



# Accelerating renewable energy production in the North Sea and Baltic Sea II policy input

eMSP NBSR project  
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# Context

This document focuses on *Sustainable Blue Economy* (SBE) and especially on how we can make it happen by using Marine Spatial Planning (MSP) as a tool. Do we need to start a broader societal discussion? We divided the Sustainable Blue Economy in three components; food, nature and energy. In this document we zoom in on sustainable offshore energy and the input needed to policy (and tender documents) to combine it with alternative ocean energy in the North and Baltic Sea and raise our energy production capacity. The ideas developed in this document are based on discussions in the community built within the [eMSP NBSR project](#). The project builds several interlinked *Communities of Practices (CoPs)*. The current document is based on the discussions during a fruitful (online) community event on 23 February 2023. You will find the program of the day as an annex to this document, as well as a participation list. In this CoP, 15% of participants were active in policy, 25% of the public sector, 25% of the private sector, 20% of a non-governmental organisation and 15% was active in science.

## AUTHOR

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## CONTRIBUTORS

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Participants from the Community of Practice (cfr. Annex 2)

## DISCLAIMER

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# 1. MSP as instrument for promoting alternative ocean energy and multi-use

Offshore wind is perceived as quite an established sector which produces clean electricity that might be cheaper than fuel based electricity. Also, there is a rapid development of alternative energy sources ongoing for producing green electricity, such as floating offshore wind, wave energy, tidal energy and floating solar. The 2030 climate target plan urges the need for scale up the offshore wind industry and unlock the potential of alternative forms of ocean energy. Global offshore renewable capacity is projected to increase significantly over the next two decades with ambitious targets in view of the climate and energy crisis. The EU strategy on offshore renewable energy sets targets for an installed capacity of at least 60 GW of offshore wind and 1 GW of ocean energy by 2030, and 300 GW and 40 GW, respectively, by 2050.

During this CoP we gathered actual policy and tendering advises to implement multi-use in energy production forms. We started with co-existence of offshore wind and other energy technologies as a key enabler in the acceleration of offshore energy production. We underline that minimal environmental impact is a pre-requisite and consider wave and solar as a complementary means to wind power, aiming a more reliable energy system. Combining alternative ocean energy and wind requires lower costs through lower CAPEX and OPEX. We do however still search for specific targets to be included in policy, best practises, tangible results and a clear regulatory framework that is compliant within all forms of use, especially when it comes to multi-use. Large scale earmarked calls for alternative energy would be beneficial for acceleration

While co-use should be planned in the design stage of a energy park(or multi-use platform/maripark), costs and opportunities related to (shared) grid connection and other to be shared mechanisms should be assessed in an early stage. Baseline studies for site selection based on specific conditions and boundaries should be available. It would be beneficial (certainly in start-up phases) to reward co-use initiatives or include these in tenders.

## Reflections from the North Sea

The Netherlands started with passive fisheries as option for co-use, but, since 2015 (establishment Offshore Wind Act), co- or multi -use is part of the tenders for wind farms. Currently, the Netherlands operate with so-called 'area passports' following the North Sea Agreement ([North Sea Agreement - Noordzeeloket UK](#)). To obtain an area passport, the processes are intense, but multi-use is finally part of the discussions. While Borssele was the first area where passports were in use, nowadays, the 'crosswind' tender procedure, namely the first one including innovation criteria, is in progress. Wind and floating solar installations are herein 2 different projects, but integrated into the wind farm project itself. There is a strong need for system integration to accelerate the multi-use of renewable energy processes. It is crucial to have all different stakeholders involved from the start to increase transparency and open discussion on the important functions and to overcome bottlenecks when it comes to obtain integrated views of the North Sea area. Additionally, a much-improved collaboration between all

relevant agencies and authorities is crucial for the acceleration of co-use. Also, a short list of requirements from the wind farm prior to integrating other uses in the farm can only be beneficial for different stakeholders like insurance companies, safety regulations etc.

Increase in offshore energy production requires rapid development, innovation and regulatory incentives, including growth of alternative ocean energy possibilities. Simultaneously, other established and emerging sectors will be growing quickly with a significant area footprint, resulting in marine areas becoming even more complex in spatial competition. The sector and need for eg. energy will grow anyhow, so we should carefully consider space and co-use is an important efficiency facilitator. For the path to sustainable blue economy, coexistence between these sectors and the environment is a prerequisite. These issues should be addressed by MSP to preserve space for the current and future uses of the seas. MSP should be transboundary and holistic, while addressing all stakeholders involved. Technical features, such as grid connections should be considered well in advance for the MSP, while underlining synergies and providing good planning. There is a great need for stakeholder engagement, from the beginning of the process, to build trust, allow for transparency and and for and for synergies to occur. Offshore energy technical developments should be incorporated together with possibilities for upscaling and testing. Policy enhancement, careful designation, monitoring and management within national jurisdiction is crucial, and ecological criteria should be clear and be taken into account when it comes to site designation To accelerate the procedures, it is crucial that the permits can be applied to from one central point, as well as all communication and information. Offshore renewable energy other than wind should be included in national goals and MSP and should be reflected with clear criteria on multi-use in the tender procedure. Like wind, other renewable forms of offshore marine energy are in need of subsidies, in order to overcome the 'valley of death' and grow into a mature energy source.. subsidies are needed for new forms of renewable energy. There are actually increasing requests from large industries (e.g., energy) and supply chain companies to be involved in multi-use and make a business case for their benefits if there is an opportunity.

## 2. How to realise a multi-use energy park

The Horizon 2020 green deal project EU-SCORES demonstrates the combination of offshore wind with wave- and offshore solar PV energy, while establishing clear policy recommendations to support these activities. This will pave the way for bankable multi-source offshore parks across Europe by 2025.

These multi-source parks will use offshore space more efficiently and balance the electricity grid to achieve a resilient and cost-effective renewable energy system. A one stop shop for permitting information and application of offshore multi-source park is needed. Multiple offshore energy sources should be included in MSP and the national goals. Adding technologies to existing wind park needs to happen in close collaboration with the project developer to not cannibalize their business case. Specific tenders for multi-source parks should be considered. One should look for complementary areas. Each technology can have different areas of interest, but could very well work together and be complementary to one another. Efficient cooperation is needed between wind parks and other project developers to not cannibalize both businesses as well as to reduce costs. A change in the ownership of

the rights, not just windfarm owners (in the future) can be a solution, as well as for the grid and cables. Tenders should be designed well in advance and subsidies are required for alternative ocean energies, as they should be going through the same learning curve as the offshore wind sector.

### 3. Interactive session

The potential and possible bottlenecks of multi-use of renewable energy was discussed around 3 themes; integral area planning, existing wind farms and the possibility of creating some sort of 'compact' areas due to efficient multi-use. The idea behind this concept is that when combining forms of renewable energy, less space is required in comparison to have a single form of renewable energy/interactive session was divided in 3 themes: integral area planning, existing wind farms and compact areas.

For efficient multi-use all types of multi-use (here ocean energy) should be included in the MSP/tender procedure from the start and at the same ratio (% of space). But, including all the forms of multi-use equally in the tenders at the same time, gives all power to the large wind farms, which is not ideal. Policy, safety and connection issues are ideally already resolved for new energy parks, this way it is more practical to include multi-use in new parks.

Financial incentives included in the tender are needed for a wind park operator and ocean energy developers, followed by flexibility in permits and regulations and lastly with sufficient pilot and scale up possibilities.

Starting from an existing wind farm is more complex to add on technologies: when one aims integrating ocean energy to a wind farm, the preparations to do so, should start at least 2-5 years in advance from operation. There is a big difference in the development of ocean energy compared to wind, a short distance from shore is (in this initial phase) preferred, as well as short cable connections. First it should be demonstrated that it can be in a safe and nature inclusive way (de-risked), hereafter one can get project developers on board.

When starting from a wind farm, it is beneficial to have an 'area passport', and installation permits should be clear, as well as considering environmental impacts. In the opinion of some, it is difficult to add technologies to existing infrastructure, it should be in close collaboration with the existing activity, not to consume its business.

The effect on ecology will be less negative for multi-use. There will only be more energy production demands from now on, and more activities (at sea) will be implemented. The percentages of space should be related to its actual potential available at the site. The design of a brand-new European insurance fund for the ocean energy sector is underway to slash the costs of the first commercial projects and accelerate the roll-out of this new industry.

## 4. Conclusions

The EU strategy on offshore renewable energy sets targets for an installed capacity of at least 60 GW of offshore wind and 1 GW of ocean energy by 2030, and 300 GW and 40 GW, respectively, by 2050. To speed up this increase in energy production, we investigated the possibilities of offshore multi-use.

There is an urgent need for inclusion of multi-use in a transboundary or at least national context. There is an urgent need for holistic marine spatial planning with 'roadmaps' per area, activities suitable per area linked with their potential to grow and scale up. This urge should be promoted and supported by authorities in charge. The permit procedure following MSP should be a combined one. The tender procedure should already include other forms with sufficient space for pilots and scale up.

There is a strong need for system integration to accelerate multi-use. Following the increasing importance of ecology, the transparency and open discussion of important mechanisms (ie grid connection) with different stakeholders for integrated views in the North Sea area is crucial prior to the tendering phase. The importance of considering and consulting all stakeholders from the start is strongly underlined. Also, a short list of requirements from the wind farm to integrate multi-use in the farm can be beneficial for different stakeholders (insurance companies, safety regulations etc). Additionally, a strongly improved collaboration between all relevant agencies and authorities is crucial, as well as aiming for 'one sole' focus point for permit application, information and communication to improve efficiency and clarity.

Policy enhancement, careful designation on a national level of alternative energy forms, monitoring and management within national jurisdiction is a must. Multi-use should be part of the national goals while subsidies are still required for the sector to pass an equal learning curve as wind farms.

Regarding co-existence with nature, one should select the activity per capacity for restoring the habitat/species envisaged.

The concept of 'value case' should be introduced to society: Multi-use creates huge value for society. Value Case = effective use of scarce sea space, nature-inclusive, energy security, ramping up for hydrogen economy (>2030), self-security, local energy production, remove dependency on geo-political tensions. Co-ownership of park and infrastructure (grids etc) should be considered.

More opportunities seem to lie in Mariparks. Adding technologies to existing wind park is a complex case which needs to happen in close collaboration with the project developer to not cannibalise their business case. One should anticipate 2-5 years to prepare such an addition.

In a few words we need: holistic framework on multi-use, roadmaps per sea basin to address the approach/challenges, facilitated permits, announce multi-technology farms with a clear schedule, more co-existence and co-creation and integration, more pilot farms for ocean energy, more and bigger scale-ups, experiments towards business cases.

# Annex 1 - Program

**9h00 Welcome and Agenda (Blue Cluster, Belgium)**

**9h05 MSP as instrument for promoting alternative ocean energy and multi-use**

Lessons learned on multi-use of offshore wind farms, (Gerard Harder, Eneco)

Setting the scene with the MSP project, summary of the previous CoP meeting (Blue Cluster)

Reflections on the CoP learnings and solutions for MSP (Patrycja Enet, European MSP Platform, Aktis Hydraulics)

**10h05 Coffee break**

**10h15 How to realise a multi-use energy park?**

“Learnings from policy discussion on multi-use energy parks” Benjamin Lehner (DMEC)

**10h30 Interactive session**

Interactive session: Discussion on policy recommendations for renewable energy based on statements regarding legislation, procedures and spatial planning (RVO, Blue Cluster)

**11h15 Closing remarks (Blue Cluster, Belgium)**

# Annex 2 – Participation list

Name	Organisation	
Lodewijk	Abspoel	ministerie Infrastructuur en Waterstaat
Natalia	Aleksandrova	Deltares
Vesa	Arki	Regional Council of Southwest Finland
Khouloud	Athimen	-- (Freelance)
Raissa	Borgmann	Federal Maritime and Hydrographic Agency
Nico	Buytendijk	RVO (Netherlands Enterprise Agency)
Mattia	Cecchinato	WindEurope
Agnese	Cosulich	Submariner-network
Erwin	Croughs	
Steven	Dauwe	Flanders Marine Institute
Raisa	Borgmann	
Kinnie	De Beule	De Blauwe Cluster vzw
Khallouki	Dounia	DGAMPA
Patrycja	Enet	European MSP Platform / Aktis Hydraulics
Xavier	GUILLOU	European Commission - Directorate General for Maritime Affairs and Fisheries
Gerard	Harder	Eneco
Marie	Hallberg	Swedish Agency for Marine and Water Management
Merle	Heyken	Deutsche WindGuard
Stefan	Husa	Ilmatar Offshore
Piotr	Kaszczyszyn	
Marjoleine	Karper	Netherlands Enterprise Agency
Juul	Kusters	University of Groningen
Senyo	Kwami	University of Groningen/Royal HaskoningDHV
Stella	Kyvelou-Chiotini	Panteion University, Dpt of Economic and Regional development (GR)
Ivana	Lukic	s.Pro - sustainable projects / SUBMARINER Network
Patrice	Lumumba	County Government of Lamu
Erwin	Meijboom	Slow Mill Sustainable Power
Jef	Monballieu	Jan De Nul
Marijn	Pronk	RWE
Michele	Quesada da Silva	IOC-UNESCO
Marijn	Rabaut	Blue Cluster
Stein Arne	Rånes	Kyst Akademiet
Anton	Schaap	DMEC
Peter	Scheijgrond	Bluespring, Dutch Energy from Water Association
Thanos	Smanis	CLIMAZUL



Bose	Sumantraa	GenesisRay
Allahyar	Valiyev	UGent
Charlotte	Van den Auwelant	VLIZ
Audrey	van Mastrigt	Vattenfall
Maité	VERDOL	French Secretary of State in charge of the Sea
Heleen	Vollers	The North Sea Foundation
Margarita	Vološina	VASAB secretariat
GUILLOU	Xavier	European Commission - DG MARE
jacek	Zaucha	Maritime Institute of GMU
Kristina Petra	Zubovic	Trinity College Dublin