c) forming MSP expert working groups,
- d) using regional sea conventions (OSPAR, HELCOM, Barcelona) as coordinating platforms, and
- e) introducing an MSP Directive that creates a framework for cooperation. An MSP Directive could provide the best chance of overcoming the inertia in moving towards transnational cooperation on MSP.

### Overall project recommendations

Although politically challenging, an MSP Directive focused on encouraging cross-border cooperation – supported by national MSP – would require Member States to open direct communication, without dictating outcomes. This option gives cross-border cooperation a firm legal footing, whilst leaving implementation to the Member States, and comes closest to satisfying the understanding of planning competences that exists within the EU. A longer list of recommendations is summarised below:

- A focus on encouraging cooperation, rather than prescriptive approaches to national practices, is the most appropriate form of EU intervention.
- National MSP is a pre-condition of successful transnational cooperation on marine planning and should be promoted.
- The EU should ideally seek to draft an MSP Directive (or if this cannot be achieved, guidelines or approaches based on regional sea conventions or working groups) that focuses on two aspects:
  - requiring Member States to adopt national MSP legislation over an agreed time-frame – the content and form of this should be decided by each Member State.
  - promoting cross-border cooperation and coordination on MSP and maritime development.
- Macro-regional or regional action is the most appropriate starting point for successfully and usefully employing transnational MSP practices.
- The Water Framework Directive should be used as a template for promoting cooperation and designing cooperative structures. An MSP Directive could





similarly create regional sea basins to serve as a forum for planning and cross-border coordination.

- Regional sea basin forums should have a long term perspective in relation to their objectives.
- These forums should be actively used to align national objectives and plans near border areas with broader regional objectives and neighbouring Member State plans.
- Regional sea basin forums offer the opportunity to improve coordination of a number of aspects related to MSP including: planning time frames, onshore

and offshore grid infrastructure, data formats and availability, research methodologies and efforts, and some management measures including elements of permitting.

The recommendations in this report are aimed at providing an appropriate framework for promoting cross-border cooperation on MSP, as well as suggesting content for discussions that can encourage the deployment of offshore renewable energy up to 2020 and beyond.