

# Introductie

## Financieringsmogelijkheden

### Maripark-concept

Invest-NL heeft dit onderzoek ondersteund om mogelijke financieringsopties voor het Maripark te identificeren. Gedurende het project werd het Nationaal Groeifonds (NGF) als een alternatieve financieringsbron overwogen. Echter, in juli 2024 is het Nationaal Groeifonds beëindigd, waardoor er noodzaak is om nieuwe financieringsmogelijkheden te verkennen.

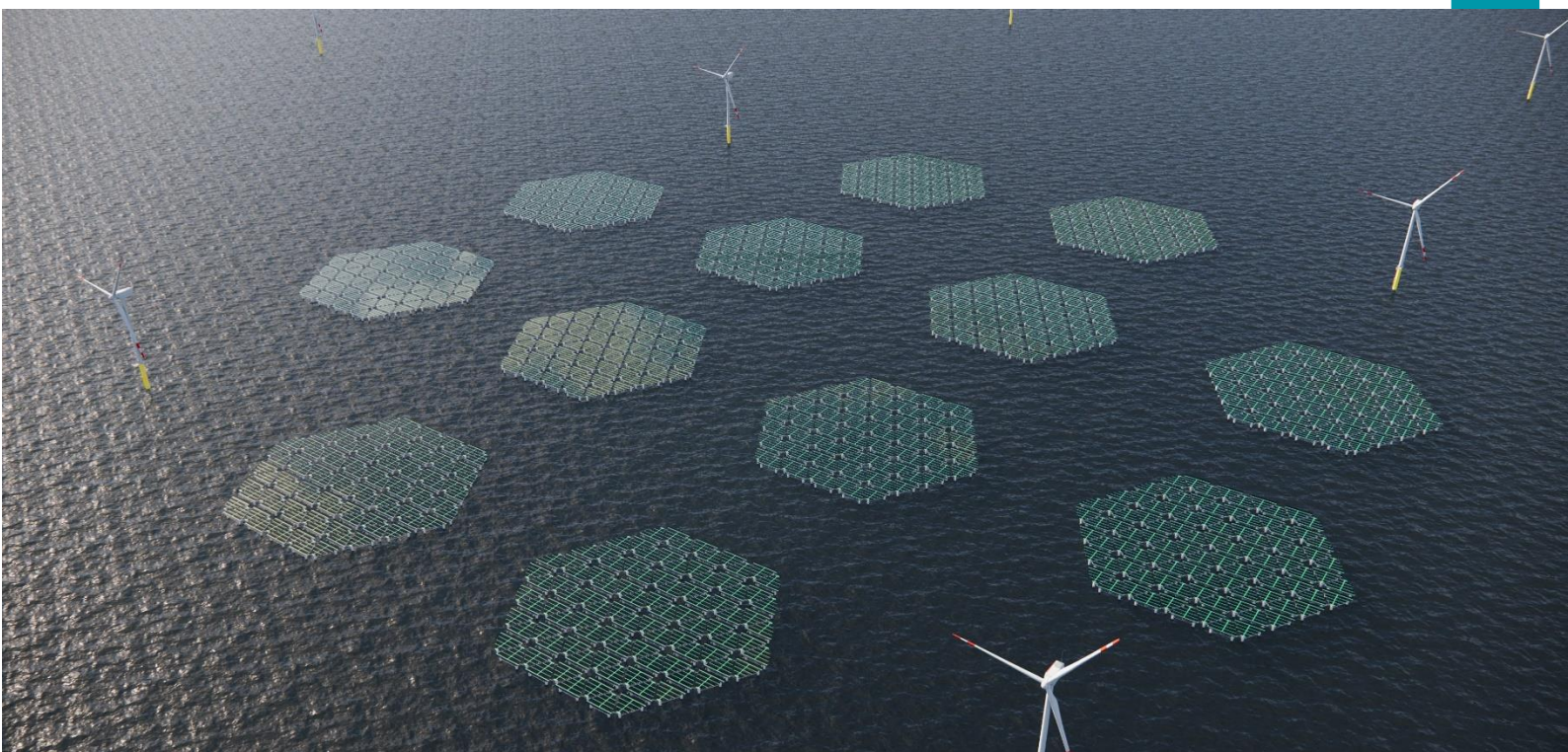
Hoewel de aanbevelingen in het onderzoek gericht waren op de voorbereiding van een NGF-aanvraag, blijven deze van grote waarde. Zo wordt de noodzaak voor het concept onderstreept en wordt er ook gekeken naar alternatieve vormen van financiering. Verdere betrokkenheid van stakeholders en een diepgaandere analyse van de economische impact zijn essentieel voor de doorontwikkeling van het Maripark-concept en het identificeren van nieuwe financieringsopties.

Invest-NL blijft deze ontwikkelingen ondersteunen en ziet volop kansen om het Maripark-concept in de toekomst te realiseren.



# Charting the Course for Growth: An Exploratory Analysis for a National Growth Fund Application for the Maripark concept

A Multi-use Offshore Wind Farm Initiative



*This report was commissioned and executed on behalf of Invest-NL Business Development B.V.*

*February 2024*



# Table of contents

- EXECUTIVE SUMMARY ..... 3**
- 1. INTRODUCTION ..... 5**
- 2. IMPACT ANALYSIS ..... 7**
- 3. ADDITIONALITY ..... 15**
- 4. LEVEL OF INNOVATION & BEST PRACTICES ..... 18**
- 5. NGF ROUTES..... 25**
- 6. NGF STORYLINE ..... 28**
- 7. ANNEXES ..... 33**

## EXECUTIVE SUMMARY

Dutch offshore innovation technology is a growing sector that lacks sufficient opportunities for demonstration and scale-up. Shared use, driven by space constraints and intense activities in the North Sea, is key for further exploration. The Maripark concept encourages shared use in North Sea wind farms and aims to integrate sea-based activities like food production, nature development and restoration, solar energy, and cloud technology. Invest-NL supports these activities with the condition that it does not cause harm to the natural environment and preferably strengthens it. Although the Maripark concept holds immense potential, it requires substantial investments with a high likelihood of unprofitable outcomes. The National Growth Fund (NGF), a vital facilitator of sustainable growth in the Netherlands, can support the Maripark concept. The NGF especially supports large-scale, complex, or high-risk projects that might not be feasible without it. This report undertakes an in-depth exploration of a potential NGF application for the Maripark concept on the following key elements: impact pathways and economic impact analysis, additionality, level of innovation and best practices, draft project outline and potential routes for application. This executive summary encapsulates the key findings, insights, conclusions and recommendations of this study.

**Impact:** The impact pathways analysis demonstrates that the Maripark concept may have multifaceted impacts economically, societally, and environmentally. It could support scaling of innovative technologies, fostering revenue generation through renewable energy, sector innovation, and food production integration within wind parks. This could enhance local infrastructure, job creation, and workforce development. The concept aligns with the Netherlands' climate goals, promoting nature resilience and biodiversity. The Maripark concept might also boost local revenue and encourage new markets and market opportunities, impacting the local innovation ecosystem. The exploratory economic impact analysis of the seaweed farming, mussel farming, and offshore solar sector reveals interesting potential, which could provide an important contribution to the GDP, but requires a more detailed economic impact analysis and further validation on key assumptions and other relevant sectors.

**Additionality:** The study emphasizes the National Groeifonds (NGF)'s crucial role in funding the Maripark concept. The analysis of national and European funding sources reveals limitations in fully financing Maripark concept due to their scope, size, and misalignment with the goals of the Maripark concept. These funds mainly support fundamental research, whereas the Maripark concept focuses more on experimental research and industrial development. Alternative financing scenarios involving multiple subsidies bring substantial risk, complexity, and potential delays. The NGF, with its size and scope, could fully support the Maripark concept, positioning it as a field leader. The engagement of private and public stakeholders and various ministries in the NGF will promote a collaborative approach to innovation.

**Level of Innovation & Best Practices:** The detailed analysis of 16 selected EU-funded projects, with a focus on innovative maritime-related initiatives on multi use, have demonstrated the unique and innovative approach of the Maripark concept. Furthermore, these projects have provided invaluable insights stakeholder management, collaboration, and utilization of digital infrastructure, which offer a practical roadmap for the design and implementation phase of the Maripark concept. This not only enhances its chances of success but also aligns it with European and global sustainability goals, making the Maripark concept a promising contender for support and funding.

**NGF application routes:** There are two main routes for the NGF application: the 'Subsidy Route' for independent projects by public and private parties, and the 'Departmental Route' for larger, programmatic proposals requiring ministry involvement, especially for projects with ecosystem-changing goals. The choice between routes depends on the project nature, ministry involvement level, project plan, and financing activities. Each route has unique opportunities and limitations requiring analysis to determine alignment with Maripark's objectives, improving chances of NGF funding. The decision also depends on the commitment, role, and contribution of involved stakeholders such as private parties and ministries, which requires further investigation.

**Project Outline:** Based on the NGF essentials (namely System Failure, Societal Issues, Market Failure, Economic Loss, and Problem Analysis), we provided a draft project outline for a Maripark NGF proposal.. Maripark aims to tackle critical North Sea issues like system and market failure, societal concerns, and economic loss due to existing governance structures' struggles and underutilization of North Sea potential. The proposal outlines a multi-use approach to diversify North Sea activities, which includes food production, nature development, solar energy, and cloud technology in addition to wind energy.



Through well-defined project flows and work packages, increased stakeholder collaboration, a unified vision, and innovative use cases, the project seeks to transform North Sea utilization. The draft project outline could be used to further engage stakeholder in the development of the Maripark concept for a potential NGF application.

**Conclusion:** The comprehensive examination of the impact pathways and economic impact, additionality, level of innovation and best practices for the Maripark concept, demonstrate the potential significant impact, high level of innovation and the crucial role of NGF funding for the Maripark concept. Furthermore, the best practices and the draft NGF project outline underscore its potential to address system and market failures while contributing positively to societal outcomes. The Maripark concept stands as a compelling proposal for NGF funding, with its potential to boost local revenue, foster new markets and (market) opportunities in different sectors (from energy and food production to nature restoration and development) and thus stimulate substantial economic and societal impact.

**Recommendations:** While the initial results of this study are encouraging, achieving a successful NGF proposal demands substantial stakeholder involvement and therefore a clear assessment of stakeholder perspectives, roles and contributions would be an essential next step, which will also support in the identification of the optimal route for a Maripark NGF application. Additionally, a more comprehensive economic impact analysis is necessary, including further validation of key assumptions regarding revenue-generating sectors and output per unit area, and the economic impact of other sectors such as passive fishing. Navigating the NGF application process can be challenging, but it is a necessary step towards realizing potential of the Maripark concept. Despite these hurdles, the Maripark concept stands as a beacon of innovative potential aligning with national and global sustainability goals, promising to reshape our approach to sustainable development in the North Sea.

## 1. INTRODUCTION

Dutch offshore innovation technologies represent an emerging sector. Previous research has shown that this sector has insufficient demonstration and scale-up opportunities. Due to lack of space and the large number of activities in the North Sea, shared use is an important factor for further exploration. One of the concepts to stimulate shared use in the North Sea is the Maripark concept which aims to stimulate multi-use in wind farms and seeks to establish connections across various sea-based activities such as food production, solar energy production and cloud technology. This Maripark concept, developed by the Netherlands Enterprise Agency (RVO) and Ministry of Agriculture, Nature and Food Quality, can be viewed as a nature-inclusive maritime business park (Figure 1). The focus is on stimulating a balance between economic growth and ecological sustainability, providing a framework that reduces risk and supports entrepreneurs in the maritime sector. However, in order to unlock the potential of offshore innovative technologies focused on the energy and protein transition in a marine park, significant investments are required with a large expected unprofitable top.

Here, the National Growth Fund (NGF) can contribute to the development and demonstration of a Maripark concept. The National Growth Fund is a significant catalyst for sustainable and structural economic growth, investing in projects alongside initiators and other investors. It has been initiated by the government which has dedicated EUR 20 billion to projects for the 2021-2025 period. The fund focuses on initiatives that propel key areas such as energy transition, digitalization of the economy, healthcare, education, and knowledge and innovation development. With a minimum grant amount of 30 million euros per proposal, it plays a pivotal role in fostering nationwide growth and development.

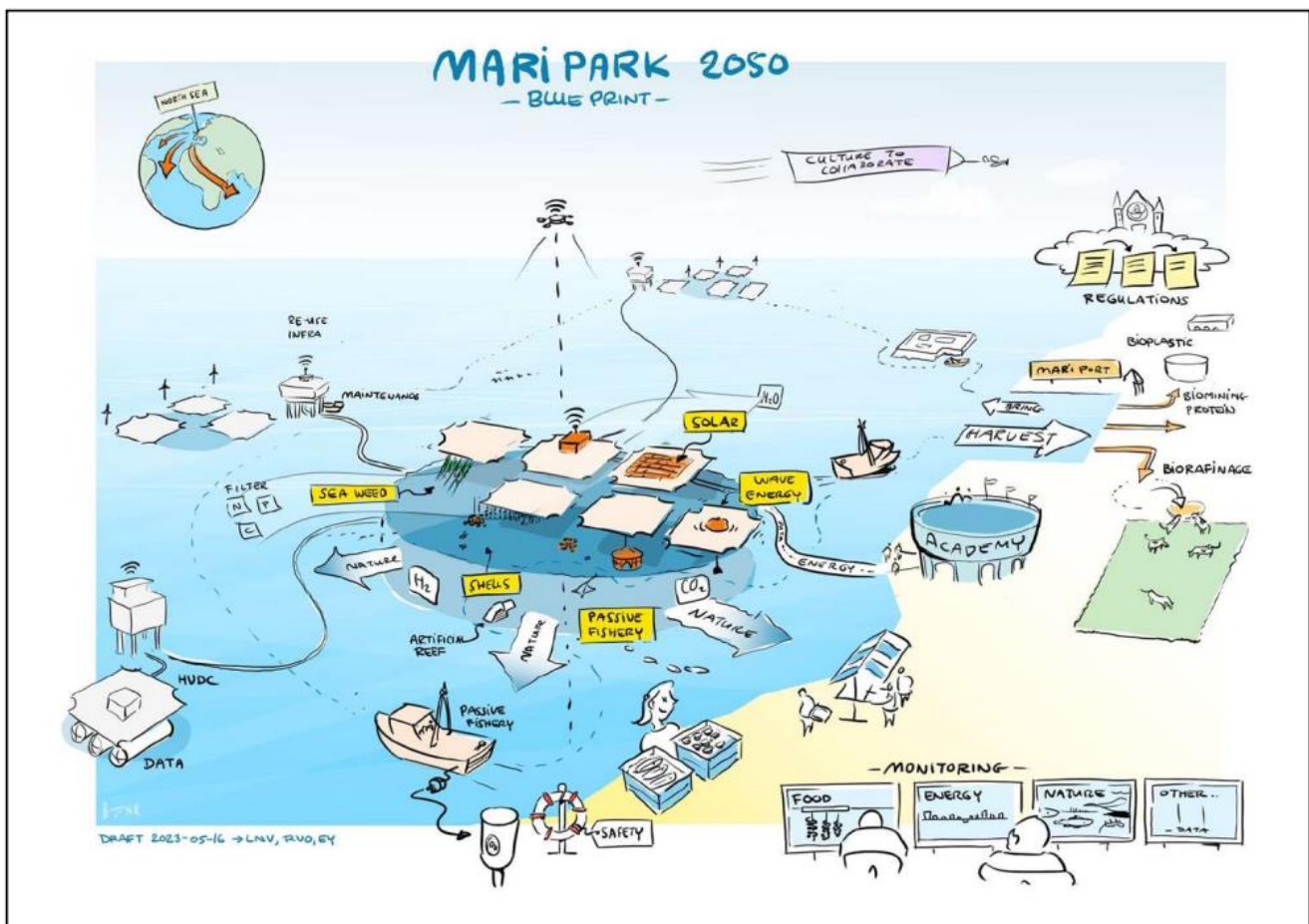


Figure 1. An artist impression of the Maripark concept.

Projects seeking financing from the NGF need to demonstrate a clear and substantiated perspective on how they will contribute to economic growth, productivity improvements, or societal returns in the Netherlands. The fund is particularly targeted towards projects that might not be realized without its support, due to their scale, complexity, or risk profile.

To assess the potential for a successful NGF application for the Maripark concept, the approach used in this study was centered around the following : an exploratory impact analysis (chapter 2), an additionality analysis to substantiate the need for NGF funding (chapter 3) , a review of EU funded projects that showcases the level of innovation of the Maripark concept and provide relevant best practices (chapter 4), an evaluation of the most suitable route for NGF application submission (chapter 5), and a deep-dive into the NGF essentials and a draft project outline, (Chapter 6). In conclusion, this study lays the groundwork for a strategic approach towards assessment of applying for NGF funding and provides valuable insights into the concept's potential impact and benefits of the Maripark concept.

## 2. IMPACT ANALYSIS

### 2.1 Introduction

A crucial element in this study towards a potential National Groeifonds application is conducting an impact analysis. This process is fundamental in ascertaining the comprehensive implications of the Maripark concept.

Integral to this is the deployment of the Theory of Change (ToC) to shape the framework of the impact analysis (depicted in Figure 2.). The ToC is developed in collaboration with the core team, serving as a vital component of any NGF proposal. It encapsulates two primary facets: the problem analysis and the impact pathway, thus establishing a solid foundation for the project and a compelling narrative of its intended transformative journey, strategies, and the change it aims to drive. Specifically, the impact pathway charts out the project's potential effects on different stakeholder groups, thereby guiding the identification of relevant stakeholders and the alignment of ensuing stakeholder engagement strategies. For the purpose of this stakeholder analysis, a collaborative discussion was organized focusing on the impact pathway component, resulting in the illustration of the Maripark ToC depicted in Figure 2.

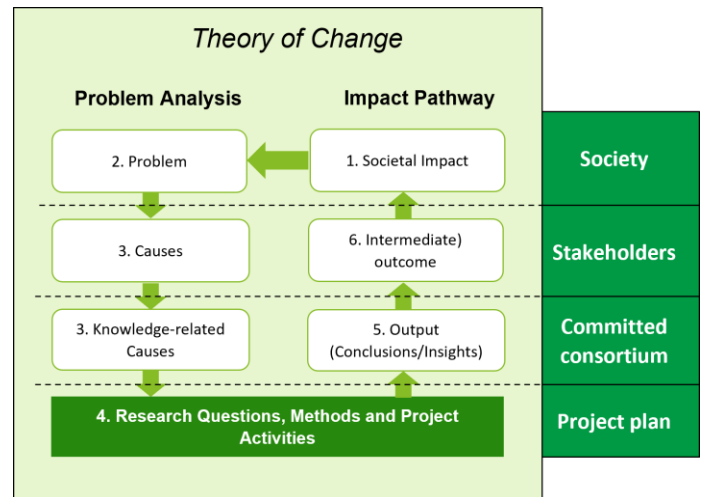


Figure 2. Theory of Change Framework

Hence, this forthcoming impact analysis, shaped by the ToC, is crafted to probe into the potential areas of influence that the Maripark concept may have. Divided into two levels, the impact analysis consists of an initial high-level exploration into potential impact areas providing a panoramic view of the possible consequences and ripple effects of the project (section 2.2 High level overview of potential impact areas). This is followed by a focused deep dive into certain aspects of these impact areas with quantifications carried out (on a limited scope, section 2.3 Exploratory Analysis and Quantifications of the economic impact of a Maripark). The former assessment supplements the ToC with insights derived from similar European projects, while the latter analysis is performed through desk research and modelling. Collectively, this analysis aims to illuminate the multifaceted implications of the Maripark concept, thereby equipping stakeholders with the requisite knowledge to navigate the path ahead strategically.

### 2.2 High level overview of potential impact areas

The impact of the Maripark concept is multifaceted, spanning economic, societal, and environmental domains. Its direct impact includes revenue generation through the production and sale of commodities such as renewable energy and seaweed, and by boosting know-how exports and international market share through sectoral innovation. This is paralleled by insights from previous European projects showcasing improved business innovation performance<sup>2</sup>. Additionally, the project also brings economic value through advancements in local infrastructure and innovative technology developments for the realization of the Maripark itself. Meanwhile, direct job creation across diverse sectors is another key impact, further amplified by workforce development through training initiatives and international talent attraction. This aspect of human capital enhancement is supported by evidence from past projects, highlighting the benefit to experts through training and cooperation<sup>1</sup>. From a societal and environmental perspective, Maripark contributes to meeting energy needs responsibly by offering channels to diversify renewable energy sources which in turn enables grid stabilization, supporting the Netherlands' climate goals and combatting climate change. Further, it bolsters nature resilience and biodiversity within the North Sea wind parks, whilst also contributing towards the protein transition. Reflective of the potential benefits seen in similar European projects, Maripark strives to harmonize



sustainable energy production, nature conservation, and food production, fostering a balanced ecosystem, enhanced biodiversity, and a more resilient Netherlands.<sup>1,2,3</sup>

Simultaneously, the Maripark concept also seeds an array of indirect impacts. For instance, the distribution of the direct impact leads to a ripple effect on the greater supply chain, including manufacturing, logistics, and so on. It will also create new market opportunities in sectors such as surveillance and security, particularly crucial for protecting critical infrastructure. Drawing from previous EU projects, advancements in maritime surveillance and crisis management, risk mapping, and intelligent vessel monitoring systems underscore the potential for significant maritime industry safeguarding<sup>1</sup>. The concept also adds economic value by boosting local revenue and positively influencing the local innovation ecosystem through collaborative R&D initiatives. On a societal level, the Maripark concept contributes to the realization of climate goals of other countries through export opportunities. It also sparks the development of specialized skills in the maritime and offshore industries, thereby promoting industry-specific human capital development, but also transitioning and retraining personnel from the offshore fossil sector. Apart from these, the Maripark concept is intended to protect and enhance the ecological ecosystem, ensuring that economic activities carried out within the park do not damage but rather strengthen the natural environment.

The aforementioned impacts of the Maripark concept further extends its benefits outwards. Employment-related impacts extend beyond job creation, influencing household spending and further stimulating the economy. Additionally, the concept is likely to promote community development, enhancing the quality of life for local residents and fostering a sense of shared purpose. Another significant induced impact is the spillover of knowledge and skills, particularly through collaborations with educational institutions. As seen in previous EU projects, innovative advancements contribute to local scientific research and prestige, creating opportunities for specialized skills development. Such initiatives promote the development of more sustainable energy production methods and encourage social inclusion, cooperative learning, and mutual knowledge-sharing, thereby impacting the broader workforce and community positively.

---

<sup>1</sup> Mistral & Interreg. (2023). Mistral Blue Growth Book. In <https://mistral.interreg-med.eu/>

<sup>2</sup> Blue Growth Farm. (2019). D4.3 – Environmental monitoring measures and data elaboration report. In <https://thebluegrowthfarm.eu/results-and-public-reports/>

<sup>3</sup> United. (2020). FRAMEWORK AND PRACTICAL GUIDELINE FOR STAKEHOLDER ENGAGEMENT in <https://www.h2020united.eu/publications.nl>

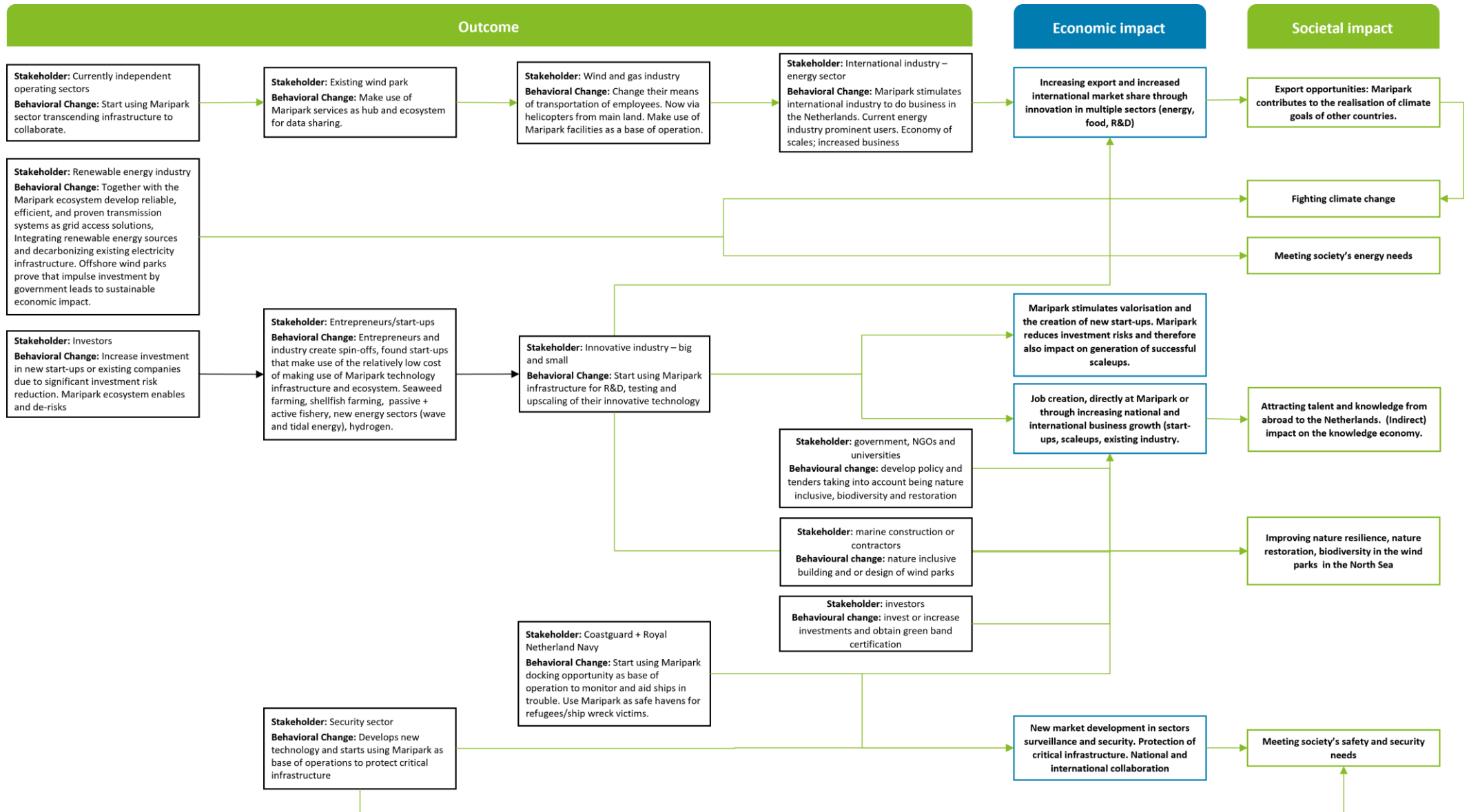
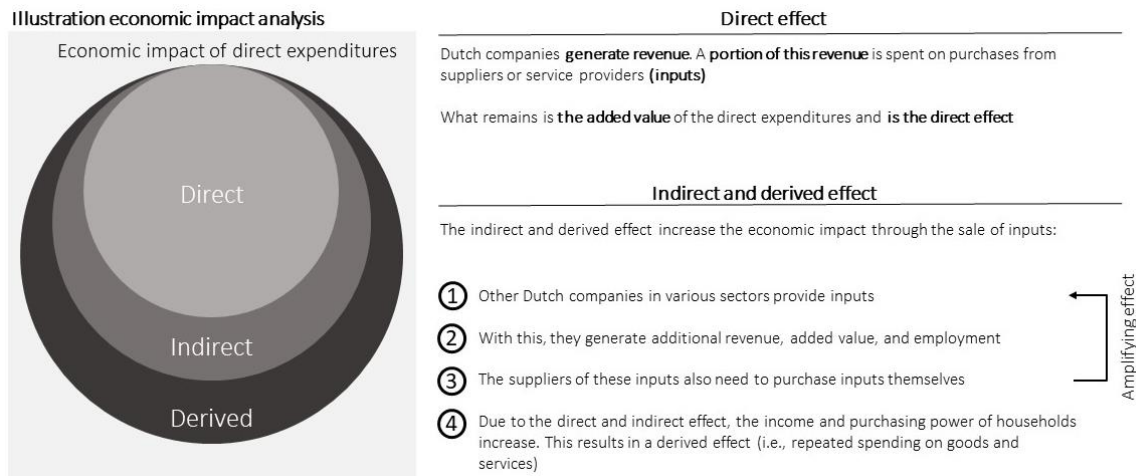


Figure 3: The collaboration between different stakeholders is needed to realize the economic and societal impacts of the Maripark concept, illustrated here in the Theory of Change framework.

## 2.3 Exploratory Analysis of Maripark Economic Impact

The GDP-effect of the Maripark is calculated based on an Input-Output model (IO-model)<sup>4</sup>. The logic behind this methodology is that an initiative creates economic impact through three effects. These effects are direct, indirect, and derived effects as shown in Figure 4.



**Figure 4: The total economic impact is determined based on the direct, indirect, and derived impact, whereby the indirect and derived impact are determined using multipliers based on CBS data.**

An example of an initiative concerns the purchase of a bulk of seaweed by a food process company from a seaweed farming company. Part of the turnover that the seaweed farming company realizes with this is profit, which is seen as the direct effect (the direct effect is therefore not equal to the turnover, but to the added value that the seaweed company delivers). Another part of the turnover is used for purchasing goods and services from suppliers from different sectors. These suppliers in turn generate profits and purchase goods and services. These activities are seen as the indirect effect. The seaweed farming company and suppliers allocate part of their turnover to employees' wages, which increases purchasing power. This increase in purchasing power is included in the derived effect. These effects are each quantified by multiplying the initial turnover of the purchase by a so-called multiplier. These multipliers are calculated based on the Input-Output tables of Central Bureau for Statistics Netherlands (CBS<sup>5</sup>), which show the supply-demand relationships between different sectors. For a thorough calculation of the GDP effect via the Input-Output model, it is important to avoid double counting. The rest of this section explains how double counting was prevented.

The GDP effect of the Maripark concept is estimated by first taking stock of potential sectors interested in participating in the Maripark concept, and that will also contribute significant additional revenue. Three sectors are selected for the GDP analysis: seaweed farming, mussel farming, and offshore floating solar (Table 1).

<sup>4</sup> <https://www.oecd.org/sti/ind/input-outputtables.htm>

<sup>5</sup> <https://www.cbs.nl/nl-nl/maatwerk/2020/29/aanbod-en-gebruiktabelen-en-input-outputtabellen>

**Table 1: Sectors included in analysis**

Sector	Rationale
Mussel farming	Requires surface area that can be realized in between wind turbines and is suitable to grow in the North Sea.
Seaweed farming	Requires surface area that can be realized in between wind turbines and is suitable to grow in the North Sea.
Floating solar	Requires surface area that can be realized in between wind turbines. Solar power generation is expected to complement wind power generation in terms of timing, therefore existing infrastructure to transport electricity to land expected to be able to be used to full potential. The capacity of the cables was not included in the analysis as a limiting factor.

Other sectors considered, but not included in this analysis are wave energy sector, hydrogen electrolysis, and potential export opportunities of the Maripark concept, among others (Table 2).

**Table 2: Sectors not included in analysis, potentially for future research**

Sector	Rationale
Passive fishing	Requires area that can be realized in between wind turbines and is suitable to grow in the North Sea <sup>6</sup> . Suitable for investigation in future work.
Wind energy	Already in wind parks, therefore not additional benefits to be realized.
Wave energy	Tidal power generation not expected to be economically feasible in the near-term as technology does not mature enough for scalable deployment. Potential to investigate in future work. <sup>7</sup>
Hydrogen production	Potential synergy with reuse of decommissioned gas pipelines; however, business case for offshore electrolysis dependent on subsidy <sup>8</sup> , therefore not expected to show substantial additional benefit above and beyond existing wind power generation. Potential to investigate in future work.
Storage (e.g., electricity, hydrogen, CCUS)	While hydrogen storage can relieve intermittency issues, hydrogen storage and CCS expected to be located in depleted oil fields or salt caverns <sup>9, 10</sup> and therefore do not necessarily overlap with existing wind parks and potential future Mariparks. Business case not expected to show substantial additional benefit above and beyond existing wind power generation. Potential to investigate in future work.
Supporting sectors (e.g., IT, security)	Innovation or export benefits are potential second order benefits. Business case for these benefits not expected to show substantial additional benefit above and beyond existing wind power generation. Potential to investigate in future work.

<sup>6</sup> <https://www.marin.nl/en/publications/passive-fishing-pilot-project-at-borssele-offshore-wind-farm>

<sup>7</sup> <https://www.nrel.gov/news/program/2022/future-of-wave-energy.html>

<sup>8</sup> Deloitte internal analyses

<sup>9</sup> Deloitte internal analyses (part of the Energie Infrastructuur Plan Noordzee, to be published Feb-Mar 2024)

<sup>10</sup> <https://www.rvo.nl/onderwerpen/windenergie-op-zee/plannen-windenergie-op-zee>

For the three selected sectors, an estimate of market size was made based on available statistics or publicly available reports. These market sizes were used to estimate an output per unit area (e.g., for seaweed farming, kg / m<sup>2</sup>) which are then calculated for the Dutch North Sea wind park surface areas (current and planned)<sup>11</sup> to arrive at an economic revenue for the three sectors across Dutch wind parks (Table 3). This economic revenue, per sector, is then used to calculate the direct, indirect, and derived economic impact of each of the three sectors selected. The result of this calculation is the un-capped GDP impact of the seaweed farming, mussel farming, and offshore solar sectors on the Dutch economy.

**Table 3: Overview current and planned wind parks**

Park	Area	Turbines (#)	Capacity (MW)	Source
Offshore Windpark Egmond aan Zee (OWEZ)	27 km <sup>2</sup>	36	108	<a href="#">Offshore Windpark Egmond aan Zee (OWEZ) - Noordzeeloket</a>
Windenergiegebied Borssele	344 km <sup>2</sup>	173	1502	<a href="#">Windenergiegebied Borssele - Noordzeeloket</a>
Windenergiegebied Hollandse Kust (zuid) inclusief windpark Luchterduinen (LUD)	214 km <sup>2</sup> (HKZ 1-4) + 16 km <sup>2</sup> Luchterduinen	182	1658	<a href="#">Windenergiegebied Hollandse Kust (zuid) inclusief windpark Luchterduinen (LUD) - Noordzeeloket</a>
Windenergiegebied Hollandse Kust (noord) inclusief Prinses Amalia Windpark (PAWP)	92 km <sup>2</sup> (Kavel 5 HK) + 14 km <sup>2</sup> PA	129	879	<a href="#">Windenergiegebied Hollandse Kust (noord) inclusief Prinses Amalia Windpark (PAWP) - Noordzeeloket</a>
Windenergiegebied Hollandse Kust (west)	176 km <sup>2</sup>	60	1400	<a href="#">Windenergiegebied Hollandse Kust (west) - Noordzeeloket</a>
Windenergiegebied IJmuiden Ver	400 km <sup>2</sup>	-	4000	<a href="#">Windenergiegebied IJmuiden Ver - Noordzeeloket</a>
Windenergiegebied Nederwiek	600 km <sup>2</sup>	-	6000	<a href="#">Windenergiegebied Nederwiek - Noordzeeloket</a>
Windenergiegebied Ten noorden van de Waddeneilanden inclusief Gemini-windparken Buitengaats en ZeeEnergie	120km <sup>2</sup> (wadden) + 70 (gemi)	-	1300	<a href="#">Windenergiegebied Ten noorden van de Waddeneilanden inclusief Gemini-windparken Buitengaats en ZeeEnergie - Noordzeeloket</a>

In addition to this un-capped impact, a market-capped impact was estimated. Whereas in the un-capped estimation, no assumptions were made about a given sector's ability to penetrate a market (e.g., does seaweed produced result in sales on the demand-side?), in the market-capped estimation, the economic revenue for the three sectors is capped at an assumed market share.

<sup>11</sup> <https://www.noordzeeloket.nl/functies-gebruik/windenergie/>



For mussels<sup>12</sup> and seaweed<sup>13</sup>, this assumed cap is 10% of European output volume; for floating solar<sup>14</sup> the assumed cap is 100% given Dutch national ambition to promote offshore solar capacity is greater than capacity calculated to be possible across all current and planned wind parks. Without market-capping, in theory, large portions of surface area of the North Sea could be used for seaweed farming, but without sufficient infrastructure and customer demand for the product, no real revenue will be realized. This is also true for mussels and solar electricity. Therefore the market-capped GDP impact is also calculated, in order to account for sector-specific demand.

Table 4 provides a preliminary estimate of the Economic Impact of a Maripark in the North Sea. Datapoints and impact for three sectors (mussel farming, seaweed farming, offshore floating solar) are described. This exploratory economic impact analysis of the seaweed farming, mussel farming, and offshore solar sector reveals interesting potential, which could provide an important contribution to the GDP, but requires a more detailed economic impact analysis and further validation on key assumptions and other relevant sectors. The validation of the key assumptions will include:

- Validation of revenue-generating sectors, the likelihood that these sectors will be interested in making use of a Maripark and to what extent they will utilize the available area (e.g., what is the depth requirement for seaweed farming, and how does it compare to Dutch wind park depths and how much of available area is the seaweed sector interested in).
- Validation of the output per unit area, tailored specifically to the Dutch North Sea and current best practices, as well as infrastructure requirements and limitations (e.g., what is the maximum power expected to be produced by solar panels at sea, can the current transmission lines transport this power).
- Validation of the market-capping exercise, tailored to Dutch and export growth potential for each selected sector (e.g., is the assumed market penetration for seaweed reasonable, or do we expect the Dutch seaweed market to capture more or less of the domestic and export seaweed exports?

---

<sup>12</sup> <https://www.fao.org/3/cc0461en/cc0461en.pdf>

<sup>13</sup> <https://www.fao.org/3/cc0461en/cc0461en.pdf>

<sup>14</sup> Deloitte internal analyses (part of the Energie Infrastructuur Plan Noordzee, to be published Feb-Mar 2024)

**Table 4: Summary of the preliminary estimate of Maripark economic impact \***

	Summary for total of all Dutch wind parks existing and announced, equal to eight 'average sized' wind parks (~260 km <sup>2</sup> and 116 turbines with total 2106 MW capacity each)		Summary for single 'average sized' wind park (~260 km <sup>2</sup> and 116 turbines with total 2106 MW capacity)	
	Input	Output	Output	Summary per km <sup>2</sup> Output
Capped = potential capped at estimated market share	<b>Direct expenditures (sector revenue) (EURm p.a.)</b>	<b>Sector economic impact (EURm p.a.)</b>	<b>Sector economic impact (EURm p.a.)</b>	<b>Sector economic impact (EURm p.a.)</b>
<b>Mussel sector</b>	EUR 125.26	EUR 176.43	EUR 22.05	EUR 1.70
<b>Seaweed sector</b>	EUR 153.86	EUR 216.71	EUR 27.09	EUR 2.09
<b>Floating solar sector</b>	EUR 490.05	EUR 647.86	EUR 80.98	EUR 6.25
<b>Grand total</b>	<b>EUR 643,91</b>	<b>EUR 864.57</b>	<b>EUR 108.07</b>	<b>EUR 8.34</b>
Uncapped = full potential	<b>Direct expenditures (sector revenue) (EURm p.a.)</b>	<b>Sector economic impact (EURm p.a.)</b>	<b>Sector economic impact (EURm p.a.)</b>	<b>Sector economic impact (EURm p.a.)</b>
<b>Mussel sector</b>	EUR 487.95	EUR 687.28	EUR 85.91	EUR 6.63
<b>Seaweed sector</b>	EUR 1.072.03	EUR 1,509.95	EUR 188.74	EUR 14.57
<b>Floating solar sector</b>	EUR 2.044.25	EUR 2,702.56	EUR 337.82	EUR 26.07
<b>Grand total</b>	<b>EUR 3,116.27</b>	<b>EUR 4,212.52</b>	<b>EUR 526.56</b>	<b>EUR 40.64</b>

\*NB The exploratory economic impact analysis of the seaweed farming, mussel farming, and offshore solar sector reveals interesting potential, which could provide an important contribution to the GDP, but requires a more detailed economic impact analysis and further validation on key assumptions and other relevant sectors.

## 3. ADDITIONALITY

### 3.1 Introduction

In the context of funding and investment, “additionality” is a critical criterion used to assess the value and impact of a specific funding source. It aims to demonstrate that the funding source, such as a grant or subsidy, enables the project to achieve results that would otherwise have been unattainable or significantly more difficult to achieve. The concept of “additionality” states that the funding results in a net positive impact, over and above what would have happened in the absence of the funding. In the following sections, we explore the additionality analysis of the Maripark NGF proposal in more detail, examining the impacts and benefits of this funding source.

### 3.2 Additionality analysis of Maripark NGF proposal

To substantiate the additionality of the Maripark NGF (‘National Groeifonds’) initiative, an overview of other national and European funding sources for public-private partnerships was explored and analyzed (Table 5 and 6, more information on these opportunities can be found in Annex 1 and 2). Project applying for NGF funding must meet a minimum funding request of EUR 30 million. It is estimated that the Maripark concept will need an investment in the range of EUR 50-100 million. This estimation of the required investment is based on consultation with subject expert matters and with relevant stakeholders (amongst others TU Delft, Vattenfall, Van Oord and IRO). From this analysis it can be concluded that the funding opportunities, other than the NGF, are insufficient to finance the entire Maripark concept, due to the scope and budget of these opportunities.

On a national/regional level, a total amount of EUR 52.4 million could be raised for different activities of the project (Table 5). Most of these funds finance various phases but mainly focus on fundamental research, while the Maripark concept is more oriented towards experimental research and industrial development. The structural design of these funding opportunities does not align well with the aim of the project to drive forward innovation through application-based research.

Secondly, these funding schemes often offer limited to no financial support for private parties. This poses a challenge, as private parties are expected to be involved in a great extent in the Maripark concept, which could be negatively affected by this funding limitation. It restricts the project’s ability to fully maximize the potential of partnering with private entities, which could potentially result in more resources, collaborating networks, and expertise. Therefore, this limitation could hinder the progress and success of the Maripark concept.

At the European level, approximately a maximum of EUR 25 million could be raised for projects, covering fundamental and experimental development to industrial research (Table 6). Financing for private entities is more substantial at the European level, both in terms of size and subsidy percentage. Although the focus of these funding opportunities is primarily European, this leads to two major limitations for the Netherlands: 1) only a minimal portion of this funding reaches the country, and 2) the impact at the national level is limited. Thus, the broader European concentration of these funds affects their reach and effectiveness in the Netherlands.

Both national/regional and European funding opportunities finance projects of limited size and scope, allowing only fragmented initiatives to be funded in the Netherlands. Moreover, significant investments are required to the risk the phase from development to application and implementation. Private entities play a crucial role as they can bring ground-breaking innovations to the market. However, for most private entities, making large investments in this sector alone is still too risky. Public funding opportunities analyzed in this report can bridge this gap but are limited in size and possibilities.

Specifically for the Maripark concept, its innovative and offshore nature requires substantial initial investment that surpasses the size and capacity of current public funding opportunities. The existing funds may not align with the scale and scope of the Maripark concept due to its unique characteristics and the considerable financial commitment it necessitates.

In conclusion, NGF is complementary to existing public funding opportunities due to the size and scope and is necessary to achieve the impact and objectives of the Maripark concept.

### 3.3 Addressing the challenges and risks for alternative financing scenarios for the Maripark concept

In a hypothetical scenario where the Maripark concept applies for the NGF, but the proposal is not approved, an alternative financing plan would need to be implemented. This alternative plan would involve applying for different subsidies and funding sources. However, this approach increases the inherent risks.

The increased risk in this scenario arises from several key factors. Firstly, no single subsidy or funding source is substantial enough to finance the entire Maripark concept. As a result, the project team must apply to various funding schemes to secure financing for different subsets of activities within the project. This requirement to secure funding from multiple sources adds a layer of complexity and uncertainty to the financing process.

Secondly, the approval of funding is not guaranteed across all subsets of activities. There is a high likelihood that while one subset of activities may receive funding, others may not. This discrepancy could disrupt the continuity of the project and hinder its overall progress and success.

Thirdly, another factor complicating this approach is the varying deadlines and calls, associated with different subsidies. Aligning the project timelines with these various deadlines can be a challenging task, adding more uncertainty and complexity to the project management process. This fragmented approach to funding could lead to delays and inefficiencies in the execution of the project.

Overall, while the alternative financing plan involving multiple subsidies is possible, it introduces a significant amount of risk and uncertainty. These factors, ranging from the need to secure multiple funding sources, the potential for partial funding, and the challenges of juggling various deadlines and (funding) stakeholders, can pose considerable obstacles to the successful implementation of the Maripark concept. Thus, securing funding from NGF remains the most favorable and streamlined option for ensuring the success of the project and continuity.

**Table 5: Overview of funding sources (regional, national)**

Name funding source	Phase	Subsidy contribution per project	% Financing per private party
<b>Regional &amp; National</b>			
CET Partnership Joint Call 2023	Fundamental/ industrial/ experimental research development (all TRL's)	Max EUR 650,000	None
Knowledge and Innovation Agreement (KIC) Long-term programs - Strategy-driven consortia with impact	Fundamental research	Max EUR 25 million	No funding, but co-financing required of at least 30% by private parties
Knowledge and Innovation Agreement - Partnerships	Fundamental research/Industrial research	Max EUR 5 million	No funding, but co-financing required of at least 30% from a private party
National Science Agenda (NWA) - Research on routes by consortia	Fundamental research/Industrial research	Max EUR 6.75 million	No funding, no co-financing required
The Top Sectors Subsidy for the Knowledge and Innovation Agenda, Agriculture, Water and Food - PPP projects	Industrial research/experimental development	Max EUR 14 million (per programme)	No funding, but co-financing required of at least 50% (30% in special cases)
European Regional Developments Fund (Dutch: EFRO)	Industrial/experimental research	Max EUR 1 million per region, max EUR 4 million for all regions	The subsidy to be requested varies by region, project type, and program, ranging from 50% to 85%
<b>Total funding to be raised</b>		<b>EUR 52.4 million</b>	

**Table 6. Overview of funding sources (European)**

Name funding source	Phase	Subsidy contribution per project	% Financing per private party
European			
European Maritime, Fisheries and Aquaculture Fund (EMFAF)	Industrial research/experimental development	Dependent on specific call, Max EUR 500,000	No information found
European Maritime and Fisheries Fund (EMFF)	Industrial research/experimental development	Max EUR 2.5 million	No information found
Horizon Europe - Pillar 2 different clusters	Industrial research/experimental development	Average of EUR 3 million	70%
LIFE Programme - standard action programs	Industrial research/Experimental development	Max EUR 13 million	Max 60%
Interreg North Sea Programme 2021-2027	Industrial research/experimental development (TRL 5 and above)	Max EUR 6 million	60%
<b>Total funding to be raised</b>		<b>EUR 25 million</b>	

### 3.4 Conclusion

In conclusion, the analysis clearly demonstrates the critical role the National Groeifonds (NGF) plays in the successful implementation and realization of the Maripark concept. The size, scope, and nature of the project necessitate a substantial level of investment that surpasses the capabilities of existing public funding opportunities. Alternative financing scenarios, though possible, introduce a considerable level of risk, complexity, and uncertainty. Therefore, the NGF not only complements existing public funding sources but is a crucial component in achieving the impact and objectives of the Maripark concept. By facilitating a more substantial, streamlined, and secure funding source, the NGF helps to ensure the project's success and continuity, ultimately contributing to sustained innovation and development within the sector.



## 4. LEVEL OF INNOVATION & BEST PRACTICES

### 4.1 Introduction

To develop a successful NGF proposal, it is crucial to have a clear understanding of the level of innovation of the project and how it builds further upon previous projects and or relates to existing initiatives on a national and European level. In this chapter, we explored how the Maripark concept relates to other EU funded projects (previous and existing) and how it could build further upon the knowledge and networks created by these projects. In subchapter 4.2, we expand on the core of this analysis and assess the level of innovation of the Maripark concept compared to a selected number of EU funded projects. Subchapter 4.3 describes the best practices of selected projects on amongst others stakeholder engagement, spatial planning, and digital infrastructure. This analysis will provide a better understanding of the innovation landscape and pave the way for a more informed and robust Maripark NGF proposal.

### 4.2 Level of innovation of the Maripark concept

In the efforts of developing a Maripark in the Netherlands, valuable insights and inspiration can be drawn from 16 EU-funded projects that fit or come close to the Maripark concept. These projects were selected from Cordis<sup>15</sup>, a comprehensive database of European-funded initiatives, based on their similarity to the Maripark concept (multi use in sea). Due to scoping of the assignment, we limited our selection to projects implemented between 2018 and 2023. It is important to note that while this selection accurately reflects the landscape of such projects, it does not encompass the full breadth of existing projects. An overview of the selected projects, their location and the leading country has been illustrated in Figure 5. Table 7 provides a detailed overview of each project, including the name/acronym, European funding instrument, grant agreement ID, coordinating country, EU funding amount, current status, and project phase/type. For more detail, Annex 3 provides an in-depth examination of each project, including descriptions and the participants involved.

These projects have been successful in exploring and promoting sustainable practices, cooperation, and innovation of multi-use in sea (Table 7). Yet, while each project provides valuable learnings, our analysis (Table 7 and Annex 3) demonstrate that none of them encompasses the comprehensive, multi-dimensional approach of the Maripark concept (i.e. multi use and in a demonstration phase).

---

<sup>15</sup> [https://commission.europa.eu/index\\_en](https://commission.europa.eu/index_en)

This unique aspect brings an unprecedented level of innovation to the table. However, drawing from this knowledge and real-world experiences conducted in multiple leading countries such as the Netherlands, Italy, Belgium, Spain, Turkey, Greece, Romania, Denmark, Germany, and Norway (Figure 5), these can make a significant contribution to the design phase of the Maripark concept and enhance its chances of success. More detailed descriptions of the projects can be found in Annex 3.



**Figure 5. The locations of European funded projects that fit or come close to the Maripark concept . The six green highlighted projects will be further elaborated in the text below.**

### **4.3 Insights from EU funded projects for the development of the Maripark concept**

In the following section, we will highlight eight different projects, providing clear examples on how to identify and use the lessons learned from these varied EU-funded initiatives. The projects have been selected to represent a diverse range of elements, each of which holds potential to be mirrored or adapted within the Maripark concept and are important to consider in the development of a NGF proposal. The different elements emphasize innovation in integration, promotion of stakeholder collaboration, exploration of multifunctionality in ocean spaces, providing insight into governance and policy formulation, establishing robust research infrastructure, and leveraging ocean data for informed decision-making. The synthesis of this expertise and focus on diverse but interconnected aspects not only strengthens the foundation of the proposed Maripark concept, but also promotes a more comprehensive and holistic approach to its development and sustainability on a longer term. By integrating these elements, we ensure that every facet of the Maripark concept is based on proven success factors, allowing for a more resilient structure and harmonious blending of different activities.

## 4.3.1 Stakeholder engagement & governance

**MISTRAL:** MISTRAL is another project which was led by Italy from 2018 to May 2022 (Figure 4, Table 7). MISTRAL emphasizes the importance of collaboration and knowledge-sharing in the "blue growth" sector. This project aimed to enhance innovation within the 'Blue growth' sector in the Mediterranean region by promoting collaborations and knowledge sharing. MISTRAL brought together various stakeholders to facilitate sustainable innovation (Annex 1). The Maripark concept can adopt a similar approach, fostering cooperation between various stakeholders, government bodies, research organizations, and local industries to promote sustainable innovation.



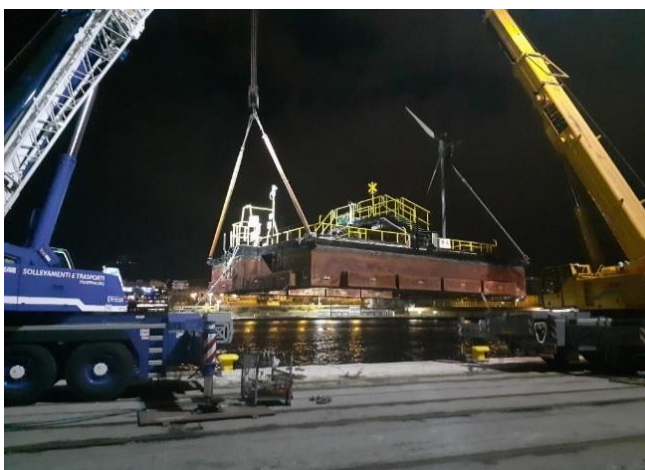
**COASTAL:** The COASTAL project was led by Belgium from 2018 to October 2022 (Figure 4, Table 7). The COASTAL project sought to provide solutions and policy recommendations to support rural and coastal areas' economic development while ensuring environmental preservation. COASTAL focused on analyzing the economic, social, and environmental dynamics of these regions and engaging local communities and stakeholders to develop practical solutions (Annex 1). The Maripark NGF proposal could adapt COASTAL's community-driven approach by prioritizing engaging various stakeholders. This involvement ensures the integration of diverse interests in decision-making processes, which will foster a sense of ownership and commitment in the development of the Maripark.



**Figure 6. UNITED explores the idea of multi-use ocean spaces.**

## 4.3.2 Spatial planning and Human Capital

**UNITED:** The UNITED project is led by the Netherlands and started in 2020 with an expected end date of December 2023 (Figure 5, Table 7). The UNITED project explores the idea of multi-use ocean spaces (Figure 6). The project tested the concept of multi-use ocean spaces, considering technology, regulations, finances, societal acceptance, and environmental impacts. UNITED explored the potential for shared ocean spaces to benefit the environment and multiple industries by enhancing cooperation and understanding (Annex 1). These insights can contribute to the spatial planning of the Maripark concept to accommodate multiple activities, such as aquaculture, energy production, and recreational areas, ensuring efficient use of the maritime space.



**Figure 7. An innovative offshore multipurpose platform prototype of the Blue Growth Farm project, deployed in Reggio Calabria, Italy.**

**Blue Growth Farm:** The Blue Growth Farm project exemplifies the concept of integrated multi-use platforms (Annex 1). From 2018 to 2022, Italy took the lead in driving this project to completion (Figure 5, Table 7).



The aim of the project was to develop an innovative offshore multipurpose platform. It integrated aquaculture systems for high-quality fish production, commercial 10 MV wind turbine, and wave energy converters, all within a central protected pool (Figure 7). The Blue Growth Farm demonstrated the potential for efficient multi-use offshore platforms to promote sustainable aquaculture and renewable energy generation.

The Blue Growth Farm could serve as a reference point in the design and planning of the Maripark concept, as it presents an example of effective integration of specific activities such as aquaculture, renewable energy generation (including wind and wave energy).

**Norsaic:** Norsaic is a project led by Germany which started in 2023 with an end date in 2026 (Figure 5, Table 7). The NORSIAIC project, which focuses on enhancing maritime spatial planning in the North Sea, provides valuable insights into effective governance strategies and cooperation among multiple stakeholders (Annex 1). In the Maripark NGF proposal, NORSIAIC's outcomes could inform the development of a comprehensive spatial plan for the multi-use maritime park. This includes understanding how different activities can coexist sustainably, managing interactions between various uses (such as aquaculture, renewable energy, tourism), and establishing a framework for collaborative governance involving authorities, researchers, and maritime stakeholders.

**MarENet:** The MarENet is a project led by Spain which started in 2019 and ended in October 2021 (Figure 5, Table 7). MarENet's emphasis on job training aligns with the park's potential as a hub for maritime-related employment. MarENet sought to connect job training with the needs of the Blue Economy, particularly in the Atlantic region. It focused on developing digital tools for job demand tracking, training catalogs, and e-learning platforms to bridge the gap between job training and employment in the maritime sector (Annex 3). Leveraging MarENet's training models and tools can establish educational programs within the Maripark concept. These programs cater to skill development, ensuring a qualified workforce aligned with diverse industries within the Maripark.



### 4.3.3 Digital infrastructure

The following two projects are involved in the development of digital research environments for marine and freshwater scientists.

**AquaINFRA**, led by Denmark, started in 2023 and is ongoing until 2026 (Figure 5, Table 7). It is aimed to create a digital research environment for marine and freshwater scientists, facilitating data sharing and collaboration. It is focused on developing a research infrastructure based on the European Open Science Cloud to support scientists in their efforts to restore aquatic ecosystems (Annex 1).



**Blue-Cloud 2026** is a project led by Italy which also started 2023 with an end date in 2026 (Figure 5, Table 7). The project is aimed to develop an advanced research infrastructure for oceans, seas, and coastal regions. The project seeks to make marine data more accessible and usable for a wide range of users, contributing to environmental and economic goals (Annex 1).



Drawing insights from AquaInfra and Blue-cloud 2026, the Maripark concept can adopt similar digital infrastructure for data sharing and research within our maritime park, supporting scientists, businesses, and stakeholders in their efforts to maintain a healthy marine ecosystem.

### 4.4 Conclusion

The analysis of the 16 selected EU-funded projects has demonstrated the diverse and innovative approaches undertaken in these initiatives. The Maripark concept is found to be unique in its multi-dimensional approach, with no other project encompassing its comprehensive nature, substantiating that the Maripark concept is beyond state of the art. This innovative approach enhances the credibility of a potential proposal and increases its chances of receiving support and funding.

A key aspect derived from the analysis of these projects is the recognition of the critical role of stakeholder identification in the success of a project. The projects provide valuable insights into the types of stakeholders - from government bodies and research organizations to local industries and communities - that can significantly contribute to the project's objectives. This aids in the identification of relevant national and international stakeholders who could potentially be involved in the Maripark consortium, thereby ensuring sufficient commitment from relevant stakeholders.

Furthermore, the selected projects also demonstrate effective collaboration practices, particularly in cross-country and multidisciplinary settings. Projects like MISTRAL, NORSAIC, MarENet, and Aqualnra exemplify successful collaboration strategies, from governance and policy formulation to skill development and digital infrastructure development. These collaborative practices, can be employed within the Maripark concept to foster cooperation, share knowledge, and promote a unified approach towards achieving project goals.

Overall, these EU-funded maritime projects, coupled with the unparalleled innovation presented by the Maripark concept, provides a wealth of knowledge, best practices, and models for success in developing a Maripark that is innovative, sustainable, and aligned with European and global priorities.



**Table 7. General information on EU-funded maritime projects.**

Name/Acronym	Instrument	Grant agreement ID	Coordinating Country	Amount of EU funding	Status of the project	Project phase and/or type
<b>Project start in 2018</b>						
The blue Growth Farm	Horizon 2020	774426	Italy	EUR 7,602,873.00	<b>CLOSED PROJECT</b> End date 31 March 2022	Demonstration
MISTRAL	2014 - 2020 INTERREG VB Mediterranean		Italy	EUR 3,611,454.50	<b>CLOSED PROJECT</b> End date 31 May 2022	Design & Development, driver of innovation by offering services to other industry group/businesses
COASTAL	Horizon 2020	773782	Belgium	EUR 4,999,943.75	<b>CLOSED PROJECT</b> End date 31 Oct 2022	Technology development phase; Policy making, Integrated rural-coastal development and research)
<b>Project start in 2019</b>						
Blue Cloud	Horizon 2020	862409	Italy	EUR 5,999,520.50	<b>CLOSED PROJECT</b> End date 31 March 2023	Implementation phase: Development of pilot platform
MarENET	European Maritime and Fisheries Fund	863595	Spain	EUR 694,338.00	<b>CLOSED PROJECT</b> End date 31 Oct 2021	Implementation phase; Creation of a network of training center and industries to improve job training
Black Sea CONNECT	Horizon 2020	860055	Turkiye	EUR 1,997,062.50	<b>CLOSED PROJECT</b> End date 30 June 2023	Concept phase: sustainable black sea regional development
<b>Project start in 2020</b>						
UNITED	Horizon 2020	862915	Netherlands	EUR 9,822,668.50	ONGOING End date: 31 Dec 2023	Pilot sites demonstrations
MUSICA	Horizon 2020	862252	Greece	EUR 8,999,705.00	ONGOING End date 30 Sep 2025	MUSICA will advance the existing FP7 funded MUP concept developed by the University of the Aegean (UoAeg) and EcoWindWater (EWW), currently at TRL5, to TRL7

Name/Acronym	Instrument	Grant agreement ID	Coordinating Country	Amount of EU funding	Status of the project	Project phase and/or type
<b>Project start in 2021</b>						
eMSP NBSR	European Maritime Fisheries Fund (EMFF)		Netherlands	EUR 2,469,145.65	ONGOING End date January 2024	Focus on collaboration and learning exchange
DOORS	Horizon 2020	101000518	Romania	EUR 9,000,000.00	ONGOING End date 31 May 2025	Mix of research, data collection, policy development
<b>Project start in 2022</b>						
<b>Project start in 2023</b>						
ULTFARMS	Horizon Europe	101093888	Netherlands	EUR 9,590,770.66	ONGOING End date 30 June 2026	Developing and testing new techniques and technology on existing LTA pilots
OLAMUR	Horizon Europe	101094065	Norway	EUR 8,214,732.88	ONGOING End date 31 Dec 2026	Establish three pilot demonstration sites
AqualNFRA	Horizon Europe	101094434	Denmark	EUR 7,601,825.00	ONGOING End date 31 Dec 2026	Development of an European Open Science Cloud-based (EOSC-based) research infrastructure
Blue-Cloud 2026	Horizon Europe	101094227	Italy	EUR 8,845,420.00	ONGOING End date 30 June 2026	Pilot demonstration
Seaworthy	Interreg Northsea	No information	No information	No information	Expression of interest	Nature-inclusive, insurable, and bankable multi-use solutions at offshore wind farms
Norsaic	Interreg Northsea		Germany	EUR 2,679,386.00	ONGOING End date April 2026	Improvement of cooperation and governance

## 5. NGF ROUTES

### 5.1 Submission of NGF application via the subsidy route or the departmental route

When applying to the NGF for project funding, there are two primary pathways to consider, each with its unique characteristics and requirements. These pathways, known as the 'Subsidy Route' and the 'Departmental Route', provide different opportunities for proposals, and the choice between them is determined by a variety of factors.

The Subsidy Route is characterized by its suitability for projects that can be implemented independently by public and private parties without active ministry involvement. It allows for a consortium, represented by a lead applicant, to apply and receive direct financing in the form of a subsidy. The subsidy route is openly available for proposals that include activities in the fields of Knowledge Development and Research, Innovation & Development.

On the other hand, the Departmental Route is designed for proposals that require significant ministry involvement. This pathway is generally used for large-scale, programmatic proposals or those that have ecosystem-changing aims that can only be successful with ministerial involvement.

Furthermore, for the subsidy route, a partnership agreement must already be in place at the time of submission. However, this requirement does not apply to the departmental route. For both routes it is important to describe the roles of the different partners and their part and contribution in the consortium.

The decision to choose a route depends, amongst others, on the specific nature of the project, the level and necessity of ministry involvement, the details of the project plan and the activities to be financed. In the following sections, a detailed analysis of both routes, their opportunities and limitations, and their applicability to the Maripark concept will be discussed.

## 5.2 Subsidy Route versus Departmental Route

Subsidy route
For the subsidy route, proposals are characterized by their (extensive) ability to be independently implemented by the involvement of private parties without active engagement from a ministry.
A consortium represented by a lead applicant can apply. The subsidy can be granted to provinces, municipalities, or other public law entities, private law entities, or natural persons.
Participants in the consortium receive direct financing in the form of a subsidy for the execution of the project plan.
The active involvement of a ministry is not necessary for a successful project. If policy considerations affect the project, the application should show how the relevant ministry's involvement or support has been appropriately addressed, either through clear endorsement or a connection with the project's governance.
All activities and consortium partners are known at the moment of submission of the application. A clear and detailed project plan and budget should be presented at the time of submission of the proposal?
Activities must align with AGVV (Agricultural Guidelines for Vertical Greening) articles 25-29, 31. Support maximums and intensity are applicable.

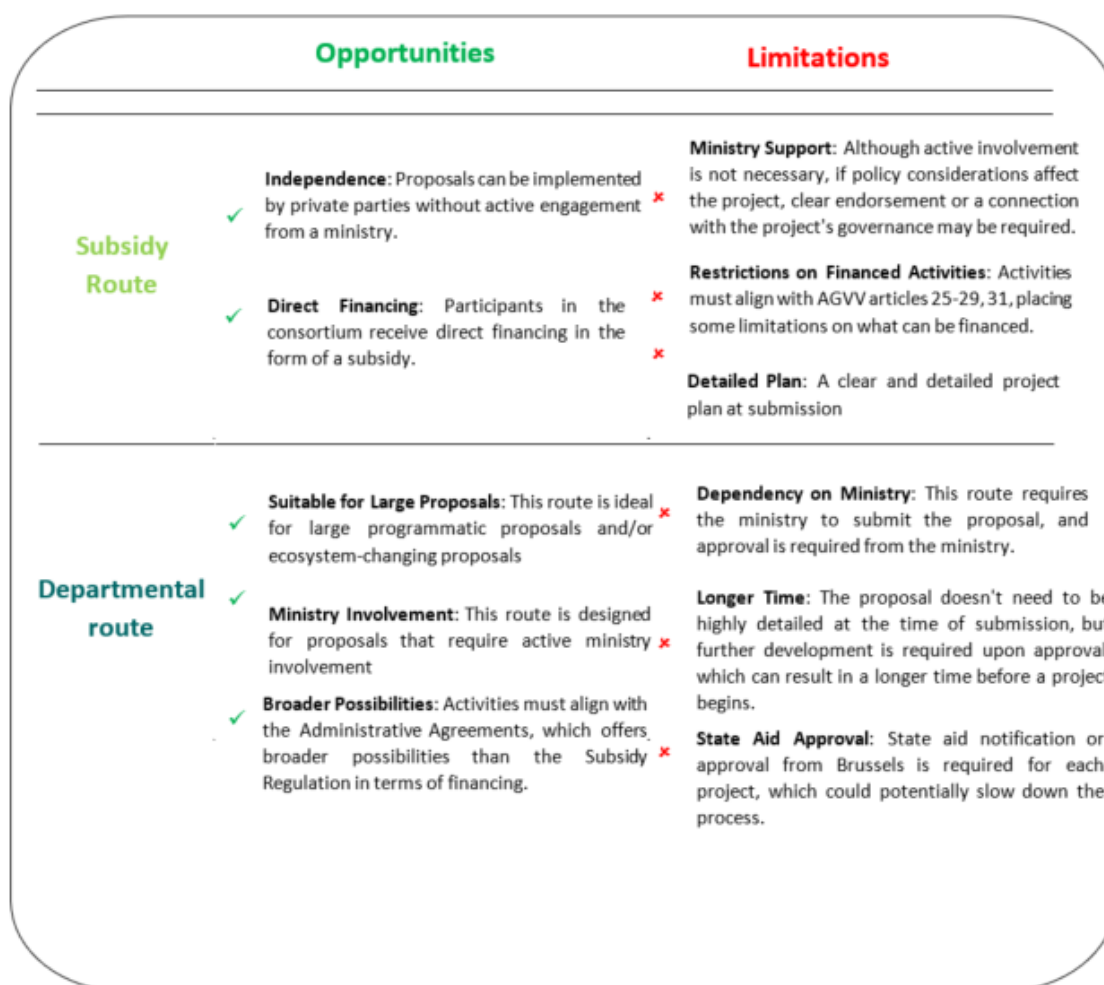


- Type of proposal?**
- Who can apply?**
- Allocation resources?**
- Ministry involvement?**
- Elaboration level of plan?**
- What activities can be financed?**

Departmental route
The departmental route requires a significant role of a ministry in the project. This may include large programmatic projects and/or ecosystem-changing proposals.
The ministry is in the lead and responsible for project coordination and submission. The ministry uses its own assessment criteria to determine which proposals will be submitted.
The ministry receives funds from the NGF after parliamentary approval. This occurs twice a year (budget cycle). The ministry then allocates these funds, for example, through customized decisions or subsidy schemes.
A ministry is required because one or more of the following criteria apply: <ul style="list-style-type: none"> <li>• It involves system responsibility.</li> <li>• There is an existing public execution organization responsible for this task.</li> <li>• Complex changes in legislation and regulations are required.</li> </ul>
A project proposal can include costs for parties that are as yet unknown (e.g., for a subsidy scheme). The proposal doesn't need to be highly detailed at the time of submission, but further development is required upon approval. This can result in a longer time before a project begins.
Activities must align with the Administrative Agreements. This provides broader possibilities than the Subsidy Regulation. State aid notification or approval from Brussels is required for each project.

## 5.3 Opportunities and limitations

The following opportunities and limitations (overview illustrated in the diagram below) can help decide which route is more suitable for the Maripark concept. The choice between the subsidy route and the departmental route depends on several factors such as the size and nature of the project, the level of ministry involvement, and the specifics of the plan and activities to be financed. An alternative approach could be to initially select a route and then tailor the project plan to align with the specific requirements of that route. This strategic decision will not only influence the project's direction but also its potential success in securing funding from the NGF. Therefore, considering all these elements thoroughly is vital for the project's future prospects.



## 5.4 Conclusion

In conclusion, it is important to thoroughly analyze and consider the differences between the two routes. When scoping the project, it is essential to take into account the distinctions of each route. This process can clarify which route aligns best with the project's objectives and enhances its chances of securing funding from the NGF. Furthermore, the decision to submit an NGF application via one of these routes also depends on the role and contribution of the involved relevant stakeholders such as private parties and ministries. A further investigation is needed on the commitment, role and contribution from relevant stakeholders to be able to select the best route for a Maripark NGF application.



## 6. NGF STORYLINE

### 6.1 Introduction

The study aims to assess the viability of the Maripark concept and its suitability for proposal to the Dutch 'Nationaal Groeifonds' (National Growth Fund, NGF). The Maripark concept envisions the multi-use of a wind park, currently dominated by wind energy production, to include diverse activities such as food production, solar energy production and cloud technology. The following six sections delve into the NGF essentials (illustrated in Figure 8) for the Maripark concept, namely System Failure, Societal Issues, Market Failure, Economic Loss, and Problem Analysis, and the Proposed Solution (including proposal for project flow and work packages description). Based on these NGF essentials, we provide a draft project outline for a Maripark NGF proposal.

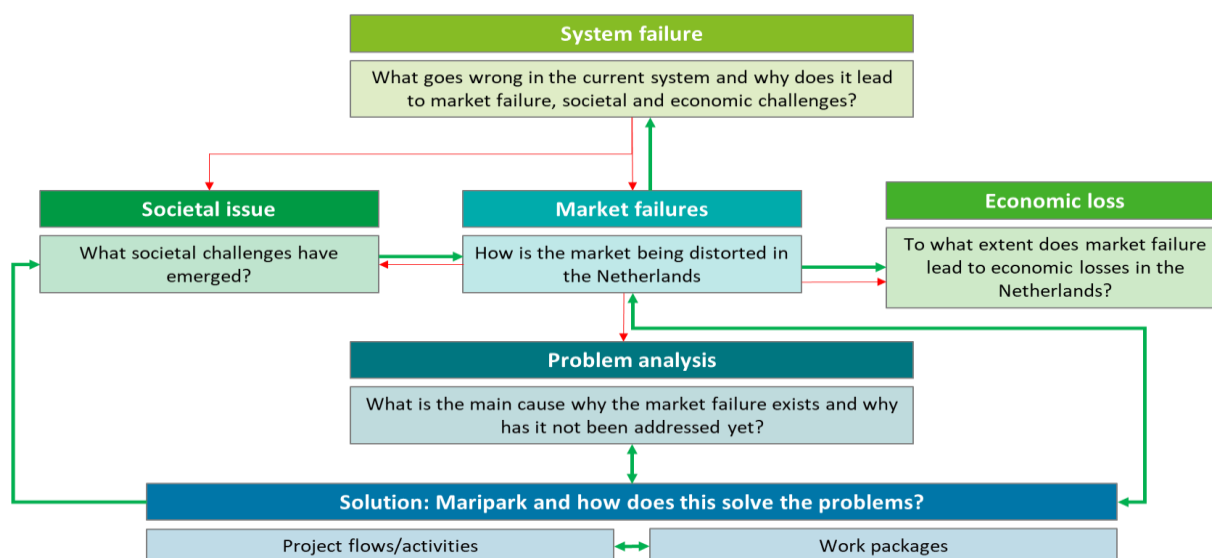


Figure 8. The NGF storyline essentials.

### 6.2 System Failure

The current governance structure of the North Sea and the Baltic Sea is facing significant challenges due to intensive human activity and the continuous introduction of more single-use activities, particularly within the energy transition context. This approach not only puts a strain on the system but also results in substantial ecological consequences. The intensified activity and disregard for the ecosystem lead to environmental degradation, threatening marine biodiversity and disrupting the delicate balance of these marine habitats. The current situation highlights a clear system failure, both in terms of sustainable marine use and ecological conservation.

The solution lies in transforming towards a more versatile and resilient system. This system should not only be capable of managing the growing demand and complexity of marine uses, but also ensure the protection and preservation of the marine ecology. Any expansion of activities must consider and work to minimize their ecological footprint, ensuring that the economic activities do not damage but rather restore and strengthen the natural environment. In this way, we can aim to create a balance between human activities and ecological sustainability in these marine areas.

### 6.3 Societal Issues

The societal implications of the intensifying use of the North Sea are multifaceted. An uncoordinated and intensive use of marine spaces threatens the livelihoods of communities, poses environmental risks, and compromises the objectives

of the energy transition. A sustainable societal solution should address these concerns by promoting balanced and synergistic use of marine spaces.

## 6.4 Market Failure

The market has failed to optimize the use of the North Sea due to lack of coordination and collaboration among different stakeholders. This has driven the market towards a singular or dual use of the wind park, without considering the potential benefits of multi-usage that could be economically profitable and beneficial for society and marine ecosystems.

## 6.5 Economic Loss

The economic loss stems from not fully utilizing the potential of the North Sea. The current single-use or dual-use, non-collaborative approach has left industries and potential innovations on the sidelines, resulting in lost economic opportunities.

## 6.6 Problem Analysis

The primary cause of the market failure in relation to innovative projects in the North Sea lies in the complexity of the existing systems and processes. Innovators, particularly start-ups, face significant challenges when they attempt to scale their innovation. These challenges include bureaucratic hurdles such as obtaining necessary permits, securing substantial investments, navigating high-risk scenarios, and the lack of (and possible access to) a suitable and valuable infrastructure and ecosystem. Furthermore, offshore entrepreneurship brings with it additional risks such as dealing with corrosion, storms, and other harsh environmental conditions. This combination of complexity, bureaucratic hurdles, and additional offshore risks creates a prohibitively high barrier to entry. Furthermore, the process of demonstrating the potential of an innovation becomes untenable due to the enormity of these challenges. Simply put, it is too costly, too challenging, and too risky for an individual entity to undertake such a venture.

Compounding this issue is the lack of a catalyzing entity or initiative that could facilitate these processes. There is a noted deficiency in both investment and supportive policies that would otherwise encourage innovation in the North Sea.

In addition, the North Sea landscape is inherently complex due to the multitude of regulations, stakeholders, and potential political sensitivities. The permit acquisition process alone is a daunting task given this multifaceted environment.

Finally, a critical element exacerbating these issues is the apparent lack of accountability. With no clear party taking responsibility for encouraging innovation and coordinating efforts in the North Sea, the situation remains stagnant.

## 6.7 The proposed solution: MARIPARK

The Maripark concept is thus a multi-faceted solution that addresses the system and market failures, societal issues, and economic loss. In addition, it is designed to ensure that the economic activities carried out within the park do not damage, but rather restore and strengthen the natural environment in the North Sea.

The project activities and work packages of the Maripark concept are two interrelated aspects that together form the implementation framework of the project. Part 1: Project Flows/Activities outlines the broader steps and objectives of the project from collaboration to demonstration, providing a high-level view of the project's progression. Part 2: Work Packages, on the other hand, delves into the specific tasks, or 'work packages', that will be undertaken to accomplish the objectives set out in Part 1. Each work package corresponds to a set of related activities and results in specific deliverables. While the Mission and Vision Development in Part 1 forms the guiding principle for the entire project, its implementation is interwoven throughout the tasks in Part 2, influencing the direction and execution of all work packages.

## **Part 1: Project Flows/Activities**

- Stakeholder Collaboration and Integration: The goal is to bring together diverse stakeholders and facilitate discussions to incorporate these stakeholders into a unified vision.
- Mission and Vision Development: A concrete mission and vision for Maripark as a multi-use offshore wind farm will be established with shared goals and objectives to guide the project's development.
- Research and Development: Conducting R&D activities focused on governance structures, legal frameworks, human capital strategies and facilities planning.
- Facility Construction: This step includes the actual building of the Maripark facility, implementing sustainable construction practices.
- Use Cases Demonstration: Post-construction, the Maripark concept will focus on operationalizing identified use cases (such as seaweed production, solar energy, and IT-sectors) to demonstrate how Maripark helps these use cases with upscaling their innovation towards the next Technology Readiness Level.

## **Part 2: Work Packages**

- Work Package 1 - Project Management
  - Activities: Project planning, scheduling, resource allocation, risk management;
  - Deliverables: Project plan, resource allocation strategy, risk management plan.
- Work Package 2 - Stakeholder Integration
  - Activities: Stakeholder mapping, engagement forums, collaborative workshops, visioning sessions, goal-setting workshops, strategy formulation;
  - Deliverables: Stakeholder integration plan, collaborative framework, concrete mission and vision statements, strategic objectives.
- Work Package 3 - Research and Development
  - Activities: Legal and governance research, human capital strategy development, facilities planning, use case exploration, funding landscape analysis, financial planning (including: budgeting, cost estimation, revenue forecasting, financial risk assessment, and development of contingency plans);
  - Deliverables: Research reports, governance and legal frameworks, human capital strategy document, facilities plan, use case documentation, funding opportunities summary, financial plan (including: detailed project budget, cost estimation for each project phase, revenue forecasts, financial risk assessment report, financial contingency plans)..
- Work Package 4 - Facility Construction
  - Activities: Construction planning, environmental impact assessments, sustainable construction practices implementation;
  - Deliverables: Construction plan, environmental impact report, sustainable construction guidelines.
- Work Package 5 - Use Cases Demonstration
  - Activities: Selection and implementation of use cases, demonstration of how Maripark assists with upscaling innovations, assessment of environmental, economic, and societal impacts;
  - Deliverables: List of selected use cases, demonstration reports, assessment reports (of amongst other total investments for Maripark development and operation), evidence of successful innovation upscale, benefits documentation.
- Work package 6 - Communication & Dissemination
  - Activities: Develop communication strategy, create dissemination channels, engage with media and public;
  - Deliverables: Communication plan, dissemination channels established, media engagement strategy.

## 6.8 Conclusion

After an in-depth analysis of the six essentials for a NGF application, it is evident that the market failure exists largely due to systemic complexities, lack of support and investment, and a lack of clear responsibility and leadership. Until these issues are addressed, the market is unlikely to correct itself. The Maripark concept presents an opportunity to address these challenges and unlock the economic and societal benefits of the North Sea. However, further studies and stakeholder validation and engagement of the analysis of the six NGF essentials and the draft project outline are required to ensure its success.

## 7. ANNEXES

### Annex 1

#### Regional/national funding opportunities

Subsidy instrument
CETPartnership Joint Call 2023
Short description
<p>The European Clean Energy Transition Partnership (CETPartnership) is a strategic collaboration among multiple countries for national and regional programs focusing on research, innovation development in European member states, and associated countries.</p> <p>Experienced, promoted researchers can apply for funding to conduct research in the field of enhanced carbon dioxide capture, utilization, and storage technologies, or to improve energy system integration at local, regional, and/or industrial levels. Within the 2023 call of the CETPartnership, Dutch researchers can apply for funding through NWO for:</p> <ul style="list-style-type: none"> <li>• Enhancing CO2 capture technologies (such as direct air capture, subsurface geostorage, and/or carbon utilization) in the industrial and energy sectors in the Netherlands.</li> <li>• Sustainability, circularity, environmental impact, and integration with local, regional, and/or industrial energy systems using methods like energy storage or digitization.</li> </ul> <p><a href="https://www.nwo.nl/calls/cetpartnership-joint-call-2023">https://www.nwo.nl/calls/cetpartnership-joint-call-2023</a></p>
Total subsidy per project & percentage of contribution per subsidy
A max. amount of EUR 650,000 (no information on percentage of contribution per subsidy).
Collaboration requirements
<p>Different calls for different TRL's, but in general:</p> <p>Project participants may belong to legal entities of any organization type such as secondary and higher education establishments, research organizations (excluding education), private for-profit companies, public bodies (excluding research and education), and other entities.</p> <p>The consortium must consist of the following consortium partners:</p> <ul style="list-style-type: none"> <li>• A <b>Coordinator</b>: A legal entity participating with funding from the Call and responsible for coordinating and managing the project.</li> <li>• <b>Beneficiary Partners</b>: All Project Consortium Partners participating with funding from the Call (including the coordinator).</li> <li>• <b>Self-financed Partner(s)</b>: Project Consortium Partner(s) participating from any country with their costs declared but without applying for funding in the Call.</li> </ul>



A project consortium must be built of at least three independent legal entities (i.e. at least one Coordinator and two Beneficiary Partners) applying and deemed eligible for funding by relevant national/regional Funding Organizations from at least three different countries participating in the Call. Of these three entities, at least two must be from EU Member States or HE Associated Countries.

[CETPartnership Joint Call 2023 Call text](#)

## Subsidy instrument

Knowledge and Innovation Agreement (KIC) Long-term programs – Strategy-driven consortia with impact

## Short description

The aim of this funding opportunity is to strengthen scientific fields in the Netherlands focused on societal challenges and/or key technologies, and to sustainably connect them with other partners in the knowledge chain. NWO's contribution forms the scientific foundation of the LTP and is essential to initiate or further develop collaboration. From the program's inception, all relevant parties within the innovation chain are involved. They are engaged both financially and in execution to ensure that the generated knowledge translates into societal impact. This approach allows science to make a structural and sustainable contribution to addressing challenges in the mission-driven top sectors and innovation policy.

Public-private consortia can apply for funding for a long-term program (LTP) with a duration of ten years. An LTP aims to structurally stimulate the development of a scientific field focusing on topics from mission-driven top sectors and innovation policies.

<https://www.nwo.nl/calls/kic-langetermijnprogrammas-strategiegedreven-consortia-met-impact>

## Total subsidy per project & percentage of contribution per subsidy

For each research proposal in this round, a total subsidy of a minimum of 9 million euros and a maximum of 25 million euros can be requested, for the entire duration of the ten-year long-term program, constituting a maximum of 30% of the total LTP budget.

## Collaboration requirements

Initiatives and applications are submitted and filed by a main applicant and two or more co-applicants. An application is prepared by a consortium, in which, besides the applicants, other participants are involved.

Four categories of participants in a consortium are distinguished:

1. Lead Applicant
2. Co-applicant(s)
3. Co-financers and co-funders
4. Collaborating partner(s)

Professors, university (assistant/associate/full) professors, lecturers, and other researchers holding similar roles may act as lead or co-applicants if they hold a permanent position (and therefore have a salaried employment contract for an indefinite period) or have a tenure track agreement with one of the following organizations:

- Universities established in the Netherlands.
- University Medical Centers.
- Universities of Applied Sciences, as referred to in Article 1.8 of the Higher Education and Research Act.
- KNAW (Royal Netherlands Academy of Arts and Sciences) and NWO (Netherlands Organisation for Scientific Research) institutes.

- Netherlands Cancer Institute.
- Max Planck Institute for Psycholinguistics in Nijmegen.
- NCB Naturalis.
- Advanced Research Centre for NanoLithography (ARCNL).
- Prinses Máxima Centrum.
- Wetsus Foundation, European Centre of Excellence for Sustainable Water Technology.

Subsidy instrument
Knowledge and Innovation Agreement - Partnerships
Short description
<p>Climate change, cybersecurity, aging: our society faces several significant challenges that require more knowledge and groundbreaking innovations. This presents opportunities for scientists, businesses, and public entities. NWO responds to this by annually investing over 100 million euros in research collaborations between public and private partners. Through the KIC 2020-2023, NWO contributes to the mission-driven top-sector and innovation policy of the government. NWO initiates collaborations, connects scientists, private and public entities, and encourages exploring new pathways. This fosters the development of new consortia and innovative research.</p> <p>Within this KIC instrument, a limited number of demand-driven Partnerships are developed annually, focusing on a knowledge and/or development question from a private and/or public partner. There are two ways to establish a partnership:</p> <ul style="list-style-type: none"> <li>• Demand-driven Partnerships for Partners: Through this channel, a public or private partner (not qualified to apply for NWO funding) can submit an initiative to NWO, including co-financing. Upon selection by NWO, the partner collaborates with NWO to outline a thematic call for project proposals.</li> <li>• Demand-driven Partnerships for Consortia: Through an open application round, a public-private consortium formulates an initiative, including co-financing, which is submitted to NWO by an applicant on behalf of the consortium. Upon selection by NWO, the consortium further develops the initiative into a cohesive public-private project proposal.</li> </ul> <p><a href="https://www.nwo.nl/onderzoeksprogrammas/kennis-en-innovatieconvenant-kic/partnerschappen-kic-2020-2023">https://www.nwo.nl/onderzoeksprogrammas/kennis-en-innovatieconvenant-kic/partnerschappen-kic-2020-2023</a></p>
Total subsidy per project & percentage of contribution per subsidy
<p>The NWO contribution for a partnership ranges between 1.5 and 5 million euros and is equally matched in cash by the public, private, or a combination of public and private partners. For partnerships, the minimum joint private/public contribution is set at 50%, and at least 30% of the total partnership size is raised by private parties. Therefore, a partnership typically ranges in size between 3 and 10 million euros.</p>

Collaboration requirements
A consortium must consist of researchers from two or more distinct knowledge institutions, one or more co-financers and possibly augmented by one or more collaborating partners.
Subsidy instrument
National Science Agenda (NWA) – Research on Routes by consortia (NWA-ORC)
Short description
The goal of the NWA-ORC 2023 call for proposals is to stimulate research conducted by consortia that are interdisciplinary and involve the entire knowledge chain. Researchers collaborate with relevant societal (public and/or private) partners and, where applicable, also involve citizens. The research questions aim at the themes proposed by the NWA routes and are based on one or more of the 140 cluster questions.
Total subsidy per project & percentage of contribution per subsidy
Maximum of EUR 6,750,000, no co-financing required
Collaboration requirements
<p>Applications are submitted by a consortium in which various forms of research in the knowledge chain (fundamental, applied, and practice-oriented) are represented.</p> <p>The consortium distinguishes four categories of participants:</p> <ol style="list-style-type: none"> <li>1. Principal applicant</li> <li>2. Co-applicant(s)</li> <li>3. Collaborating partner(s)</li> <li>4. Co-financer(s) (not mandatory)</li> </ol> <p>Professors, university (head) lecturers, readers, and other researchers with a comparable role* may act as principal applicants if they hold a permanent position (thus having a paid indefinite employment contract) or have a tenure-track agreement with one of the following organizations: Universities in the Netherlands, UMC's. KNAW- and NOW institutes, hogescholen, TO2 insitutions, Nederlands Kanker Instituut, Max Planck Instituut voor Psycholinguïstiek, NCB Naturalis, Advanced Research Centre for NanoLithography, Prinses Maxima Centrum.</p> <p>In all consortia:</p> <ul style="list-style-type: none"> <li>• Organizations from the entire knowledge chain participate.</li> <li>• All relevant scientific disciplines related to the research question are represented.</li> <li>• Relevant societal stakeholders are involved.</li> <li>• Productive interactions occur (see the box below): the relevant parties actively collaborate at all stages of the research.</li> <li>• If applicable, citizens (or their representatives) are also actively engaged in the research. Citizen Science initiatives can be funded through the 'material' budget module (see Annex 7.1).</li> </ul>

Subsidy instrument
The Top Sectors Subsidy for the Knowledge and Innovation Agenda, Agriculture, Water and Food – PPP projects
Short description
<p>Via Public-Private Partnership (PPP) projects, the top sectors Agri &amp; Food, Horticulture &amp; Starting Materials, and Water &amp; Maritime implement the Knowledge and Innovation Agenda for Agriculture, Water, and Food. Annually, a call is made for research projects where companies, industry organizations, NGOs, and public entities collaborate with recognized research organizations. These projects are executed as Public-Private Partnerships (PPS). A PPS project addresses one or more knowledge and innovation challenges from the Knowledge and Innovation Agenda (KIA). It primarily focuses on applied research with an eye on valorization activities. Only proposals contributing to achieving the missions and/or key technologies of the KIA will be considered.</p> <p><a href="https://kia-landbouwwatervoedsel.nl/regelingen/">https://kia-landbouwwatervoedsel.nl/regelingen/</a></p>
Total subsidy per project & percentage of contribution per subsidy
<p>The available public budget for 2023 amounts to approximately EUR 13 million and is composed of three sources:</p> <ol style="list-style-type: none"> <li>1. WR capacity LNV: Around EUR 7.5 million is available for 2023, to be executed by Wageningen Research. Collaboration with other knowledge institutions is possible, subject to applicable aid and subsidy frameworks.</li> <li>2. TO2 capacity IenW: EUR 0.5 million is available for 2023 for water and soil-related topics. These funds are utilized within TO2 institutions (TNO, Deltares, Marin, WR).</li> <li>3. PPS supplement: Approximately EUR 5 million is available for new PPS proposals in 2023 (about EUR 19 million over the entire period). Half of this amount is unallocated PPS supplement from TKIs T&amp;U and A&amp;F and can be used across all knowledge institutions (universities, colleges, TO2, private research organizations). The other half is allocated to parties (knowledge institutions and companies) that provide information to TKIs as the basis for applying for PPS supplements.</li> </ol> <p>Public financing is utilized to fund the activities/costs of knowledge institutions. Companies, societal organizations, and local governments (provinces, water boards, municipalities) provide cash co-financing and/or contribute their own activities in-kind as co-financing for the projects.</p> <p>The requested private co-financing is typically a minimum of 50% for Industrial (applied) Research (on certain topics, this could be 30%). At least half of the co-financing must be in cash, which amounts to at least 25% of the project budget. The remaining co-financing may be in-kind contributions.</p>
Collaboration requirements
The lead applicant of the proposal must be a company, industry organization, NGO, or public organization based in the Netherlands. The proposal must be submitted together with a knowledge institution, and a minimum of two companies or organizations must participate in the project.

Subsidy instrument
European Regional Developments Fund (ERDF)
Short description
<p>The European Union (EU) aims to reduce economic disparities between European regions through the European Regional Development Fund (ERDF). This is facilitated through national ERDF programs, known as regional programs in the country. For the period 2021-2027, the Netherlands will receive EUR 506 million from the EU budget for the implementation of ERDF programs, distributed across four regional ERDF programs:</p> <ul style="list-style-type: none"> <li>• North Netherlands</li> <li>• East Netherlands</li> <li>• South Netherlands</li> <li>• West Netherlands</li> </ul> <p>Across all ERDF programs, the focus is on priorities related to a 'smarter' and 'greener' Europe. ERDF funds are utilized for economic activities aimed at innovation (smarter) and transitioning towards a low-carbon (greener) economy. The program's implementation occurs at the regional level, with Management Authorities of the North, West, South, and East regions determining eligible topics and conditions for each call.</p> <p>For instance, ERDF East targets businesses in Overijssel and Gelderland that aim to contribute to the smart and sustainable economic development of the region. Starting from March 1st, they can apply for subsidies for demonstration or test projects. This call specifically involves demonstrating and testing new applications, such as activities in pilot areas offering testing opportunities and living labs where a prototype is demonstrated in an operational environment. The goal is to expedite the market introduction of products or services through these projects.</p> <p><a href="https://www.rijksoverheid.nl/onderwerpen/europese-subsidies/europese-structuur--en-investeringsfondsen/europees-fonds-voor-regionale-ontwikkeling-efro">https://www.rijksoverheid.nl/onderwerpen/europese-subsidies/europese-structuur--en-investeringsfondsen/europees-fonds-voor-regionale-ontwikkeling-efro</a></p>
Total subsidy per project & percentage of contribution per subsidy
<p>Netherlands will receive EUR 506 million from the EU budget for the implementation of ERDF programs during the period 2021-2027. The subsidy to be requested varies by region, project type, and program, ranging from 50% to 85%. Projects focused on innovation, in general, can apply for a maximum of EUR 1,000,000 (across all 4 regional ERDF programs).</p> <p>For example, under the subsidy scheme for demonstration and test projects of ERDF East, one can apply for a subsidy ranging from a minimum of EUR 350,000 to a maximum of EUR 1,000,000. The subsidy covers a maximum of 40% of the project costs, while for SMEs, it's up to 50%.</p>
Collaboration requirements
<p>Companies, knowledge institutions, and governments can apply for subsidy and financing for projects through the EFRO program, but the program is primarily intended for small and medium-sized enterprises (SMEs). Under the subsidy scheme for demonstration and test projects of EFRO East, a proposal should be a collaborative effort of at least two partners, with at least 1 SME involved.</p>

## Annex 2

### European funding opportunities

Subsidy instrument
European Maritime, Fisheries and Aquaculture Fund (EMFAF)
Short description
<p>The EMFAF runs from 2021 to 2027 and provides support for developing innovative projects ensuring that aquatic and maritime resources are used sustainably. The help of the fund leads to:</p> <ol style="list-style-type: none"> <li>1. Food security through the supply of seafood products.</li> <li>2. Growth of a sustainable blue economy.</li> <li>3. Healthy, safe and sustainably managed seas and oceans.</li> </ol> <p>The EMFAF supports innovative projects that contribute to the sustainable exploitation and management of aquatic and maritime resources. In particular, it facilitates:</p> <ul style="list-style-type: none"> <li>• The transition to sustainable and low-carbon fishing, the protection of marine biodiversity and ecosystems.</li> <li>• The supply of quality and healthy seafood to European consumers.</li> <li>• The socio-economic attractiveness and the generational renewal of the fishing sector in particular as regards small-scale coastal fisheries.</li> <li>• The development of a sustainable and competitive aquaculture contributing to food security.</li> <li>• The improvement of skills and working conditions in the fishing and aquaculture sectors.</li> <li>• The economic and social vitality of coastal communities.</li> <li>• Innovation in the sustainable blue economy.</li> <li>• Maritime security towards a safe maritime space.</li> <li>• International cooperation towards healthy.</li> <li>• And safe and sustainably managed oceans.</li> </ul> <p><a href="https://oceans-and-fisheries.ec.europa.eu/funding/emfaf_en">https://oceans-and-fisheries.ec.europa.eu/funding/emfaf_en</a></p>
Total subsidy per project & percentage of contribution per subsidy
<p><b>The Programme management is divided between shared management and direct management.</b></p> <ul style="list-style-type: none"> <li>• <b>Shared management - EUR 5,311 billion</b> is provided through national programmes co-financed by the EU budget and EU countries, for which the <a href="#">Common Provision Regulation 2021-2027</a> is applicable.</li> <li>• <b>Direct management – EUR 797 million</b> is provided directly by the Commission.</li> </ul> <p><b>Dependent of call, grant amount is in the range of EUR 50,000 and EUR 500,000, of which 50 to 75% of the eligible costs will be reimbursed.</b></p>



## Collaboration requirements

Collaboration requirements can differ per call.

### For the maritime spatial planning call, the following is required:

Proposals must be submitted by a consortium of at least 2 applicants (beneficiaries; not affiliated entities), which complies with the following conditions:

- Minimum 2 entities from 2 different eligible countries.
- Applicants must be public authorities or bodies in charge of maritime spatial planning of those coastal countries which are responsible for MSP in the selected area and/or a regional organization that has competences in Maritime Spatial Planning or activities concerned by Maritime Spatial Planning (nature protection, development of offshore renewables, fisheries). Other public authorities or bodies shall be considered eligible applicants provided that they are endorsed by the public authorities or bodies in charge of maritime spatial planning at national level in the related coastal countries. The coordinator must be established in an EU Member State.

### For the call 'Regional Flagship projects supporting a sustainable blue economy in EU sea basins - submerged munitions in the Baltic Sea' the following is required:

Proposals must be submitted by a consortium of at least 3 applicants from 3 different eligible countries (beneficiaries; not affiliated entities) participating in and/or cooperating with the EUSBSR (these are Sweden, Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Iceland and Norway). The consortium must include:

- Minimum 1 international organization
- Minimum 1 research institute
- Minimum 1 local authority

The participation of relevant private sector entities (e.g., from offshore industries) is encouraged. The coordinator must be established in one of the following EU Member States participating in the EUSBSR: Sweden, Denmark, Estonia, Finland, Germany, Latvia, Lithuania and Poland.

## Subsidy instrument

European Maritime and Fisheries Fund (EMFF)

## Short description

The objective of this call for proposals is to facilitate the implementation of Maritime Spatial Planning in the EU, including through the effective application of Directive 2014/89 establishing a framework for MSP. This call is intended to fund projects developing innovative responses to tackle specific challenges that EU Members States might encounter when putting into effect, monitoring and/or revising their maritime spatial plans. Many of these challenges are common to coastal Member States. Therefore, there is a shared interest in developing innovative responses that can apply within a sea basin and/or across sea basins.

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/programmes/emfaf>

## Total subsidy per project & percentage of contribution per subsidy

Project budgets (maximum grant amount) are expected to range between EUR 1,000,000 and EUR 2,500,000 per project, but this does not preclude the submission/selection of proposals requesting other amounts.

## Collaboration requirements

Proposals must be submitted by a consortium of at least 2 applicants (beneficiaries; not affiliated entities), which complies with the following conditions:

- The coordinator must be established in an EU Member State.
- Minimum 2 entities from 2 different eligible countries.
- Applicants must be public authorities or bodies in charge of maritime spatial planning of those coastal countries which are responsible for MSP in the selected area and/or a regional organization that has competences in Maritime Spatial Planning or activities concerned by Maritime Spatial Planning (nature protection, development of offshore renewables, fisheries). Other public authorities or bodies shall be considered eligible applicants provided that they are endorsed by the public authorities or bodies in charge of maritime spatial planning at national level in the related coastal countries.

## Subsidy instrument

Horizon Europe - Pillar 2

## Short description

Pillar 2: Global Challenges and European Industrial Competitiveness

This pillar focuses on the major challenges faced by the EU and the world, necessitating broad cooperation to seek solutions. Activities within this pillar aim at excellence and societal impact. Applicants within this pillar often form consortia involving multiple public and private entities (researchers from universities and companies, manufacturers, end-users). Through multidisciplinary collaboration, all involved parties contribute both substantive and technological expertise.

The implementation programs will target challenges within the following six clusters:

1. Health
2. Culture, creativity, and inclusive society
3. Civil security for society
4. Digital, industry, and space
5. Climate, energy, and mobility
6. Food, bioeconomy, natural resources, agriculture, and environment

Under the scope of these six areas, Pillar 2 also encompasses research missions in five areas:

1. Cancer
2. Adaptation to climate change, including societal transformation
3. Climate-neutral and smart cities
4. Soil health and nutrition
5. Healthy oceans, seas, coastal, and inland waters

Total subsidy per project & percentage of contribution per subsidy
On average of 3 million per project. The funding rate is 70 percent for profit-making legal entities and 100 percent for non-profit legal entities.
Collaboration requirements
For most calls for proposals, you must apply as a consortium consisting of at least 3 organizations from 3 different EU or associated countries. At least one of the 3 partners must be from an EU country. In addition to these 3 partners, organizations from other countries might be able to join your consortium. Some calls for proposals require a so-called multi-actor approach: this means your proposed project must involve a diverse set of stakeholders, in particular end-users and users of the project's results.
Subsidy instrument
LIFE Programme
Short description
<p>The LIFE program supports the objectives of the EU's Green Deal through policy-driven actions, key performance indicators (KPIs), and the flexibility to tailor projects. Within the LIFE program, there are various types of subsidized projects, with standard action projects focusing on pilot demonstrations and best practices. The expanded LIFE program is now divided into four sub-programs:</p> <p><b>Nature and Biodiversity:</b> Under this sub-program, new projects are expected to further protect species and their habitats. The aim is to expand, protect, preserve, and nurture nature for a sustainable and balanced future.</p> <p><b>Circular Economy and Livability:</b> Waste is considered a resource and needs proper management to make critical raw materials more accessible. Specific topics under this umbrella include air, water, soil, noise, chemicals, and the new European Bauhaus initiative.</p> <p><b>Mitigation and Adaptation to Climate Change:</b> Distinguishing between mitigation and adaptation, intervention areas include ozone depletion, carbon sinks, nature-based solutions in managing land, coastal and marine areas, climate-proofing cities and regions, readiness for extreme weather conditions, and more. This involves predicting, preventing, mitigating, and adapting to climate change.</p> <p><b>Clean Energy Transition:</b> This is a new addition to the LIFE program and finances LIFE projects (especially CSAs) focusing on energy efficiency and renewable energy sources. Its goal is to facilitate the transition to an energy-efficient, renewable energy-based, climate-neutral, and resilient economy. It aims to remove market barriers that could hinder the socio-economic transition to sustainable energy.</p> <p>Nature and Biodiversity: Under this sub-program, new projects are expected to further protect species and their habitats. The aim is to expand, protect, preserve, and nurture nature for a sustainable and balanced future. For standard action projects, applicants can request a minimum of EUR 500k and a maximum of EUR 13 million. Additionally, a maximum of 60% of the eligible costs will be reimbursed.</p>

Collaboration requirements
A single legal entity can submit an application for funding from the LIFE programme. However, collaboration is not mandatory but is advised when deemed relevant to increase the chances of success.
Subsidy instrument
Interreg North Sea Programme 2021-2027
Short description
<p>The Interreg North Sea Programme 2021-2027 supports cooperation to stimulate a green and sustainable future. We enable people across the North Sea Region to work together and bring their ideas to life. We support actions that contribute towards:</p> <ul style="list-style-type: none"> <li>• Building smart and robust economies.</li> <li>• Fast-tracking the green transition.</li> <li>• Fostering climate resilience, a clean environment, and a rich biodiversity.</li> <li>• Improving cooperation governance.</li> </ul> <p>Our funding helps in putting the EU Green Deal and other key European policies into practice.</p>
Total subsidy per project & percentage of contribution per subsidy
All partners in EU Member States can claim reimbursement of 60% of costs for all project activities (Norwegian organisations are reimbursed at a rate of 50%). Applicants should always check the specific conditions for each call for proposals for information on the total funds still available and any special funding terms that may apply. There is no formal minimum or maximum budget for regular projects, but projects will be assessed on value for money and larger projects will be expected to deliver significant and tangible benefits to the programme area. Budget sizes for North Sea Programme projects during the previous funding period (VB) ranged from roughly EUR 2 to 6 million.
Collaboration requirements
<p>Organizations apply as part of a partnership. Every partnership in a project must include at least three partners from three different European countries.</p> <p>A lead partner cannot, as a point of departure, be from the private sector. However, if the organization has private legal status, and acts in a non-profit capacity, then the partner might be exempt from this rule. The lead partner must demonstrate knowledge of managing European funding projects and sufficient capacity to fulfil the role. The lead partner must have sufficient funds to cover any repayments required to the programme (see below).</p>

## Annex 3

### Project Description & participants involved of EU funded projects similar to Maripark

This table provides information on the projects and the participants involved. In our efforts to gather complete and detailed contact information regarding the project coordinators, we primarily referred to the general websites of the coordinators, due to the unavailability of project-specific contact details. This information was further supplemented by data extracted from the Cordis database. Unfortunately, specific contact details for certain projects remain elusive. In certain instances, email addresses were not provided, therefore, as an alternative, relevant phone numbers have been included. In the cases of RINA and Universidade de Vigo, we were able to obtain project-specific contact information.

Project Description	Participants involved	Project coordinator contact information
<p><b>The blue Growth Farm</b></p> <p>The aim of the project is to produce advanced industrial knowledge with a fully integrated &amp; efficient offshore multipurpose floating platform that provides a central protected pool to host automated aquaculture system which produces high quality fish, as well as a large storage and deck areas to host a commercial 10 MW wind turbine and a number of wave energy converters.</p>	<p>Cranfield University (UK), Grandi Lavori Fincosit Spa (Italy), Safier Ingenierie (France), Universita Degli Studi Mediterranea Di Reggio Calabria (Italy), Sagro Aquaculture Limited (Cyprus), Chlamy S.R.L., The Scottish Association For Marinescience Lbg (Italy), Wavenergy.It Srl (Italy), Ecole Centrale De Nantes (France), Treelogic Telematica Y Logica Racional Para La Empresa Europea Sl (Spain), Fundacion Tecnalia Research &amp; Innovation (Spain), Politechnico Di Milano, Ditrel Industrial Sl (Italy), University Of Strathclyde (UK), Fincosit Srl (France)</p>	<p>RINA Consulting S.p.A. E: fabrizio.lagasco@rina.org</p>
<p><b>Mistral</b></p> <p><b>Mediterranean Innovation STRAtegy for transnational activity of clusters and networks of the Blue Growth</b></p> <p>The current state of innovation in the "blue growth" sector in the Mediterranean area is not as good as the average in the European Union. There is a lack of cooperation between various groups involved in this sector, such as government bodies, regions, industry groups, research organizations, and others.</p>	<p>Région Émilie-Romagne - Direction Générale De La Connaissance, Du Travail Et De L'économie D'entreprisem, ART-ER - S. CONS P.A, Chrysalis LEAP Limited, Chambre D'économie Croate - Chambre Du Comté De Zadar, Université "Aleksander Moisiu" Durres -, National Agency Of Scientific Research And Innovation-International Programs Directory, Agence De Développement Régional De l'Alentejo - Département Economique, REGION DE CRETE - DIRECTION ENVIRONNEMENT ET PLANIFICATION TERRITORIALE, Conseil National De Recherche - Science Du Système Terrestre Et Technologies Environnementales, Maritime Cluster Of Andalusia, Toulon Var Technologies, Cluster Maritime Des Îles Baléares, Hellenic Centre For Marine Research - Institut Océanographique, Région Autonome Friuli Venezia Giulia, ASTER S.Cons.P.A.</p>	

Project Description	Participants involved	Project coordinator contact information
<p>The goal of a project called MISTRAL is to bring together these groups from eight different countries to achieve a few things: 1. Make sure that knowledge about the sea and sustainable innovations become the main drivers for the blue growth sector. 2. Help industry groups in the Mediterranean area become better at sharing knowledge and supporting the growth of the blue economy. 3. Develop sustainable development plans that match the unique strengths and strategies of different regions in the Mediterranean.</p> <p>By working together and being open to new ideas, MISTRAL wants to encourage cooperative and sustainable innovations. This will help boost the blue growth sector in the Mediterranean area. They plan to offer services to industry groups and organizations involved in blue growth, which should improve the innovation performance of at least 300 small businesses and benefit around 100 experts through training and cooperation.</p> <p>MISTRAL aims to have a big impact on the blue growth sector in the Mediterranean by 2020 and make sure that its ideas are integrated into government policies. In short, MISTRAL wants to be the driving force for innovation in the Mediterranean's coastal and marine businesses.</p>		
<b>Coastal</b>		
<p>The COASTAL project has a clear goal: to find solutions and policy recommendations that will help rural and coastal areas in the European Union develop while also safeguarding the environment. Rural areas are struggling with issues like job shortages, declining populations, and environmental challenges, while coastal regions offer business opportunities that are closely tied to what happens inland.</p> <p>To achieve this, the project will use a mix of methods to understand how these areas interact economically, socially, and environmentally. They will analyze the factors that influence their dynamics and limitations, taking into account local laws, stakeholder interests, and economic conditions at various levels.</p> <p>The project will establish collaboration between experts, local communities, business owners, and government representatives in six different regions across Europe. In essence, COASTAL is all about finding practical ways to support the growth of rural and coastal areas while preserving the environment. It's about understanding the connections between these areas, identifying the key factors, and involving various stakeholders to develop effective solutions.</p>	<p>Hellenic Centre For Marine Research (Greece), Stockholms Universitet (Sweden), Sintef Ocean As (Norway), INSTITUT National De Recherche Pour L'agriculture, L'alimentation Et L'environnement (France), Institutul National De Cercetare-Dezvoltare Marina Grigore Antipa (Romania), Institutul De Cercetare Pentru Economia Agriculturii Si Dezvoltare Rurala Bucuresti (Romania), International Center For Research On The Environment And The Economy (Greece), Agencia Estatal Consejo Superior De Investigaciones Cientificas (Spain), Geonardo Kornyezvetvedelmi Terinformatikai Es Regionalis Projektfejlesztó Korlatolt Felelősségű Társaság (Hungary), Bluebridge Incubatie-En Innovatiecentrum (Belgium), Vlaamse Landmaatschappij (Belgium), Provinciale Ontwikkelingsmaatschappij West-Vlaanderen (Belgium), Stiftelsen The Stockholm Environment Institute (Sweden), Niras Sweden Ab (Sweden), Campus Roslagen Ab (Sweden), Luonnonvarakeskus (Finland), Asociatia Gal Delta Dunarii (Romania), Asociatia Grupul De Actiune Locala Dobrogea Centrala (Romania), Touristikos Epichiriseis Messinias Anonimi Etaireia (Greece), Idryma Kapetan Vasili Kai Karmen Constantakopoulou (Greece), Anaptyxiakh Messinias Anaptyxiakh Ae (Greece), Consejeria,</p>	<p>Vlaamse instelling voor Technologisch onderzoek N.V. T: +32 14 33 55 11</p>



Project Description	Participants involved	Project coordinator contact information
	De Agua , Agricultura, Ganadería, Pesca Y Medio Ambiente De La Región De Murcia (Spain), Federacion De Cooperativas Agrariasde Murcia S Coop (Spain), Chambre Regionale D'agriculture Nouvelle -Aquitaine (France), Haven Oostende Autonoom Gemeentelijk Havenbedrijf (Belgium), Federation Regionale D'agriculturebiologique Nouvelle Aquitaine (France), Vlaams Instituut Voor De Zee (Belgium), Global Utmaning (Sweden)	
<b>Blue Cloud</b>		
<p>The Blue Cloud project is all about using modern technology to better understand and protect the ocean. It's important because it can help us take care of our oceans, which is crucial for the environment and for the "Blue Economy," which is all about making money from the sea.</p> <p>The project is supported by the European Union and aims to create a special online platform (like a website) that gathers and analyzes lots of different information about the ocean. This platform will be a valuable resource for scientists and researchers who want to study the ocean and its sustainability.</p> <p>The Blue Cloud project will also develop tools and services that make it easier for people to work with ocean data and research. The project is led by a group of experts in marine data and technology. They will involve many people from different countries and industries in this effort. In the end, the Blue Cloud project will help us better understand and protect our oceans using the power of technology and collaboration.</p>	<p>Compla Srl (Italy), Trust-It Services Limited (UK), Mariene Informatie Service Maris Bv (Netherlands), Consiglio Nazionale Delle Ricerche (Italy), NUBISWARE SRL (Italy), Institut Francais De Recherche Pour L'exploitation De La Mer (France), Seascape Belgium (Belgium), Mercator Ocean (France), Fondazione Centro Euro-Mediterraneosui Cambiamenti Climatici (Italy), European Molecular Biology Laboratory (Germany), Vlaams Instituut Voor De Zee (Belgium), The Food And Agriculture Organization Of The United Nations (Italy), Koninklijk Nederlands Meteorologisch Instituut-Knmi (Netherlands), Csc-Tieteen Tietotekniikan Keskus Oy (Finland), Cineca Consorzio Interuniversitario (Italy), Deutsches Klimarechenzentrum Gmbh (Germany), Sorbonne Universite (France), Centre National De La Recherche Scientifique Cnrs (France), Universiteit Van Amsterdam (Netherlands), Universitetet I Bergen (Norway), Idryma Technologias Kai Erevas (Greece), Collecte Localisation Satellites (France), Institut De Recherche Pour Le Developpement (France)</p>	<p>Trust-IT Services SRL T: +39 050 28359</p>
<b>MarENET</b>		
<p><b>Atlantic Ecosystem Maritime Network</b></p> <p>The MarENet project aims to connect job training with the needs of the growing Blue Economy, which includes industries related to the ocean. It involves a group of organizations from Ireland, France, and Spain. Their main goals are to create a network of training centers and industries in the Atlantic region, address skill shortages in the maritime job market, and promote careers in the Blue Economy.</p> <p>They've done this in a few ways. They've developed digital tools to keep track of job demands and training options and created an online catalog of available training courses and job opportunities. They also offer an e-learning platform. Additionally, they've run a program to help people with good business ideas related to the Blue Economy get the training and guidance they need.</p>	<p>Universidade de Vigo–Campus do Mar (Spain), Port of Vigo (Spain), ACLUNAGA (Spain), Marine Institute-IMDO (Ireland), La Rochelle Université (France), ICSEM (Spain), CEPESCA (Spain), Munster Technological University (Ireland)</p>	<p>Universidade de Vigo E: bluegrowthvigo@apvigo.es</p>

Project Description	Participants involved	Project coordinator contact information
<p>The project is part of the Blue Growth strategy for the Port of Vigo in Spain. They regularly report on their progress, and you can find more information about the project on their website. In simple terms, MarENet is all about connecting job training with the needs of the ocean-related industries to help people find jobs and develop new business ideas in the Blue Economy.</p>		
<b>Black Sea CONNECT</b>		
<p>The Black Sea is important to the European Union, and there's a plan to make sure it develops sustainably by 2030. The plan includes doing research, using advanced technology, and educating people. The Black Sea CONNECT project, funded by the EU, aims to help the Blue Economy in the Black Sea region. They want to protect the environment, grow the economy, build infrastructure, and do scientific research.</p> <p>The goal is to make sure the Black Sea's environment stays healthy and that its resources are used wisely. They want to coordinate research and innovation efforts, share knowledge, and create new things that can help the Black Sea grow. They'll also focus on education and capacity building. The project will help develop the plan and guide people from different areas like academia, industry, and government to work together to solve the Black Sea's challenges and promote its economic growth.</p>	<p>Organization Of The Black Sea Economic Cooperation (Türkiye), Institutul National De Cercetare-Dezvoltare Pentru Geologie Si Geocologie Marina-Geocomar (Romania), Institutul National De Cercetare-Dezvoltare Marina Grigore Antipa (Romania), Institute Of Oceanology Bas (Bulgaria), Turkiye Bilimsel Ve Teknolojik Arastirma Kurumu (Türkiye), Institut Francais De Recherche Pour L'exploitation De La Mer (France), Toulon Var Technologies (France), Helmholtz-Zentrum Hereon Gmbh (Germany), Ukrainian Scientific Centre Of Ecology Of The Sea (Ukraine), Russian Presidential Academy Of National Economy And Public Administration, North-West Institute Of Management (Russia), P.P. Shirshov Institute Of Oceanology Of Russian Academy Of Sciences (Russia), Universitatea De Stat Din Tiraspo (Moldova), Ivane Javakhishvili Tbilisi State University (Georgia), Secretariatul National Roman Al Retelei Universitatilor De La Marea Neagra (Romania)</p>	<p>Middle East Technical University E: admin[at]ims.metu.edu.tr</p>
<b>UNITED</b>		
<p><b>Multi-Use offshore platforms demoNstrators for boosting cost effective and Eco-friendly production in sustainable marine activities:</b> The UNITED project is all about testing the idea of using the same space in the ocean for multiple purposes, like energy production, aquaculture, and more. They want to prove that this approach is a good idea for both the environment and the economy in Europe. They're looking at five main areas: the technology needed to make it work, the financial side of things, the rules and regulations, what people think about it, and the impact on the environment.</p> <p>For technology, they want to make sure different activities can work together effectively and safely. In terms of money, they're studying how to make it profitable and safe for investors. They're also working on legal and policy issues to make sure there are rules and permits for these multi-use projects. In society, they're interested in what people think about these ideas and if they trust them. Finally, they're looking at how these projects might affect the environment. In short, UNITED is testing the concept of sharing space in the ocean for multiple purposes in a way that's good for everyone.</p>	<p>Stichting Wageningen Research (Netherlands), Submariner Network For Blue Growth Ewiv (Germany), Stichting Noordzeeboerderij (Netherlands), Lloyd's Register Group Limited (UK), Forschungs- Und Entwicklungszentrum Fachhochschule Kiel Gmbh (Germany), Universiteit Gent (Belgium), Institut Royal Des Sciences Naturelles De Belgique (Belgium), Wings Ict Solutions Technologies Pliroforikis Kai Epikoinonion Anonymi Etaireia (Greece), Ecologic Institut Gemeinnützige Gmbh (Germany), Oceans Of Energy Bv (Netherlands), Spok Aps (Denmark), Brevisco (Belgium), Parkwind (Belgium), Kongsberg Maritime Contros Gmbh (Germany), Acteon Sarl (France), Etablissementen Franz Colruyt Nv (Belgium), Nederlandse Organisatie Voor Toegepast Natuurwetenschappelijk Onderzoek Tno (Netherlands), Syddansk Universitet (Denmark), The Seaweed Company Bv (Netherlands), The Seaweed Company Blue Turtle Limited (Ireland), Kieler Meeresfarm Gmbh (Germany), Hidromod Modelacao Em Engenharia Lda (Portugal), Thoktarides Konstantinos (Greece), Kastellorizo Anonymos Etaireia (Greece), Ventolines B.V. (Netherlands),</p>	<p>Stichting Deltares T: +31 (0)88 335 8273</p>

Project Description	Participants involved	Project coordinator contact information
	Jan De Nul Nv (Belgium), 4h - Jena Engineering Gmbh (Germany), Kieler Meeresfarm Gmbh & Co Kg (Germany)	
<b>MUSICA</b>		
<p><b>Multi-use-of- Space for Island Clean Autonomy</b></p> <p>The MUSICA project is all about making small islands more sustainable by using different types of renewable energy sources like wind, solar, and wave power. They want to create a smart platform that combines these energy sources and other services like desalination and support for aquaculture. This way, small islands can use their limited space more efficiently and reduce their carbon footprint. The project is building on a successful concept developed by a Greek university and a private company. The goal is to make this technology more accessible and practical for small islands while supporting "Blue Growth" initiatives in a cost-effective way.</p>	<p>Etaireia Axiopoiisis Ananeosimon Pigon Energeias Kai Paragogis Kai Diathesis Posimou Nerou Etaireia Periorismenis Efthinis (Greece), Heriot-Watt University (UK), Consorcio Para El Diseno, Construccion, Equipamiento Y Explotacion De La Plataforma Oceanica De Canarias (Spain), Dimos Chiou (Greece), Universita Ta Malta (Malta), Genikes Episkeyes Ploion - Koral Etaireia Periorismenis Eythinis (Greece), International Consortium Of Research Staff Associations Company Limited By Guarantee (Ireland), Diktyo Aeiforikon Nison Toy Aigaiouae (Greece), University College Cork - National University Of Ireland, Cork (Ireland), Innosea (France), Aquabiotech Limited (Malta), Neodyne Limited (Ireland), Sinn Power Gmbh (Germany), International Naval Surveys Bureau (Greece), Aquaculture Forkys Ae (Greece), Coral Piraeus Episkeves Ploion Ike (Greece), Optimus Prime Limited (Ireland), Fulgor Monoprosopi Anonymi Eteria Elliniki Viomixania Kalodion (Greece), Dimos Oinousson (Greece)</p>	<p>University of the Aegean E: contactus@aegean.gr</p>
<b>eMSP NBSR</b>		
<p><b>Emerging Ecosystem-based Maritime Spatial Planning Topics in the North and Baltic Sea Regions</b></p> <p>The aim of the eMSP NBSR project is to enable Maritime Spatial Planners of managing authorities and policymakers from the North and Baltic Sea Regions to reflect on current MSP practices, to learn effectively from each other, and to collectively identify problems and solutions. This will provide new knowledge and information to national governments and the European Commission on implementation, development and research actions, and managerial approaches that can or should be taken to deal with future challenges and opportunities afforded by the sea in a coherent way and with involvement of industry, academia and non-governmental organizations. With all countries having MSP plans in place by 2021, MSP in Europe will enter a new stage. The period that follows is a unique opportunity to take stock: What has been achieved so far in the respective countries and sea basins and what needs to be done to ensure MSP fulfils its potential? It is also a unique opportunity to share the lessons learnt, to expand and align the available information and knowledge base, and to use the newly gained knowledge and experience to jointly tackle the challenges ahead. Preparing for this future, however, is not a one-off event, but a process that requires continuous learning and exchange between MSP authorities/planners, stakeholders and scientists.</p>	<p>Netherlands Enterprise Agency (RVO) (NL), Ministry of Agriculture, Nature and Food Quality of the Netherlands (MINLNV), Ministry of Infrastructure and Water Management of the Netherlands (MIN IenW), Federal Maritime and Hydrographic Agency (Germany), Gdynia Maritime University (Poland), Danish Maritime Authority (Denmark), Regional Council of Southwest Finland (Finland), Government of Åland, Swedish Agency for Marine and Water Management, French Naval Hydrographic and Oceanographic Service, De Blauwe Cluster (Belgium), The Baltic Mar VASAB Secretariat, The baltic marine Environment Protection Commission, Nordregio, Finnish Environment Institute</p>	<p>Ministerie van Economische Zaken en Klimaat</p>

Project Description	Participants involved	Project coordinator contact information
<p>A suitable platform that brings together people, information and insights in a flexible and above all reflexive way is currently lacking.</p>		
<b>DOORS</b>		
<p><b>Developing Optimal and Open Research Support for the Black Sea</b></p> <p>The DOORS project is all about making the Black Sea a better place. They want to understand its unique ecosystem, help new businesses grow, and protect the environment. The Black Sea has some challenges, but this project aims to turn them into opportunities.</p> <p>They will work with different groups, like researchers, businesses, and policymakers, to share information and ideas. They'll create a system to collect and share data about the Black Sea, which will help make decisions and policies. They'll also support new businesses and provide training to improve the skills and understanding of people in the region.</p> <p>The goal is to make the Black Sea cleaner, protect its wildlife, and help the local economy grow in a sustainable way.</p>	<p>Institutul National De Cercetare-Dezvoltare Marina Grigore Antipa (Romania), Organizatia Neguvernamentala Ecologista Mare Nostrum (Romania), Institute Of Oceanology Bas (Bulgaria), Geo Marine (Bulgaria), Burgaski Svoboden Universitet (Bulgaria), Middle East Technical University (Türkiye), Dokuz Eylul University Of Izmir (Türkiye), Karadeniz Teknik Universitesi (Türkiye), Gis And Rs Consulting Center Geographic (Georgia), P.P. Shirshov Institute Of Oceanology Of Russian Academy Of Sciences (Russia), Russian Presidential Academy Of National Economy And Public Administration, North-West Institute Of Management (Russia), Odessa State Environmental University (Ukraine), Universitatea De Stat Din Tiraspol (Moldova), Consiglio Nazionale Delle Ricerche (Italy), Institut Francais De Recherche Pour L'exploitation De La Mer (France), Helmholtz-Zentrum Hereon Gmbh (Germany), Brockmann Consult Gmbh (Germany), Stichting Deltares (Netherlands), Universitat Politecnica De Catalunya (Spain), Socib - Consorcio Para El Diseno, Construccion, Equipamiento Y Explotacion Del Sistema De Observacion Costero De Las Illes Balears (Spain), Agencia Estatal Consejo Superior De Investigaciones Cientificas (Spain), University College Cork - National University Of Ireland, Cork (Ireland), Hellenic Centre For Marine Research (Greece), Kantor Symvouloi Epicheiriseon Anonimi Etairia (Greece), The University Of Stirling (UK), Plymouth Marine Laboratory Limited (UK), National Oceanography Centre (UK), Eurogoos (Belgium), Euro-Argo Eric (France), European Multidisciplinary Seafloorand Water Column Observatory - European Research Infrastructure Consortium (Emso Eric) (Italy), European Marine Biological Resource Centre European Research Infrastructure Consortium (France), E-Science European Infrastructure For Biodiversity And Ecosystem Research (Spain), Derzhavna Naukova Ustanova Tsentr Problem Morskoyi Heologii Heeekolohiyi Ta Osadovoho Rudoutvorennia Nanukrainy Dnu Morheokotsentr Nan Ukrainy (Ukraine), Istituto Nazionale Di Geofisica E Vulcanologia (Italy), Athina-Erevnitiko Kentro Kainotomias Stis Technologies Tis Pliroforias, Ton Epikoinonion Kai Tis Gnosis (Greece), Toulon Var Technologies (France), Rea Michael (Uk)</p>	<p>The national institute for research and development on marine geology and geoecology - GeoEcoMar E: contact@geoecomar.ro</p>

Project Description	Participants involved	Project coordinator contact information
<b>ULTFARMS</b>		
<p><b>Circular Low Trophic Offshore Aquaculture in wind farms and Restoration of Marine Space</b></p> <p>The ULTFARMS project wants to make aquaculture (farming of seafood like fish and shellfish) better, especially in places with offshore wind farms in the North and Baltic Seas. They will use new techniques and technology to improve seafood production in these challenging environments while being friendly to the environment and economically viable. The project will work with researchers and industry experts to create new designs and operations for aquaculture in these locations.</p> <p>They will have pilot projects in different countries where they'll test growing things like seaweed, mussels, and oysters. They aim to involve everyone along the value chain, from researchers to seafood producers, to make sure the products are safe and eco-friendly.</p> <p>They'll also use advanced monitoring and management systems to support aquaculture and help reduce the risk of diseases and invasive species. The project will share what they learn with other regions and collaborate with partners to spread their innovations.</p>	<p>Forschungs- Und Entwicklungszentrum Fachhochschule Kiel Gmbh (Germany), Universiteit Gent (Belgium), Institut Royal Des Sciences Naturelles De Belgique (Belgium), Stichting Wageningen Research (Netherlands), Danmarks Tekniske Universitet (Denmark), Vlaams Instituut Voor De Zee (Belgium), Nordic Seafarm Ab (Sweden), Kieler Meeresfarm Gmbh &amp; Co Kg (Germany), Bbe Moldaenke Gmbh (Germany), Jan De Nul Nv (Belgium), Bla Biomasse A/S (Denmark), Orsted Wind Power A/S (Denmark), Submariner Network For Blue Growth Ewiv (Germany), Parkwind (Belgium), Hidromod Modelacao Em Engenharia Lda (Portugal), Goeteborgs Universitet (Sweden), Impact9 Energy &amp; Marine Limited (Ireland), Bantry Marine Research Station Limited (Ireland), Spf Ocean Rainforest (Faeroe Islands), Hortimare Bv (Netherlands), Van De Braak Catharina (Netherlands), Fundacion Corporacion Tecnologica De Andalucia (Spain), Oos Smf Bv (Netherlands), Gf Garrad Hassan Deutschland Gmbh (Germany)</p>	<p>Stichting Deltares T: +31 (0)88 335 8273</p>
<b>OLAMUR</b>		
<p><b>Offshore Low-Trophic Aquaculture in Multi-Use Scenario Realisation</b></p> <p>The OLAMUR project is all about using the space in the sea more efficiently. They want to grow seaweed and blue mussels near offshore wind farms in the North and Baltic Seas. This can help produce more seafood and make better use of the ocean.</p> <p>They will create three test sites - one near Germany, one in the Baltic Sea, and another near Estonia - where they'll grow these seafood products. They'll collect data, test methods, and develop a digital system to make this type of farming work well. The goal is to show that it's possible to use the sea in a way that's good for the environment and also provides more seafood.</p> <p>TRL Phase: The project description doesn't specify the current Technology Readiness Level (TRL) phase, but it seems to involve testing and developing new techniques and systems, which typically fall within the early to mid TRL.</p>	<p>Alfred-Wegener-Institut Helmholtz-Zentrum Fur Polar- Und Meeresforschung (Germany), Danmarks Meteorologiske Institut (Denmark), Aarhus Universitet (Denmark), Gcf - Global Climate Forum Ev (Germany), Helmholtz-Zentrum Hereon Gmbh (Germany), Maritime Robotics As (Norway), Vattenfall Vindkraft A/S (Denmark), Kattegatcentrets Driftsfond (Denmark), Skarv Technologies As (Norway), Sintef Ocean As (Norway), Windmw Service Gmbh (Germany), Kerteminde Seafarm Aps (Denmark), Leroy Seafood Group Asa (Norway), Redstorm Ou (Estonia), Tartu Ulikool (Estonia), Danmarks Tekniske Universitet (Denmark), Osel Aquafarms Ou (Estonia), Kobenhavns Universitet (Denmark), Ett Spa (Italy), Klaipedos Universitetas (Lithuania), Plateforme Technologique Et De L Innovation De L Aquaculture Europeenne Asbl (Belgium), Nordfriesische Seemuschel Gmbh (Germany), Wyk 8 Muschelfischereibetrieb Gmbh (Germany), Stiftelsen Voice Of The Ocean (Sweden)</p>	<p>Institute of Marine research E: post@hi.no</p>

Project Description	Participants involved	Project coordinator contact information
<b>AqualNFRA</b>		
<p><b>Infrastructure for Marine and Inland Water Research</b></p> <p>the AqualNFRA project is focused on creating a digital research environment to facilitate the work of marine and freshwater scientists and stakeholders in restoring the health of aquatic ecosystems. This environment will be based on the European Open Science Cloud (EOSC) and will allow users to efficiently store, access, and analyze multidisciplinary data and research objects, even across different research domains and national boundaries.</p> <p>The primary goal is to support collaboration between marine and freshwater research communities. The project will develop a cross-domain and cross-country search and discovery mechanism, as well as services for spatiotemporal analysis and modeling through Virtual Research Environments. This will enable scientists and stakeholders to work together on restoring the health of oceans, seas, coastal regions, and inland waters.</p>	<p>Maanmittauslaitos (Finland), The Baltic Marine Environment Protection Commission (Finland), Csc-Tieteen Tietotekniikan Keskus Oy (Finland), Suomen Ymparistokeskus (Finland), Sintef As (Norway), Norsk Institutt For Vannforskning (Norway), Tartu Ulikool (Estonia), Latvijas Hidroekologijas Instituts (Latvia), Hochschule Bochum (Germany), Forschungsverbund Berlin Ev (Germany), 52 North Spatial Information Research Gmbh (Germany), Helmholtz-Zentrum Hereon Gmbh (Germany), Deutsches Klimarechenzentrum Gmbh (Germany), Centro De Investigacion Ecologica Y Aplicaciones Forestales (Spain), Agencia Estatal Consejo Superior De Investigaciones Cientificas (Spain), Universita Ta Malta (Malta), Universitaet Fuer Bodenkultur Wien (Austria), Technische Universitaet Dresden (Germany), Karlsruher Institut Fuer Technologie (Germany), Blue Lobster It Limited (UK)</p>	<p>Aalborg University E: aau@aau.dk</p>
<b>Blue-Cloud 2026</b>		
<p>Blue-Cloud 2026 is an EU-funded project that's taking the initial Blue-Cloud project to the next level. It's creating a European system for sharing and analyzing data related to oceans, seas, and coastal areas. This project aims to provide easy access to this data and analytical tools for researchers and organizations.</p> <p>The goal is to support various initiatives, including the European Green Deal and the mission to "Restore our Oceans and Water by 2030." The project envisions a "Digital Twin Ocean" where researchers can work with data from various sources. In the next 42 months, Blue-Cloud 2026 will enhance its existing tools, develop new ones, and expand the datasets it offers. They are collaborating with different data sources and e-infrastructures to make this happen.</p> <p>Key aspects of the project include making data FAIR (Findable, Accessible, Interoperable, and Reusable), creating a Virtual Research Environment (VRE), and building Virtual Labs for researchers. They aim to make marine data more accessible and usable for a wide range of users.</p> <p>The project is coordinated by organizations like Trust-IT and MARIS, with a team of partners from 13 European countries.</p>	<p>Trust-It Srl (Italy), Compla Srl (Italy), Mariene Informatie Service Maris Bv (Netherlands), Nubisware Srl (Italy), Institut Francais De Recherche Pour L'exploitation De La Mer (France), Seascope Belgium (Belgium), Mercator Ocean (France), Vlaams Instituut Voor De Zee (Belgium), Fondazione Centro Euro-Mediterraneosui Cambiamenti Climatici (Italy), European Molecular Biology Laboratory (Germany), Koninklijk Nederlands Meteorologisch Instituut-Knmi (Netherlands), Cineca Consorzio Interuniversitario (Italy), National Infrastructures For Research And Technology (Greece), Sorbonne Universite (France), Universiteit Van Amsterdam (Netherlands), Idryma Technologias Kai Erevnas (Greece), Institut De Recherche Pour Le Developpement (France), Istituto Nazionale Di Oceanografia E Di Geofisica Sperimentale (Italy), Hellenic Centre For Marine Research (Greece), Ett Spa (Italy), European Multidisciplinary Seafloorand Water Column Observatory - European Research Infrastructure Consortium (Emso Eric) (Italy), Alfred-Wegener-Institut Helmholtz-Zentrum Fur Polar- Und Meeresforschung (Germany), Universite De Liege (Belgium), Stichting Egi (Netherlands), Istituto Nazionale Di Geofisica E Vulcanologia (Italy), Socib - Consorcio Para El Diseno, Construccion, Equipamiento Y Explotacion Del Sistema De Observacion Costero De Las Illes Balears (Spain), Eurogoos (Belgium), Sveriges Meteorologiska Och Hydrologiska Institut (Sweden), European Marine Biological Resource Centre European Research Infrastructure Consortium (France), Instituto Hidrografico (Portugal),</p>	<p>Consiglio Nazionale delle Ricerche E: protocollo-ammcen@pec.cnr.it</p>

Project Description	Participants involved	Project coordinator contact information
	Sios Svalbard As (Norway), Stiftelsen Nansen Senter For Miljoog Fjernmaling (Norway), Instytut Oceanologii Polskiej Akademii Nauk (Poland), Stiftelsen Hub Ocean (Norway), Ieee France Section (France), Oceanscope (France), Pokapok (France), Eidgenoessische Technische Hochschule Zuerich (Switzerland), National Oceanography Centre (UK)	
<b>Norsaic</b>		
<p><b>Cooperation Governance for Next-level Maritime Spatial Planning in the North Sea</b></p> <p>The Norsaic Project aims to improve the way countries and organizations cooperate in managing the maritime space of the North Sea. This area is heavily used for various activities, and there's a need to adapt and innovate to address new challenges, especially those related to climate change. Norsaic brings together government authorities, researchers, and maritime stakeholders to develop strategies for the sustainable future of the North Sea.</p> <p>Their goals include enhancing maritime spatial planning (MSP) by focusing on issues like land-sea interaction, cumulative impacts, and multi-use of space to adapt to a changing climate. They also aim to create innovative approaches to MSP and build the capacity for collaborative governance. In the end, Norsaic seeks to improve cooperation and governance in MSP by developing and implementing new strategies and plans at national and local levels.</p>	University Of Oldenburg (Germany), Federal Maritime And Hydrographic Agency (Germany), Breda University Of Applied Sciences (Netherlands), Ministry For Infrastructure And Watermanagement (Netherlands), Centre For Studies On Risks, The Environment, Mobility And Urban Planning - CEREMA (France), DELTARES (Netherlands), Swedish Agency For Marine And Watermanagement (Sweden), Geological Survey Of Denmark And Greenland (Denmark), General Directorate For Maritime Affairs, Fisheries And Aquaculture - DGAMPA (France), Own Capital - Institute Of Agriculture And Fishery - EV-ILVO (Belgium), Federal Public Service Public Health, Foodchain Safety And Environment, Marine Environment Service (Belgium), Deltares (Netherlands), CPMR North Sea Commission Working Group On Maritime Resources (Netherlands), The Norwegian Mapping Authority (Norway), Provincie Noord-Holland (Netherlands), Aalborg University (Denmark), Aberdeenshire Council (UK)	
<b>MariPark</b>		
<p><b>Marine Areas supporting Renewables and other Innovations with Policy and Regulatory Knowledge Exchange</b></p> <p>With ambitious targets for offshore wind and in some cases also offshore floating solar energy, the European seas will be at the core of the EU's energy transition. However, in the coming years offshore renewable energy (ORE) parks will also dominate the offshore space. Offshore multi-use (OMU) will be needed to ensure that other stakeholders and technologies can keep contributing to a prosperous, sustainable and secure Europe. OMU however, can only be realised with the support of policy instruments which incorporate the various interests of stakeholders in the maritime sector.</p> <p>Within MariPark, EU regions from all sea basins (North Sea, Atlantic Ocean, Mediterranean Sea, Black Sea, and Baltic Sea) join forces to exchange experiences and best practices on stimulating OMU through 30 interregional learning events. As a result, 7 high impact policy instruments will be improved to enable efficient and effective OMU implementation.</p>	Rijksdienst voor ondernemend Nederland (RVO), DMEC- Dutch Marine Energy Centre, Directorate-General for Energy and Geology (Portugal), Corilla (Italy), Puglia Region – Department of Environment, Landscape and Urban Quality Department (Italy), Southwest Finland Regional Council (Finland), HEREMA 0 Hellenic Hydrocarbons and Energy Resources Management Company (Greece), Natural Resources Institute Finland (Finland), South-East Regional Development Agency (Romania), Blue Cluster (Belgium), Danubius University of Galati (Romania)	



Project Description	Participants involved	Project coordinator contact information
<p>MariPark will enable the exchange of learnings of a rapid offshore wind growth in the North Sea and Baltic Sea with other regions. The key areas for policy instruments to stimulate and enable OMU in and around wind parks are marine spatial planning (MSP), permitting, leasing agreements and tenders, and lastly, financial incentives. These form the 4 pillars of the MariPark project.</p> <p>Based on the best practices, identified in the North Sea, other regions will adapt and develop improved policy instruments to enable the large-scale roll-out of OMU.</p> <p>All instrument improvements developed in the MariPark project will combine stakeholder needs with sustainable development targets while respecting the rights and cultural heritage of all users of the European sea basins. They will enhance the sustainable energy and food transition while safeguarding nature preservation for healthy oceans and seas, and ultimately provide a stable foundation to accelerate the transition from blue economy to sustainable blue economy (SBE).</p>		



Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited (“DTTL”), its global network of member firms, and their related entities (collectively, the “Deloitte organization”). DTTL (also referred to as “Deloitte Global”) and each of its member firms and related entities are legally separate and independent entities, which cannot obligate or bind each other in respect of third parties. DTTL and each DTTL member firm and related entity is liable only for its own acts and omissions, and not those of each other. DTTL does not provide services to clients. Please see [www.deloitte.com/about](http://www.deloitte.com/about) to learn more.

Deloitte provides industry-leading audit and assurance, tax and legal, consulting, financial advisory, and risk advisory services to nearly 90% of the Fortune Global 500® and thousands of private companies. Our professionals deliver measurable and lasting results that help reinforce public trust in capital markets, enable clients to transform and thrive, and lead the way toward a stronger economy, a more equitable society and a sustainable world. Building on its 175-plus year history, Deloitte spans more than 150 countries and territories. Learn how Deloitte’s more than 415,000 people worldwide make an impact that matters at [www.deloitte.com](http://www.deloitte.com).

This communication contains general information only, and none of DTTL, its global network of member firms or their related entities is, by means of this communication, rendering professional advice or services. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser. No entity in the Deloitte organization shall be responsible for any loss whatsoever sustained by any person who relies on this communication.

© 2024. For information, contact Deloitte Netherlands.