



**eMSP
NBSR**

Emerging Ecosystem-based
Maritime Spatial Planning
Topics in the North and Baltic
Sea Regions

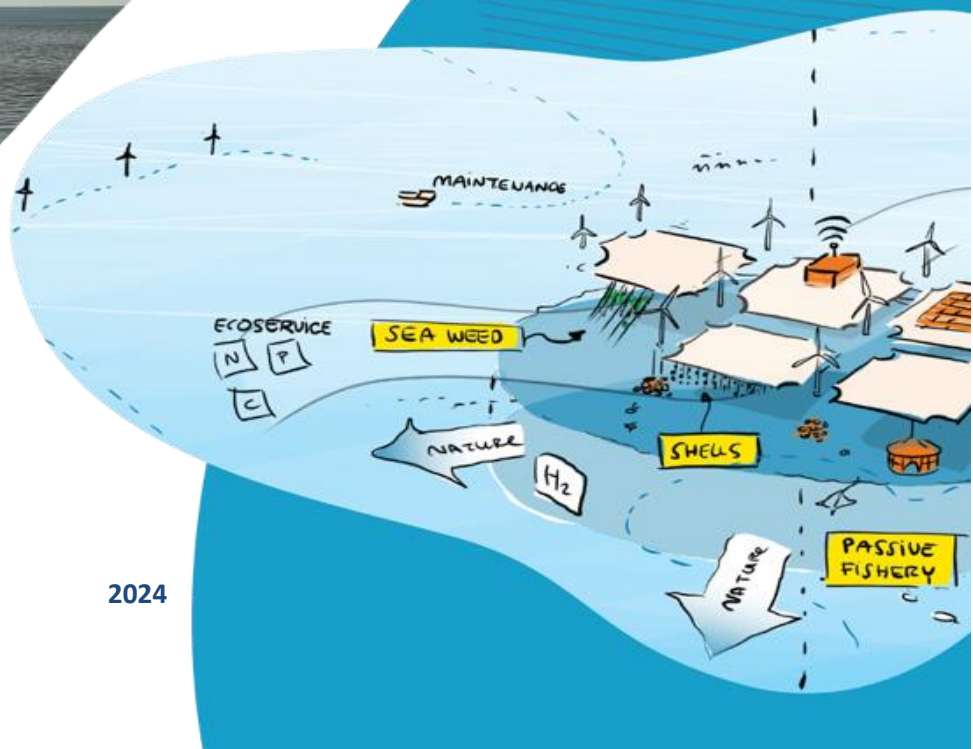


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Extended Policy Brief

Towards a sustainable blue economy



2024



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Disclaimer:

This policy brief has been developed within in the eMSP NBSR project. It is based on insights of the persons participating in the project and does not necessarily exactly mirror the views of their organisations and nations.



Introduction

This policy brief includes recommendations on how to achieve a sustainable blue economy, in the context of Maritime Spatial Planning ([MSP](#)), where the EU transitions on energy, food and nature at sea are balanced. The recommendations in this policy brief:

- are based on the input from the members of the Sustainable Blue Economy Community of Practice set up for this purpose for regions of the North and Baltic seas within the [eMSP NBSR project](#). During online and physical meetings, the topics, of nature, food and energy were addressed successively, with multi(ple)-use as the final and linking topic, within the context of the sustainable blue economy;
- are addressed to governments, policymakers, MSP planners and scientists within Europe;
- are meant to make the path towards the development of a sustainable blue economy more concrete and tangible, taking into account the EU Green Deal objectives including the impacts of climate change, and where multi-use is an integral part. In this case, multi-use, as defined within the [MUSES](#) project, is an intentional sharing of resources in a close geographical environment.

This policy brief first outlines the state of the blue economy and its links to the EU Green Deal and climate change. It then outlines three factors that directly influence the development of a sustainable blue economy, namely human pressure factors, three major transitions and the management of our oceans and specifically in terms of multiple(er) use. Finally, it outlines the concept of a Maripark, an overarching approach proposed to effectively get the development of multi(ple) use off the ground. Each of the outlined aspects contains recommendation and all recommendations together are summed up in Appendix III.

Take home message:

We believe that it is important and possible to move towards a considerably more sustainable blue economy than we have today. To the extent that sustainability does not only implies taking into account economic, social and ecological aspects, but all three aspects are all taken into careful consideration. Achieving a sustainable blue economy requires a delicate balance between all the different interests and needs of the various users of the sea. Equal and balanced development of the marine transitions, energy, food and nature, are also part of a sustainable blue economy. this sustainable balance can only be achieved by working together, collaborating, across boundaries and sectoral interests and with contribution from all stakeholders. A sustainable blue economy is an optimally integrated economy in which a balance between various interests is found for the maximum of joint benefits.

The successful development of a sustainable blue economy asks for an overall vision of the future of our seas accompanied by an implementation plan. How can this be achieved and how does a sustainable blue economy work in 2050 and beyond? Here, MSP plays a crucial role as a tool to manage the use of our seas and has the potential to ensure sustainability where economic activities and the health of marine ecosystems are guaranteed.

Multi-use in the future is part of the development of a sustainable blue economy, in which all transitions are all handled equally. The development of an umbrella entity in the form of Maripark is the key to capitalising much-discussed synergy benefits of offshore activities.



State of play of the blue economy

Blue economy refers to economic activities that take place in the oceans, seas, coasts and other water bodies. These include for example fishing, aquaculture, coastal tourism, maritime transport, port operations and shipbuilding. Land-sea interactions are also part of the blue economy as most activity at sea has a link with activities taking place on land. Furthermore, these activities often have cross-border relationships and implications. Think of international shipping and associated shipping lanes, fishing and offshore wind farms, and influence from currents and wind.

Every year the Directorate-General for Maritime Affairs and Fisheries and the Joint Research Centre of the European Commission publishes the [Blue Economy Report](#). It analyses the scope and the size of the European Blue Economy and as such gives a good overview of the state of play of the Blue Economy. It distinguishes established sectors (that already contribute to the Blue Economy) as well as Blue Biotechnology and Ocean Energy (OE). The latter (emerging) sectors offer significant potential for economic growth, sustainability transition and job creation.

Overall, it can be stated that for established sectors two sectors showed the most notable trends. Tourism was impacted negatively (due to COVID-19), Offshore Wind showed an increase in economic activity. For emerging sectors especially Ocean and Marine Renewable Energy has been noted as very important for achieving several EO goals and targets of the European Green Deal as well as for example the Offshore Renewable Energy Strategy.

It is also recognized that climate change will have a significant impact on the Blue Economy, the main attention in the report however is on climate change's impact on coastal areas, for example related to flooding. Since coastal areas play a key role in the Blue Economy, this can be seen as a logical focus.



A Sustainable Blue Economy

Thanks to the yearly Blue Economy Report we have a clear view on major developments and the state of play of the Blue Economy. The ambition of the European Union is to work towards a Blue Economy that is also sustainable which means all blue economy sectors will have to reduce their environmental, and thus also their climate impact.

On May 17, 2021, the European Commission introduced a visionary proposal ([a new approach for a sustainable blue economy](#)), heralding a new era for a sustainable blue economy within the European Union, encompassing the diverse industries and sectors closely tied to our oceans, seas, and coastal regions. Recognizing the profound significance of a sustainable blue economy, this endeavour aligns with the overarching goals of the European Green Deal and also takes a vital step towards fostering a green, all-encompassing recovery from the challenges posed by the ongoing pandemic.

The aim is clear: to tackle the intertwined crises of climate change and biodiversity loss by nurturing the well-being of our seas and responsibly harnessing their resources.

Effecting the transition towards a sustainable blue economy hinge upon substantial investments in innovative technologies. For example, pioneering ventures in wave and tidal energy, the cultivation of algae, the development of cutting-edge fishing gear, and the restoration of vital marine ecosystems will not only mitigate environmental impact but also seed the growth of new green enterprises and new job opportunities within the blue economy.

We want to highlight three focus areas that can expedite the transition to a sustainable blue economy:

1. human pressure factors;
2. three transitions, energy, food and nature;
3. managing our oceans.

Human pressure factors

One of the most important human pressure factors is man-made climate change. Although climate change in general is a constant, recognising that the climate change we are experiencing is largely due to man-made CO₂ emissions.

Climate change is expected to have major impacts on our seas and oceans. Some of the expected impacts of climate change on the North Sea and Baltic Sea are as follows:

- **Rising sea levels:** As global temperatures rise, glaciers and ice sheets are melting, which is causing sea levels to rise. This is expected to have significant impacts on the low-lying coastal areas of the North and Baltic seas region, which are particularly vulnerable to flooding;
- **Ocean acidification:** The oceans are absorbing large amounts of carbon dioxide from the atmosphere, which is causing them to become more acidic. This can have negative impacts on marine ecosystems;
- **Changes in marine biodiversity:** Climate change is expected to cause significant changes in the distribution and abundance of marine species, as they respond to changing water temperatures, salinity, and other factors;
- **Increased storminess:** Climate change is expected to lead to more frequent and intense storms in the North and Baltic seas region, which can cause flooding, erosion, and damage to coastal infrastructure;
- **Changes in ocean currents:** The North Atlantic Ocean plays an important role in regulating the climate of the North and Baltic seas region, and changes in ocean currents could have significant impacts on the region's climate and marine ecosystems.

Overall, the impacts of climate change are expected to be significant, and could have wide-ranging



consequences for coastal communities, marine ecosystems, and the economy. However, various mitigation measures can reduce the impacts e.g. reducing greenhouse gas emissions, promoting sustainable coastal management practices, and protecting and restoring marine ecosystems (including use of Nature Inclusive Design for e.g. renewable energy production and sustainable food production).

As mentioned, the European Union's Green Deal is a comprehensive plan to make the EU's economy sustainable and reduce its carbon footprint. However, although it is of great importance to reduce carbon emissions, it also becomes clear from the list above that climate change has wider implications for the blue economy. The Blue Economy Report has e.g. already discussed the need to take into account the effects on our coasts. The '[OECD work in support of a sustainable ocean](#)' report and related work also emphasises the need for sustainable management of our oceans and seas and the great dependency of the blue economy on climate change related effects. Furthermore the 'Climate Change 2023' report points out that climate change already has an adverse impact on for example food security due to lower productivity, not to mention the severe effects on ecosystems. [The European Action Plan for Sustainable Finance](#), also indicates directions towards a more sustainable economy.

Recommendation

We recommend focusing on broad integrated research aiming for quantifying what projected climate change impacts will have on the Blue Economy as a whole. This includes traditional blue economic sectors, such as tourism, shipping and fisheries, and emerging economic activities such as offshore seaweed and shellfish farming and offshore renewable energy. Quantifying the impacts and relate KPI's helps to then take mitigating measures on these activities within MSP.

We also propose to look into the subject of 'human pressure factors' more deeply and also of their cumulative effects. If we are to establish a Sustainable Blue Economy, this means other pressures than carbon emissions alone which need to be included in the analysis taking and therefore taking a more overarching approach. Human activities at sea are already intensive and hugely diverse. Apart from previously mentioned activities such as shipping and fishing, the seas and oceans also host activities for oil and gas extraction, dredging and sand extraction, military training areas, anchorages etc. These and other activities cause a range of impacts on the marine ecosystem, from altering the substrate or morphology of the seabed and changing hydrological conditions to disrupting ecosystems, underwater environmental noise and the supply of nutrients, waste and plastics.

Recommendation

We recommend identifying (cumulative) human pressure factors, like for example mentioned in the key messages from the '[QSR2023](#)' and the '[State of the Baltic Sea 2023](#)' report, and making spatial and policy choices based on these factors that will trigger a movement to achieve a sustainable blue economy.

Three transitions: energy, food and nature

The EU Green Deal is an ambitious European Union (EU) policy initiative that aims to make Europe climate neutral and protect biodiversity by focussing on three transitions: energy, food and nature. For an overview of the findings regarding the EU Green Deal and its relationship with the Blue Economy, we refer to Appendix I for a more detailed overview.

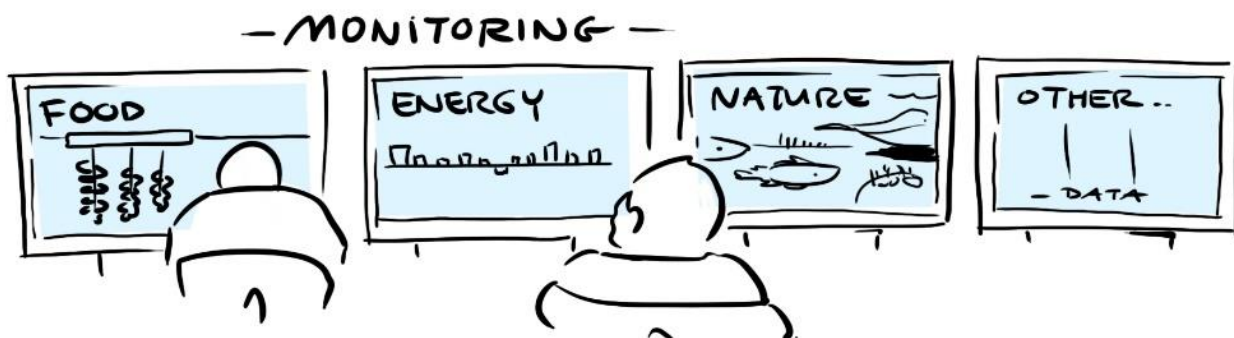
Achieving a sustainable blue economy requires a delicate balance between all the different interests and needs of the various users of the sea. At the same time, the precautionary principle must be applied. The [precautionary principle](#) is a politically accepted risk management strategy that suggests taking preventive action in the face of uncertainty or potential risks to protect human, environmental health. By implementing



both proper impact assessments and co-benefits analyses which include the ecosystem services it should enhance this delicate balance and to manage all dimensions sustainably.

Three major transitions are taking place at sea, first of all the nature transition. The nature transition aims to protect and make our nature more resilient. The second major transition is that of renewable energy driven by the desire to move towards a carbon-free society. The construction of wind farms in particular stands out here. The third transition is the food transition. Particularly with the expansion of large-scale offshore wind farms (combined with other factors), the existing fishing industry is shrinking and with it, food production at sea. This calls for a transition of the current fishing fleet to a new, modern and future-proof fleet, adapted to the new reality at sea. In addition, new forms of food production at sea are emerging, such as shellfish and seaweed farming. The transformation of the existing fishing industry, combined with new forms of food production, make up the food transition.

Each of the three transitions is equally important, each from a different perspective. However, there is a risk that the transitions can negatively affect each other because the interests are seemingly contradictory. This is where the precautionary principle plays an essential role and should focus on a sound overarching risk management strategy when rolling out these (and other) transitions, taking preventive action in advance to avoid or mitigate potential uncertainties and risks to people or nature.



However, increasing activities at sea also brings a potential opportunity. More than on land, activities at sea still take place separately. Precisely because of the increased activity, opportunities arise to combine services and activities, creating synergy and economies of scale. When mapping mitigation measures arising from the precautionary principle, multi(ple)-use precisely what is interesting to capitalise on to enhance synergies and decrease the environmental negative impact.

Recommendation

When rolling out transitions at sea, apply the precautionary principle together with an overarching risk management to prevent and avoid potential risks to both nature and people. When setting up a mitigating package of measures, it is advisable to investigate synergy and economies of scale that may arise precisely as a result of increased activities at sea.

Managing our oceans

Maritime Spatial Planning

The rise of maritime spatial planning (MSP) can be attributed to increasing human activities in marine environments. Activities, such as fishing, shipping, tourism and energy production, are putting increasing pressure on marine ecosystems. As a result, overfishing, pollution and habitat degradation have become an increasingly pressing issue.

MSP also has a role in the need to resolve conflicts between different stakeholders competing for access



to maritime areas. MSP helps to coordinate interests and find compromises that enable sustainable use of marine resources. Finally, the concept of the ecosystem-based approach is gaining importance. This approach emphasises the interconnectedness of marine ecosystems and stresses that human activities must take into account the wider ecological context (eMSP NBSR Policy Brief EBA).



Technological advances, meanwhile, also play an important role in the development of MSP. Advanced tools such as geographic information systems (GIS) and satellite imagery enable better data collection, analysis and visualisation. This, in turn, makes it possible to make decisions based on unbiased data which, in turn, helps implement the precautionary principle (eMSP NBSR Policy Brief Data).

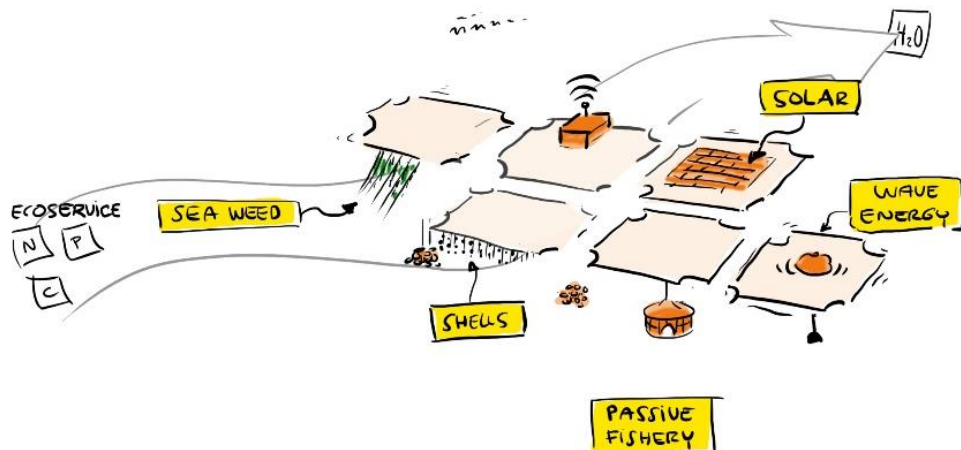
MSP is crucial for the sustainability, efficiency and resilience of the blue economy. It helps balance economic growth and marine ecosystem conservation, which in turn benefits societies, economies and the environment.

Multi(ple)-use

Space at sea is under increasing pressure from increasing human use. This calls for a pressing need to properly weigh stakeholder interests, applying the precautionary principle and not increasing or decreasing human pressure factors. With the intensifying human use of space at sea, it is often no longer possible to designate areas for single use, and multi-use is becoming more important at sea. Something that is often already more common on land.

Multi-use, intentional sharing of resources in a close geographical environment, ties in with the recommendation to identify synergies and economies of scale between activities at sea and actively search for opportunities of finding co-benefits between activities.

A second aspect is the need for space both for existing and emerging businesses and activities. These new users of the sea include offshore shellfish and seaweed farming, as well as renewable energy generated by wind, solar, wave, and tidal power. Increasingly, space for these activities is no longer available if assuming single-use. For example, there is often unused space between individual wind turbines. These kinds of locations can be very well utilised by new emerging sectors. Offshore wind farms could, depending on their design, contribute to a better balance between the transitions taking place at sea now and in the future.





At the same time, the rapid development of offshore wind farms is also a potential threat to other users and ecosystem services of the sea. Wind at sea often actually precludes the development of new uses of space, existing and new. Wind farms are generally designed as single-use spaces, making it very difficult to develop activities. This is true spatially, but also in terms of laws and regulations and policy development. It is therefore a major challenge to encourage and realise multiple use in offshore wind farms.

Recommendation

We recommend including and integrating multiple use in the design of new wind farms. The preconditions needed to make multi-use a success can then also be included in the programme of requirements for new wind farms. In existing wind farm permits, we recommend that regulations provide clarity on multi-use of space and, here too, the preconditions to make multi-use possible.

Current state of play of multi-use

Though for over ten years multi-use is presented as a solution so far the development of multi-use initiatives for e.g. offshore wind farms is still in its infancy and the number of operational multi-use projects is currently limited. Several pilot projects are underway in different parts of the world, including in Europe. This is reflected in the long list of multi-use projects of more than 30 initiatives. Although the outcomes of these projects are useful, the danger arises that multi-use remains stuck in the pilot phase. This is despite great efforts by the European Commission, member states as well as private and research parties.

Multi-use, the next step

As mentioned above, the efforts to develop multi-use provide a useful insight into the drivers and barriers. The drivers include the synergy and economies of scale already mentioned, while the barriers are considerable and very diverse (see also the conclusions from the MUSES project). The [ROAS2SID](#) project also came with a similar conclusion: “While possible synergies between different uses promise a great future, there are a few technological, economic, ecological, and regulatory challenges that need to be overcome before a seamless symbiosis is achieved”. Viewed from a distance, the barriers are actually risks that need to be overcome. This calls for a targeted approach in five fields in order to reduce risks to an acceptable level, namely (Appendix II):

- Collaborative Governance: close cooperation and coordination with relevant stakeholders to align policies with the needs private parties;
- Regulatory Support: clear adaptive regulatory frameworks on liability, permitting and environmental impact assessments;
- Technology development: developing robust, efficient and safe technologies;
- Innovative business models: designing commercially viable business models;
- Financing and investment: setting up financial incentive instruments, especially for the start-up phase towards scale-up.

These fields are interdependent, partly because multi-use largely consists of newly established sectors in an environment that requires a totally new approach. Government, research and companies all have important roles to play here. Government stimulates, research supports policy development and the development of new techniques, and companies work on commercially viable business models.

Recommendation

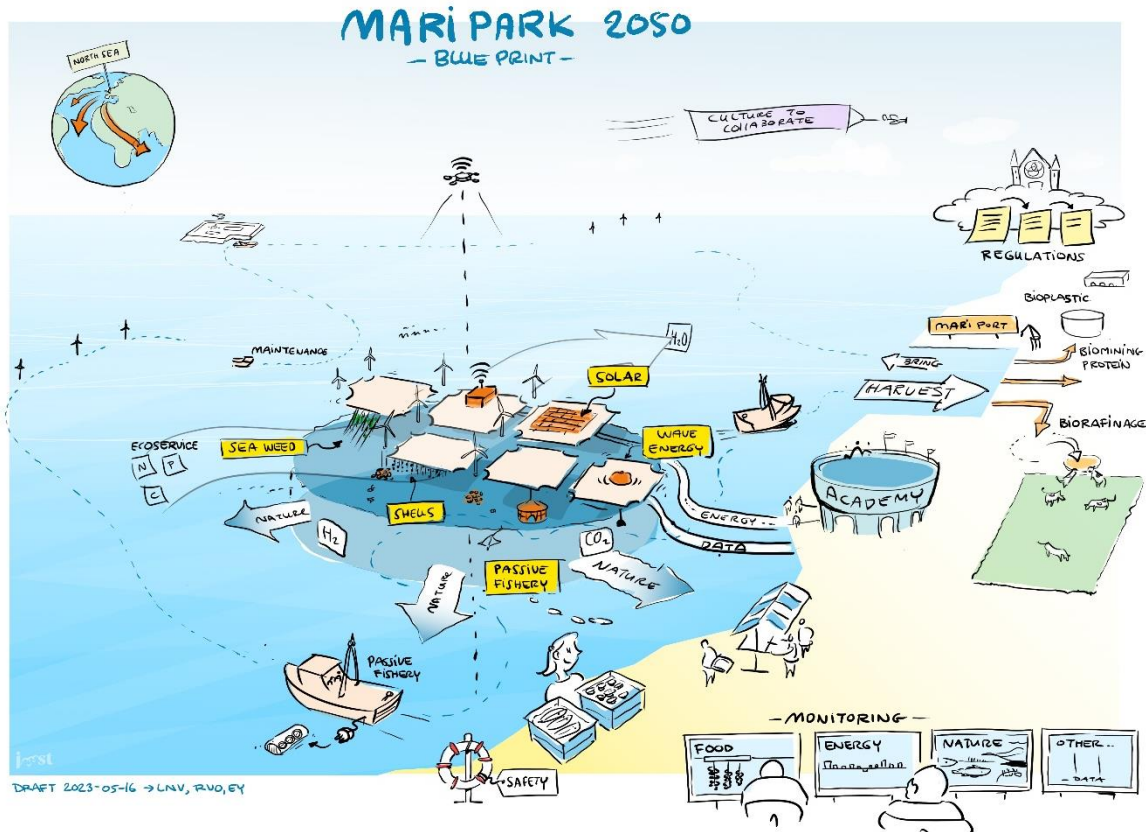
It is clear that for multi-use to grow into a mature sector, it needs an overarching approach in which all stakeholders work intensively together from their own roles and responsibilities. Setting up a public-private partnership could help to reduce risks to an acceptable (entrepreneurial) level in a coherent and programmatic way ensuring the realisation of societal values.



The Maripark concept

The implementation of multi-use is progressing slowly, encountering numerous barriers across various aspects, including policy, permits, laws and regulations, technology, and research gaps, which impede the rollout of multi-use. A traditional sector-specific approach is not sufficient to make substantial progress.

Therefore, we introduce the overarching concept of a Maripark, a nature-inclusive business area, which can facilitate and accelerate the transition from sector-specific, single-use activities to sector-unspecific, multi-use business approaches.



An entity

A Maripark serves as an all-encompassing, versatile department or overarching organizational body dedicated to facilitating and optimizing multi-use initiatives. It operates as a central authority for the efficient management of these initiatives.

This entity takes charge of organizing and streamlining multi-use, assuming a pivotal role in this process and serving as the primary point of contact for third parties, such as wind park owners and the government. This arrangement offers a two-fold advantage: third parties benefit from having a single, clear point of contact instead of dealing with multiple separate entities. It also levels the playing field between co-use parties and larger entities, as previously mentioned.

Furthermore, the entity is responsible for managing user agreements and may play a role in allocating plots. Centralized functions include monitoring and modelling, as well as coordinating and aligning usage requirements.

Recommendation

We recommend the creation of an entity, co-responsible for use of space at sea, the organisation and streamlining of such use and responsible for the realisation and maintenance of basic infrastructure for multi-use at sea.



Basic infrastructure

A Maripark provides basic physical infrastructure that facilitates the development of multi-use initiatives. By providing shared physical infrastructure, such as anchors, docking facilities, and sensors, and by leveraging technologies such as drone technology, a Maripark can facilitate the development of multi-use initiatives in a cost-effective and sustainable manner. Sharing this infrastructure with a large number of users will keep the costs down. Also having a basic infrastructure provides security for other users such as windfarm operators and the government, since it is known for all parties who is responsible for operating and maintenance.

Infrastructure can consist of docking facilities that provide a location to support the docking of ships and boats for activities such as maintenance, monitoring, and transport of equipment and personnel and provide safe havens at sea when needed. Anchors at fixed locations ensure damage to infield cables is prevented and at the same time reduces installation cost of multi-use activities.

Sensors and monitoring equipment can be used to collect data on the marine environment, such as water quality, temperature, and currents, as well as to monitor the performance of offshore wind turbines, aquaculture facilities, and other activities. This data can be shared among stakeholders to support decision-making, improve efficiency, and ensure environmental sustainability.

Drones can be used to inspect and monitor offshore wind turbines, aquaculture facilities, and other structures reducing the need for human inspection and improving safety. They can also be used to collect data on the marine environment and wildlife. In addition, the use of drones can also enable remote monitoring and inspection of multi-use initiatives from shore. This can reduce the costs and environmental impact associated with sending personnel and equipment offshore, as well as improve the speed and accuracy of data collection.

Lastly providing electrical systems might be needed. On the one hand to provide electricity for the docking facilities or activities within the Maripark, on the other hand to ensure that other forms of renewable energy can supply energy to the grid. This system may also include cabling, inverters, and possibly transformers.

Recommendation

It is paramount to develop a schedule of requirements for each individual Maripark specifically. Since each Maripark will provide services to different possible forms of usage. E.g. food production requires a different infrastructure than for example renewable energy or maybe even nature development.

What's next

In principle, both national and EU regulations provide a solid foundation. However, there may be a need for regulatory adjustments to enhance the effectiveness of the framework, including considerations such as extending permit durations and planning for potential extensions. Equally vital is the need to establish and maintain a delicate balance between the roles of the government and the private sector.

The finetuning adjustments of multi-use initiatives, e.g. safety, infrastructure and environmental protection, may be warranted to ensure the seamless operation of multi-use initiatives, including extending permit durations and adapting regulations to evolving industry challenges. Also providing a regulatory framework to ensure sustainable and efficient multi-use of space at sea is needed, also to ensure the viability of the Maripark concept itself. The framework can establish guidelines for the use of space and resources, as well as protocols for monitoring and assessing the impact of different activities on the environment. By providing clear guidelines and standards, a Maripark can facilitate the development of multi-use initiatives, while ensuring that they are carried out in an environmentally responsible manner.



The government plays a crucial role in the formulation and enforcement of regulations, overseeing compliance with environmental and safety standards, and providing necessary oversight. It also serves as a facilitator of collaboration among diverse stakeholders and takes on the role of allocating marine areas for multi-use initiatives. At the same time the private sector is pivotal in driving innovation and channelling investments into multi-use endeavours. They are entrusted with the day-to-day operational responsibilities, which encompass activities such as energy production and aquaculture within the Maripark. Striking the right equilibrium between these roles is of paramount importance. Governments must provide regulatory stability and create incentives to encourage active participation from the private sector. In return, private sector entities are expected to operate with efficiency, comply with regulatory standards, and actively contribute to economic development. Thirdly, the concept of 'ownership' in the context of Mariparks typically pertains to the rights, responsibilities, and control associated with various aspects of multi-use initiatives within the Maripark itself. The establishment of clear and transparent guidelines and agreements is essential to define ownership rights and responsibilities for all stakeholders, including both the government and the private sector. These guidelines should encompass property rights, usage rights, and decision-making authority. Open and transparent communication among stakeholders is pivotal to ensure mutual understanding and successful collaboration.

Recommendation

Provide a regulatory framework to make the realization of Mariparks possible. Ensure that a solid balance is established between the responsibilities between the government and the private sector, also on property or usage rights, to make sure Mariparks can be viable.

Cooperation

The involvement of governments, businesses, NGOs, and scientific institutes is essential to the successful development of multi-use initiatives. By working together, these stakeholders can promote the sustainable and efficient development of this important sector, while ensuring that the interests of local communities and the environment are protected.

Governments can create incentives for businesses to invest in multi-use initiatives, provide funding for research and development, and facilitate the coordination of different stakeholders. The risk is now that in the light of climate goals, decision makers promote rapid development of offshore wind farms, without creating the necessary space for multi-use. This leads on the longer run to a loss of sustainability and shows the urgency to include new sustainable blue economy developments when allow for wind development.

Businesses are essential for the development and operation of multi-use initiatives for offshore wind farms. They can provide the necessary capital, expertise, and resources to develop and operate these projects. By investing in multi-use initiatives, businesses can benefit from new revenue streams and increased profitability. They can also contribute to the sustainable development of the communities in which they operate, while reducing their environmental impact.

Non-Governmental Organizations (NGOs) play a critical role in promoting the social and environmental sustainability of multi-use initiatives for offshore wind farms. They can act as advocates for local communities, ensuring that their interests are represented in decision-making processes. NGOs can also monitor the impact of multi-use initiatives on the environment and promote best practices for sustainable development.

Scientific institutes are essential for the development of new technologies and the generation of knowledge to inform the development of multi-use initiatives. They can conduct research on the potential impacts of different activities on the marine environment and develop new technologies to mitigate these impacts. They can also provide advice and support to businesses and governments on the technical aspects of multi-use initiatives.



To ensure good collaboration and coordination among relevant stakeholders, the incorporation of a 'Community of Practice' (CoP¹) way of working can be highly effective. A CoP is essentially a group of individuals who share a common interest, domain, or profession, and they come together voluntarily to share their knowledge, experiences, and best practices. CoPs are characterized by their focus on learning, knowledge-sharing, and peer-to-peer interactions. CoPs can take diverse forms, including online communities, professional networks, or in-person groups, and their level of formality can vary in terms of governance, leadership, and membership. The benefits of CoPs are extensive and encompass knowledge sharing, learning, networking, collaboration, and innovation.

Recommendation

Ensure cooperation and collaboration on an equal level between all relevant organizations and individuals to ensure can further enhance knowledge sharing, learning, networking, collaboration, and innovation within their communities, thus fostering a more robust multi-use environment. A Community of Practice way of working proved to be a very relevant and vibrant method to do so.

Multiple use

So far, multi-use has been discussed, usually referring to the co-use of space within wind farms. The recommendation is to set up entities for this purpose, called Mariparks, which will help realise multi-use by providing services and basic infrastructure. This already significantly reduces risks for co-use initiatives.

Reducing risk and sharing services and infrastructure significantly reduces the cost of doing business at sea. This also makes shared-use sectors more attractive for the financial sector to invest in. The key here too is economies of scale, the more users of the services and infrastructure, the cheaper it becomes. One more facet has not been highlighted in this regard, namely the current blue economy. Looking at the current blue sectors, the quick conclusion is that they often use the same services as emerging co-use initiatives, this is not just about wind farms, for example, but precisely also defence, coastguard, tourism, for example, or active fishing. Think of surveillance, (shipping) safety, monitoring, connectivity and so on. Another factor here is that the need for more focus on issues such as (shipping) safety, surveillance and monitoring of, for example, the state of our natural environment is increasingly higher on the agenda due to all kinds of development. The increasing use of our seas and oceans also requires a well-streamlined and coordinated approach.

We have already outlined how Maripark can provide a response to well-organized and coordinated multi-use within wind parks. At the same time, we see an increasing use at sea and emerging topics that deserve focused attention. Finally, we have also discussed how scaling up can lead to cost reduction. Therefore, we would like to make one final recommendation in line with the rest of this policy brief.

Recommendation

The increasing use of the sea also requires effective coordination at the operational level among various forms of usage. Sharing basic infrastructure in this context can lead to cost reduction for all parties involved. Therefore, we recommend that the scope of Maripark not only provides services for emerging multi-use initiatives but also for the existing blue economy.

¹ For more information on Communities of Practice, see Morf, A., Bly Joyce, K., Matthiesen, H., Elin Cedergren, E., Cuadrado, A., Andringa, J., Oelen, J.P., Gee, K., Varjopuro, R., Annica Brink, A., Matczak, M., Zaucha, J. (2023). **Policy Brief Communities of Practice in marine spatial planning across sea basins - making it work** (<https://www.emspproject.eu/results/>)



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Appendix I - EU Green Deal and the three transitions

Energy

- Climate Law: The EU legally binding target of achieving net-zero greenhouse gas emissions by 2050;
- Renewable Energy Directive: The EU target of achieving 32% of its energy from renewable sources by 2030. This will require a significant increase in the production and use of renewable energy;
- Energy Efficiency Directive: The EU target of improving energy efficiency by 32.5% by 2030.
- Carbon Border Adjustment Mechanism: The EU mechanism to ensure that imported goods are subject to the same carbon standards as those produced within the EU;
- Just Transition Fund: The EU is providing funding to support regions and sectors that are most affected by the transition to a low carbon economy;
- The Repowering Europe program: The program aims to contribute to the EU's renewable energy target of 32% by 2030 and support the transition to a sustainable and resilient energy system.

Nature

- Biodiversity Strategy for 2030: The EU strategy for biodiversity includes a range of targets and actions to protect and restore nature, including the protection of at least 30% of EU land and sea areas by 2030.
- Sustainable Finance Strategy: The EU is promoting the use of sustainable finance to support nature conservation and biodiversity protection, by encouraging investments in green and sustainable projects and penalizing environmentally harmful investments.
- Proposal for the Nature restoration law

Food

- Farm to Fork Strategy: This strategy aims to transform the EU's food systems to be more sustainable and promote biodiversity-friendly farming practices;
- Sustainable aquaculture: The EU is promoting the development of sustainable aquaculture practices, which can help to reduce the environmental impact of fish farming and support the growth of a sustainable seafood industry;
- Healthy oceans: The EU aims to protect and restore the health of its marine ecosystems, including through the promotion of sustainable fishing and aquaculture practices;
- Research and innovation: The EU is supporting research and innovation in the aquaculture sector, including the development of new technologies and practices that can improve the sustainability and efficiency of fish farming.



Appendix II - Five focus areas

Collaborative Governance

Overall, the development of multi-use initiatives will require a collaborative and interdisciplinary approach that engages stakeholders from different sectors and disciplines. By working together to address the technical, regulatory, and economic challenges involved, it may be possible to unlock the full potential of offshore wind farms and realize the benefits of multi-use initiatives.

In order to ensure good collaboration and coordination between relevant stakeholders a community of practice (CoP) way of working can be effective. A CoP is a group of individuals who share a common interest, domain, or profession and who come together to share their knowledge, experiences, and best practices. CoPs are characterized by their voluntary nature, their focus on learning and knowledge-sharing, and their emphasis on peer-to-peer interactions.

CoPs can take many different forms, such as online communities, professional networks, or in-person groups. CoPs can be structured or informal, and they can have different levels of formality in terms of governance, leadership, and membership. The benefits of CoPs include knowledge Sharing, learning, networking, collaboration and innovation.

Overall, CoPs can be a valuable tool for organizations and individuals who are looking to build knowledge, develop skills, and foster collaboration and innovation within their communities.

Regulatory Support

Regulatory support is important for the development of multi-use initiatives as it can provide clarity, guidance, and oversight for the multiple activities and stakeholders involved, and ensure that these initiatives are conducted in a safe and sustainable manner.

Multi use initiatives involve different activities and stakeholders, each with their own regulatory requirements. Clear and consistent regulatory frameworks can help to clarify the legal and regulatory requirements for each activity and ensure that all stakeholders understand their responsibilities.

Besides this multi-use initiatives have the potential to impact the environment and safety of those involved. Regulatory support can help to ensure that all activities are conducted in compliance with environmental and safety regulations and that risks are appropriately managed.

Providing guidance on liability issues is important in case of accidents or other incidents happen. Regulatory frameworks can provide guidance on how to manage and allocate liability among different parties involved.

Last but not least streamlining permitting processes through regulatory support can reduce the time and costs associated with obtaining permits and approvals, making multi-use initiatives more economically viable.

Technology development

Technology development will be critical in the success of multi-use initiatives as it can enable new activities and uses, improve safety and efficiency, support innovation and experimentation, and enhance data management and decision-making. Since multi use will develop under rough conditions at sea it is paramount it is supported by techniques and materials that can cope with these.

The same goes for technology development related to the use of remote sensing and monitoring technologies that can help to detect and mitigate potential risks and hazards, while automation and robotics can improve the efficiency and accuracy of tasks.

Innovative Business Models

Innovative viable business models are crucial for the success of multi-use initiatives as they can help to ensure that the economic, social, and environmental objectives of the initiative are integrated and balanced, risks are managed effectively, and the initiative is financially sustainable and replicable.



Multi use activities will have to balance social, economic, and environmental objectives to ensure their long-term sustainability. Innovative business models can help to ensure that these objectives are integrated into the design and operation of the initiative. Also, it is important for a business to be able to scale-up, to increase the potential for success. Related to this is risk management. Development of economic activities in new relatively unknown environments asks for uncertainty and risk management. Not only related to the conditions at sea, but also related to other users of the sea and economic challenges when developing new markets.

Funding and investments

Last but not least innovative business models should be able to attract investment and financing by demonstrating the economic viability and potential return on investment of the initiative. Multi-use initiatives will probably require significant upfront investment and financing.



Appendix III - Recommendations

- 1) We recommend focusing on broad integrated research on all quantified impacts of climate change on the Blue Economy as a whole. This includes existing blue economies, such as tourism, shipping and fisheries, and emerging economies such as offshore seaweed and shellfish farming and offshore renewable energy. Quantification of these impacts helps to then take mitigating measures on them in MSP.
- 2) We recommend identifying (cumulative) human pressure factors, like for example mentioned in the key messages from the 'QSR2023' and the 'State of the Baltic Sea 2023' report, and making spatial and policy choices based on these factors that will trigger a movement to achieve a sustainable blue economy.
- 3) Achieving a sustainable blue economy requires a delicate balance between all the different interests and needs of the various users of the sea. At the same time, the precautionary principle must be applied, to ensure the activities do not negatively impact each other and the environment. It is recommended to identify mitigating measures, for the benefit of nature or people, in advance. When setting up a mitigating package of measures, it is advisable to investigate synergy and economies of scale that may arise precisely as a result of increased activities at sea.
- 4) We recommend including and integrating multiple use in the design of new wind farms now. The preconditions needed to make multi-use a success can then also be included in the programme of requirements of new wind farms. In existing wind farms, we recommend that policy, laws and regulations provide clarity on multi-use of space and, here too, the preconditions to make multi-use possible.
- 5) It is clear that for multi-use to grow into a mature sector, it needs an overarching approach in which all stakeholders work intensively together from their own roles. Setting up a public-private partnership could help to reduce risks to an acceptable (entrepreneurial) level in a coherent and programmatic way ensuring the realisation of societal values.
- 6) We recommend the creation of an entity co-responsible for use of space at sea, the organisation and streamlining of such use and responsible for the realisation and maintenance of basic infrastructure for multi-use at sea.
- 7) It is paramount to develop schedule of requirements for each individual Maripark. Since each Maripark will provide services to different possible forms of usage. Food production requires a different infrastructure than for example renewable energy or maybe even nature development.
- 8) Provide a regulatory framework to make the realization of Mariparks possible. Ensure that a solid balance is established between the responsibilities between the government and the private sector, also on property or usage rights, to make sure Mariparks can be viable.
- 9) Ensure cooperation and collaboration on an equal level between all relevant organizations and individuals to ensure can further enhance knowledge sharing, learning, networking, collaboration, and innovation within their communities, thus fostering a more robust multi-use environment. A Community of Practice way of working proved to be a very relevant and vibrant method to do so.
- 10) The increasing use of the sea also requires effective coordination at the operational level among various forms of usage. Sharing basic infrastructure in this context can lead to cost reduction for all parties involved. Therefore, we recommend that the scope of Maripark not only provides services for emerging multi-use initiatives but also for the existing blue economy.



**eMSP
NBSR**

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The eMSP NBSR project, implemented from September 2021 to May 2024, provided a platform for marine spatial planners and other experts to collaboratively advance MSP practice. It addressed five urgent emerging MSP topics through a community of practice-based approach that enabled joint learning across professions and across the North Sea and Baltic Sea areas.

Project work took into account the European Green Deal, climate change and how climate-neutrality targets can be addressed in MSP.

The planners and experts were supported by a method mentoring team and a scientific advisory board.



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