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UPTAKE ARTICLE

ESPON Peer learning workshop Romania: The role of MSP-LSI in sustainable energy production in the Black Sea

Virtual

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Introduction

The ESPON Peer learning Workshop focused on the potential development of renewable energy production in the Black Sea through Marine Spatial Planning (MSP) and Land Sea Interaction (LSI). The event was set in the frame of the Cross-Border Maritime Spatial Plan for the Black-Sea MARSPLAN-BS II project, wherein both Romania and Bulgaria are in the process of elaborating national maritime spatial plans (under the provisions of the Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning) in a joint collaboration.

The event gathered Romanian policymakers and experts from public institutions together with specialists with significant experience in the development of offshore renewable energy production structures as well as innovative new practices in that field. A total of 70 participants registered for the event. The majority of the participants were Romanians (24) followed by Bulgarians (16) and Belgians (9). Among the registrants, 25 identified themselves as policymakers (6 Europeans, 12 national, 3 regional, and 4 local), 17 researchers, 5 from the private sector, 2 from civil society, and 20 “others”. The post-event survey collected 12 answers (data of the 4th of October) that were very satisfied (8), fairly satisfied (3) or fairly dissatisfied (1). The main reasons mentioned for the satisfactory experience were that the topic are new, of high importance, and focused on a specific issue (offshore wind energy production). The fairly dissatisfied experience was on the other hand related to the lack of new approaches on how wind energy could be developed.

Summary

The event started with Prof. Luuk Boelens, main moderator of the event, who welcomed the attendees and reminded them of the different rules and the agenda. Dr. Wiktor Szydarowski, director of the ESPON-EGTC, warmly welcomed everybody and gave a brief presentation of ESPON, its objectives and past achievements. These welcome words were followed by an introduction of Mr. Marin Țole who is Secretary of State, Ministry of Development, Public Works and Administration of Romania. Both Romania and Bulgaria are in the process of implementing a common MSP. The main purpose of MSP is to organise marine space and answer ecological, economic and social objectives. All of these activities and planning procedures are at the first steps of development in Romania. This means that, in the frame of the Green Deal, it presents an opportunity to explore the possibilities of offshore renewable energy production to meet the European climate ambitions.

The first part aimed at setting up the scene and started with a presentation by Dr. Marjan van Herwijnen and Mrs. Michaela Gensheimer, both ESPON senior project experts, who introduced past ESPON research projects that addressed the issues of renewable energy, MSP-LSI, and the territorial specificities of the Black Sea. The first ESPON project brought forward was the Territorial Foresight Project, which offers an interesting methodology to design the possible territorial consequences of certain policy choices. This method allows decision-makers to have an idea of possible futures to inform and give further insight. ESPON mapped evidence was also presented, specifically from the Black Sea and its Romanian and Bulgarian coast. At the European scale, the Romanian and Bulgarian coast can be regarded as a regional hub gathering high rates of employment, a dense infrastructure, being of great economic importance, and consequently exerting a high environmental pressure on local ecosystems. A case-study of the German Baltic Sea area and an analysis of the wind park value chain showed that offshore wind energy production would involve multiple stakeholders and would have territorial impact reaching far-off areas onshore. Following a comment from the audience, Michaela Gensheimer confirmed that environmental protection was included in the value chain analysis as it was tailor-made. Generally speaking and based on activities in the North and Baltic Seas, the economic benefits and “stickability” of such activity reaches communities far from the coast and can thus result in potential conflicts.

The next presentation was given by Dr. Eng. Laura Alexandrov, senior researcher at the National Institute for Marine Research and Development “Grigore Antipa”, which focused on the current developments of the Romanian MSP-LSI plans. A main objective of their work is to gather all relevant information that would give a better understanding of the current economic, environmental, and social situation around the Black Sea. In terms of policies, as the EU-directive on MSP indicates, MSP should strongly include analyses of LSI. The National Institute started studies of the cost and benefits of wind offshore energy, analysed the pressures that

exist from the coast to the sea but also from the sea to the coast. Finally, they conducted surveys to the coast and sea stakeholders to identify potential conflicts in order to mitigate them in the future. In conclusion, MSP-LSI is a multi-disciplinary process that involves different economic sectors and social interests as well as planning and policy processes. Their overall goal is to include the information of their analysis, to design MSP for the Black Sea, improve the institutional and administrative capacity, and increase the understanding of these territorial space.

The third scheduled speaker, Mr. Dan Lucian Popovici, who is the technical director of the Romanian Competent Authority for the Regulation of Offshore Oil Operations in the Black Sea, could not join the event but did not detail the reasons.

The second part of the Peer Learning Workshop compiled different lessons learnt and some good practices from other regions of Europe. The first presentation was supposed to be presented by Prof. Dr. Frank Maes of the Ghent University, who has experience in the latest academic findings and reflections regarding multifunctional, cross border MSP in the North Sea basin. However, due to illness Prof. Frank Maes was replaced by Prof. Luuk Boelens. Based on their exchanges prior to the event, four learning points have emerged from the various case-studies in the North Sea. The first is that any activity on the sea must be regarded as having an integral influence on what happens on land. MSP and onshore spatial planning should thus be seen as a whole. Secondly, the sea is a highly dynamic environment and requires dynamic activities. New activities thus need to be adaptable or simply taken away if circumstances change too much. The third lesson implies synergies. Marine space is already under the influence or occupied by numerous activities so it would be ill-advised to zone its territory separately into single activities. In order to make full use of marine space, activities should be combined in a single zone as much as possible. Finally, as MSP-LSI is still in development in most regions, a European network for knowledge exchange concerning good practices and expertise will be beneficial to increase the effectiveness of MSP.

Dr. Luca van Duren was the second speaker of Part 2. Dr. van Duren is a senior researcher at Deltares who, as a biologist, worked on the MERMAID and UNITED project. These projects explored the possibilities for new aquaculture and offshore energy systems synergies. The main benefits of a multi-use of space are the reduction of space demand, reduced environmental pressure, economic diversification, and the potential of consensus between cross-sectoral stakeholders. Pragmatically speaking, offshore wind parks can be combined with different activities. They can be combined with other forms of energy production (floating solar panels or tidal wave systems), aquacultures, or ecological and environmental recovery. The specific types of activities that are possible as well as their intensity, which can be combined with offshore wind parks, are very much site-dependent. Climatic, environmental, but also society-related parameters will influence and distinguish what is possible from what is not. For instance, some aquacultures are only possible in some regions of Europe, not only because of environmental aspects but also because its products won't answer any demand in the local regional market. To finish, risks need to be considered when reflecting on possible synergies: sea-bed sediment transport, maintenance, and collisions between different transport lines.

The third and last speaker of the Part 2 was Mr. Sven Goethals, business development director at Tractebel-Engie. His intervention focused on the latest innovation in the use of hydrogen gas production in offshore wind energy production. This approach was originally developed from the paradigm that mono-sectoral activities won't answer the challenges of the Green Deal. With such an approach, the energy produced offshore by wind parks would directly be used for the production of hydrogen gas in a nearby structure. The produced hydrogen would then be transported onshore and used as fuel. The main advantages are the possibility to install wind parks further from the coast as it allows energy transportation in a more cost-efficient way. Contrary to energy transportation through electricity, molecular transportation does not endure energy loss. As for its practicability for Romania and the Black Sea, important challenges have been identified. These challenges are mostly related to the non-adapted sub-value chains to hydrogen use. The current and related existing infrastructure is not yet adapted to the use of hydrogen gas. However, by using the current gas transportation infrastructure, several hydrogen consumption clusters could be identified as priority sites for the needed transition.

Those different interventions were discussed and reflected by Angel Gyorev, Project Manager – Lead Partner of MARSPLAN-BS II Project, Senior Associate in European projects and programs management, "Preselection and contracting" Department, DG "Strategic planning and programmes for regional development" at the Ministry of Regional Development and Public Works of Bulgaria. His reflections were followed by Prof. Dr. Tanay Uyar, Coordinator of the TÜRÇEP Environmental NGOs Platform of Turkey, President of Renewable Energy Association and Lecturer, Department of Mechanical Engineering, Faculty of Engineering and Architecture, Beykent University Istanbul Turkey. Both underlined the importance of reaching the ambitions of the Paris

Agreement of 2015 and of the European Green Deal. Collaboration between EU member states and non-EU states as well as thorough analyses of the costs and benefits of each option are essential.

Conclusion

As a conclusion, Tom Goosse, assistant project coordinator of the ESPON-TNO programme, synthesised the different inputs and discussion points of the event:

- The design of MSP is useful for different reasons. It can increase the institutional capacity of public governance and the understanding of the various activities and synergies that are possible. It also helps in the development of strategies to achieve ecological, economic, social and environmental objectives and more specifically, represents a great potential to produce offshore renewable energy.
- However, these endeavours are also confronted with clear challenges. Multiple interests and stakeholders are related to MSP and certain choices can potentially trigger conflicts with coastal communities or other stakeholders. Finding suitable and interested partners and investors remains difficult in some cases. Any activity on the sea has a broad territorial impact both on the sea and on land. To finish, marine space is a dynamic environment influenced by geo-physical, ecological and human-related processes calling for activities that are (at best) equally dynamic.
- MSP-LSI in the Black Sea and in Romania and Bulgaria is at its first steps. This implies many developments that can be considered. In relation to offshore wind energy production, different synergies are possible: e.g. aquaculture, environmental protection and recovery, solar or tidal energy production. The potentials and risks of each of these forms of the multi-use of space are very much dependent on the stakeholders, the economic components, and the environmental and climatic characteristics of the area. In terms of innovations in development, the manufacturing of hydrogen gas through offshore wind energy production has shown numerous benefits for the future. It allows the construction of wind farms further offshore, more cost-efficient transportation of energy and the storage of energy that can be reused at another time.
- Ultimately, the elaboration of MSP-LSI that considers the different challenges and the various opportunities calls for an input of valuable information that permits decision-makers to make the right choices and implement efficient strategies. Work from the National Institute for Marine Research and Development “Grigore Antipa” and the ESPON research projects represent essential knowledge about the cost and benefits of several activities, about stakeholders’ interest and possible conflicts and finally of potential synergies for the future.

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