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5th BALTIC MSP FORUM

11-12 November 2025 Riga, Latvia

Session 9: Effective Use of Space for a Sustainable Blue Economy: Baltic Approaches to Multi-Use in Marine and Coastal Areas

12 November 2025

10:45-12:00 h

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NESBp Northern European Sea Basins project

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Effective Use of Space for a Sustainable Blue Economy: Baltic Approaches to Multi-Use in Marine and Coastal Areas

Moderators:

Ivana Stojanovic

Franziska Drews-von Ruckteschell

SUBMARINER Network for Blue Growth

SUBMARINER NETWORK

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Agenda

10:45-10:50 Introduction

10:50-11:20 (10 min for each speaker)

- **Study on current and future possibilities for multi-use in the EEZ — German/BSH — Bettina Käppeler**
- **Study on coexistence between offshore wind and fisheries (Nordic region) — Nordregio — Kerstin Bly Joyce**
- **Maripark as a concept / one of NESBp's Maripark pilot cases (North Sea / international) — Blue Cluster — Kinnie De Beule**

11:20-11:25 Pitch-style insights (5 min)

- **Multi-use pilot cases from ULTFARMS — Deltares — Alexander Ziemba**

11:25-11:55 Live Slido Q&A

11:55-12:00 Closing

MISSION LIGHTHOUSES

BLUE MISSION BANOS

Supporting the Implementation of the Mission Ocean in the Baltic and North Sea Lighthouse Area

EU MISSIONS
RESTORE OUR OCEAN & WATERS

Protect and restore aquatic ecosystems
ATLANTIC - ARCTIC

Make the blue economy carbon-neutral and circular
BALTIC & NORTH SEA

Protect and restore ecosystems
DANUBE-BLACK SEA

Prevent and eliminate pollution
MEDITERRANEAN

EU MISSIONS

RESTORE OUR OCEAN & WATERS

Objective 1	Objective 2	Objective 3
Protect and restore marine and freshwater ecosystems and biodiversity	Prevent and eliminate pollution of our oceans, seas and waters	Make the sustainable blue economy carbon-neutral and circular
Contribute to relevant marine nature restoration targets including degraded seabed habitats and coastal ecosystems	Reduce nutrient losses by 50%	Achieve net zero maritime emissions
Protect at least 30% of the EU's seas and integrate ecological corridors, as part of a true Trans-European Nature Network	Reduce the use and risk of chemical pesticides by 50%	Develop zero-carbon and low-impact aquaculture
Strictly protect at least 10% of the EU's seas	Reduce plastic litter at sea by 50%	Promote circular, low-carbon multi-purpose use of marine and water space
Restore at least 25,000 km of free/flowing rivers	Reduce by 30% microplastics released into the environment	
Related policy: EU Biodiversity Strategy 2030	Related policy: Action Plan Towards Zero Pollution	Related policy: European Green Deal European Climate Law

Figure 2 - Objectives of the EU mission 'Restore our Oceans and Waters by 2030'. https://water.europa.eu/marine/europe-seas/eu-mission-restore-our-oceans-and-water/mission-ocean-briefing-1-25

BLUE MISSION BANOS

Supporting the Mission Ocean Lighthouse in the Baltic and North Sea Basins

Inspire, engage and support all relevant stakeholders across the Baltic and North Sea

to take the necessary actions to make the Blue Economy carbon-neutral and circular by 2030 – whilst eliminating pollution and increasing its biodiversity.

#bluemissionbanos
bluemissionbanos.eu
info@bluemissionbanos.eu

BLUE MISSION BANOS

MISSION ARENAS

Helping achieve the Mission Ocean objectives within specific regions of the BANOS area.

MA1

Gothemburg

South Norway, West Sweden, Baltic Denmark, West Baltic Denmark (November 2023)

MA2

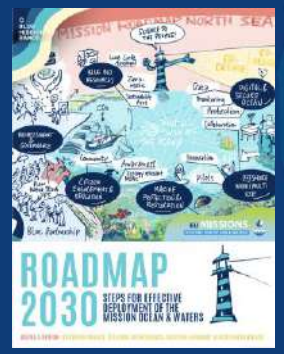
Riga

Lithuania, Latvia, Estonia, Finland, Baltic Sweden (April 2024)

MA3

Amsterdam

North France, Belgium, the Netherlands, North Sea Germany and Denmark (November 2025)



MA4

Gdansk

East Baltic Germany, Poland, South Baltic Sweden (April 2025)

MA5

Germany

(October 2025)

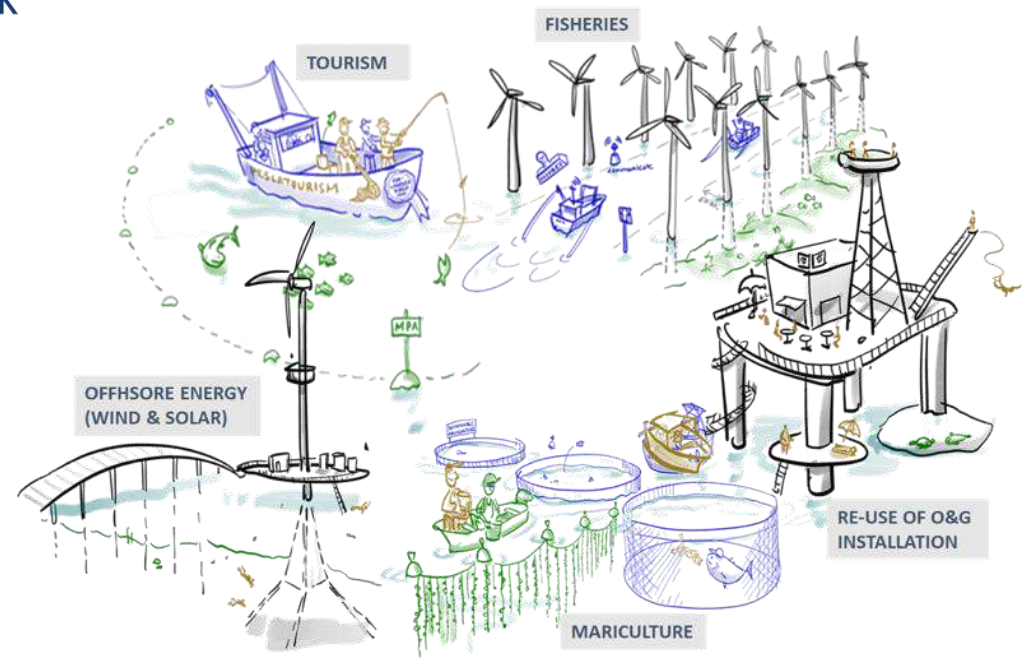
Innovations

Solutions

Good practices

Action points

Introduction



MULTIFRAME

UNITED

MUSES Multi-Use in European Seas

ULTFARMS

NESBp Northern European Sea Basins project

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Study on current and future possibilities for multi-use in the German EEZ

Bettina Käppeler

Maritime Spatial Planner, German Federal Maritime and Hydrographic Agency (BSH)

Background

Spatial Planning Law / MSP:

- **sustainable development** of space is a guiding principle in German maritime spatial planning
- limited resource of space should be utilised as **efficiently** and **safely** as possible, while considering the impact on the **marine environment**
- uses should **affect each other as little as possible**

Experts' report on the multi-use of sites in the German exclusive economic zone (EEZ) in the North Sea and Baltic Sea

(BSH, on behalf of the Federal Ministry of Housing, Urban Development and Construction, 2025)

➔ Analysis from MSP perspective: in MSP 2021 such a report was explicitly stated as task to be carried out with regard to fishery options (passive and active) near / within offshore windfarms

➔ Scope of analysis was subsequently expanded: Which uses could take place in the same marine area - while requiring management by maritime spatial planning, and/or respective enabling framework conditions?

Multi-use projects

Key area : North Sea

➔ Focus on **offshore windenergy** and

- **low trophic- aquaculture**
- **passive fishery**
- **nature restoration**

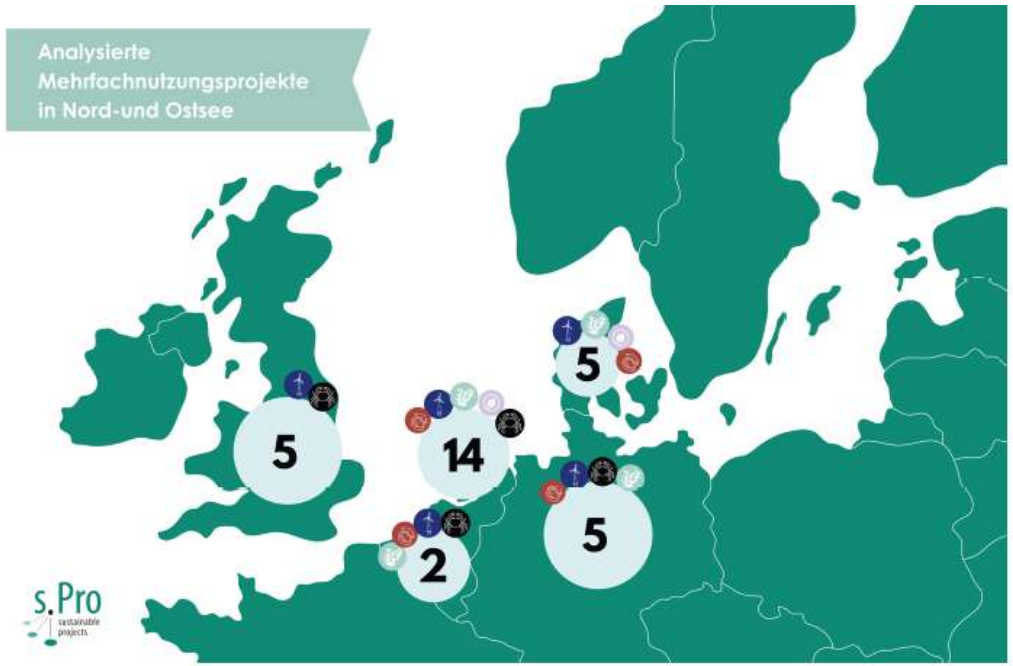
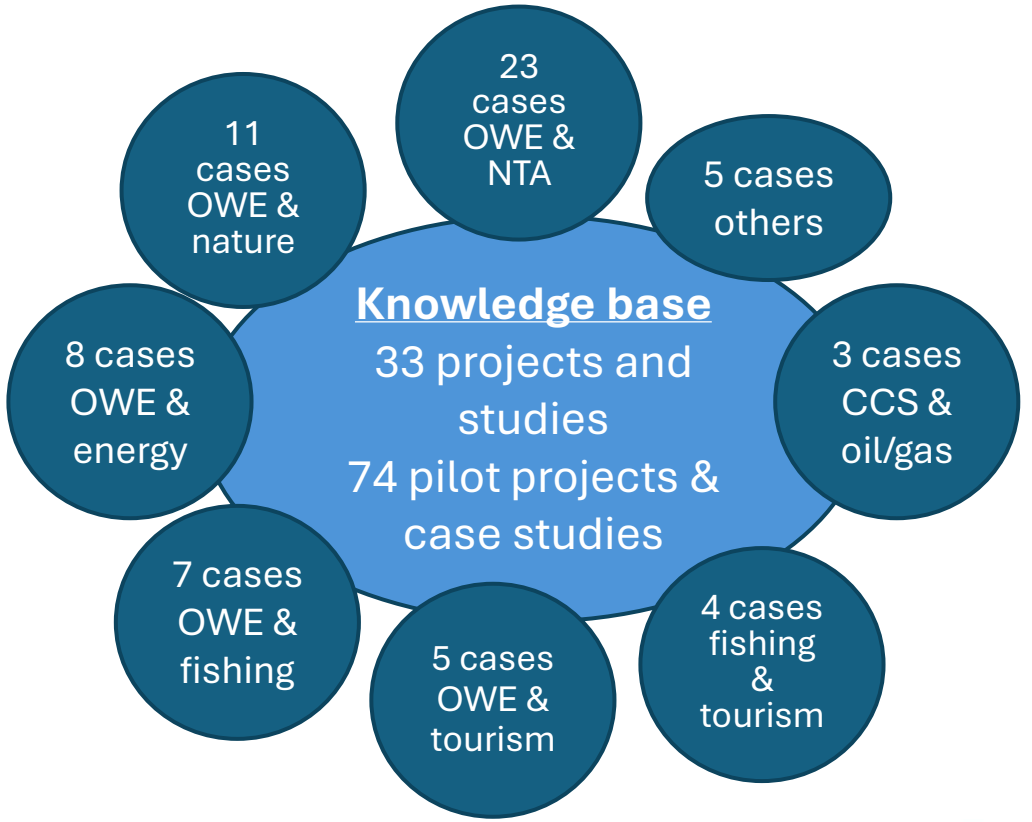


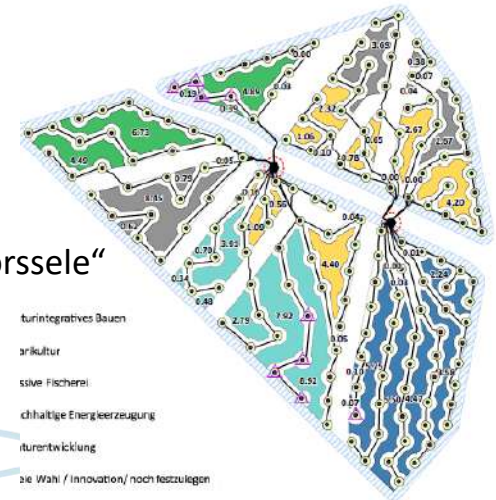
Abbildung 3 - Im Gutachten analysierte Mehrfachnutzungsprojekte in Nord- und Ostsee. Quelle: Eigene Darstellung (s.Pro).

Source: s.Pro

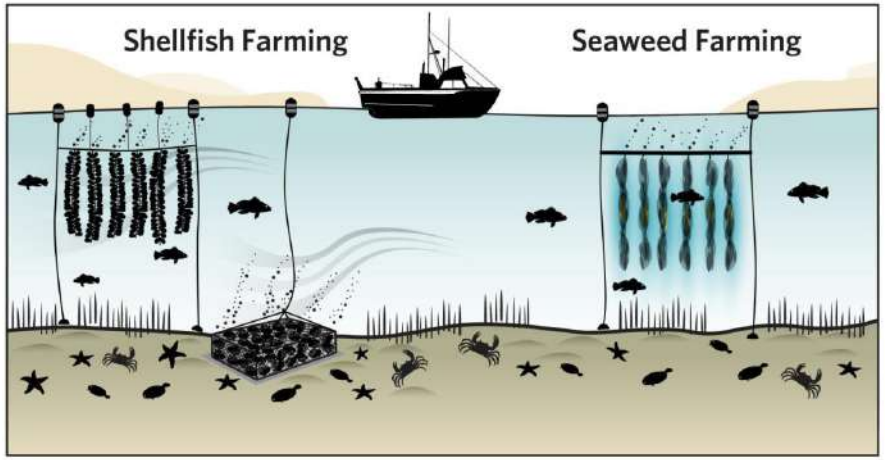


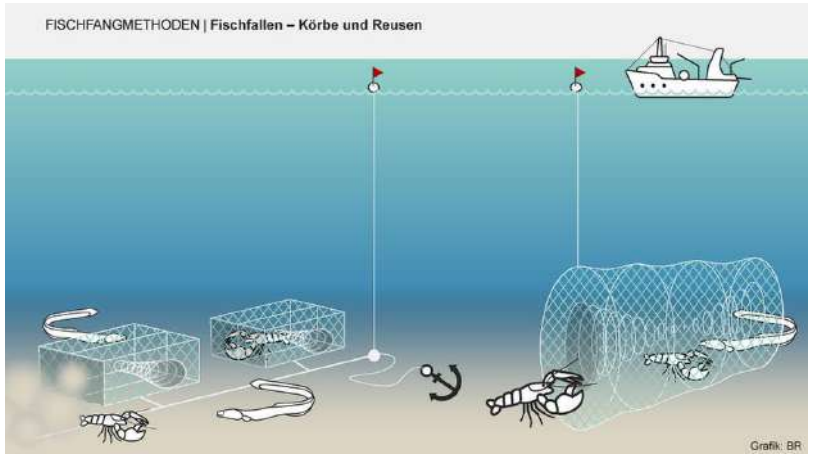
Netherlands:
Implementation of multi-use in offshore wind farms: From **North Sea Programme** to implementation ➔ structured process, main instrument: **area passports**

Area Passport
Windfarm „Borssele“



Examples of potential additional uses around / in Offshore Wind Farms





Passive fishery (with pods and traps)

Low-trophic aquaculture (algae, shellfish, oysters)

Mobile research

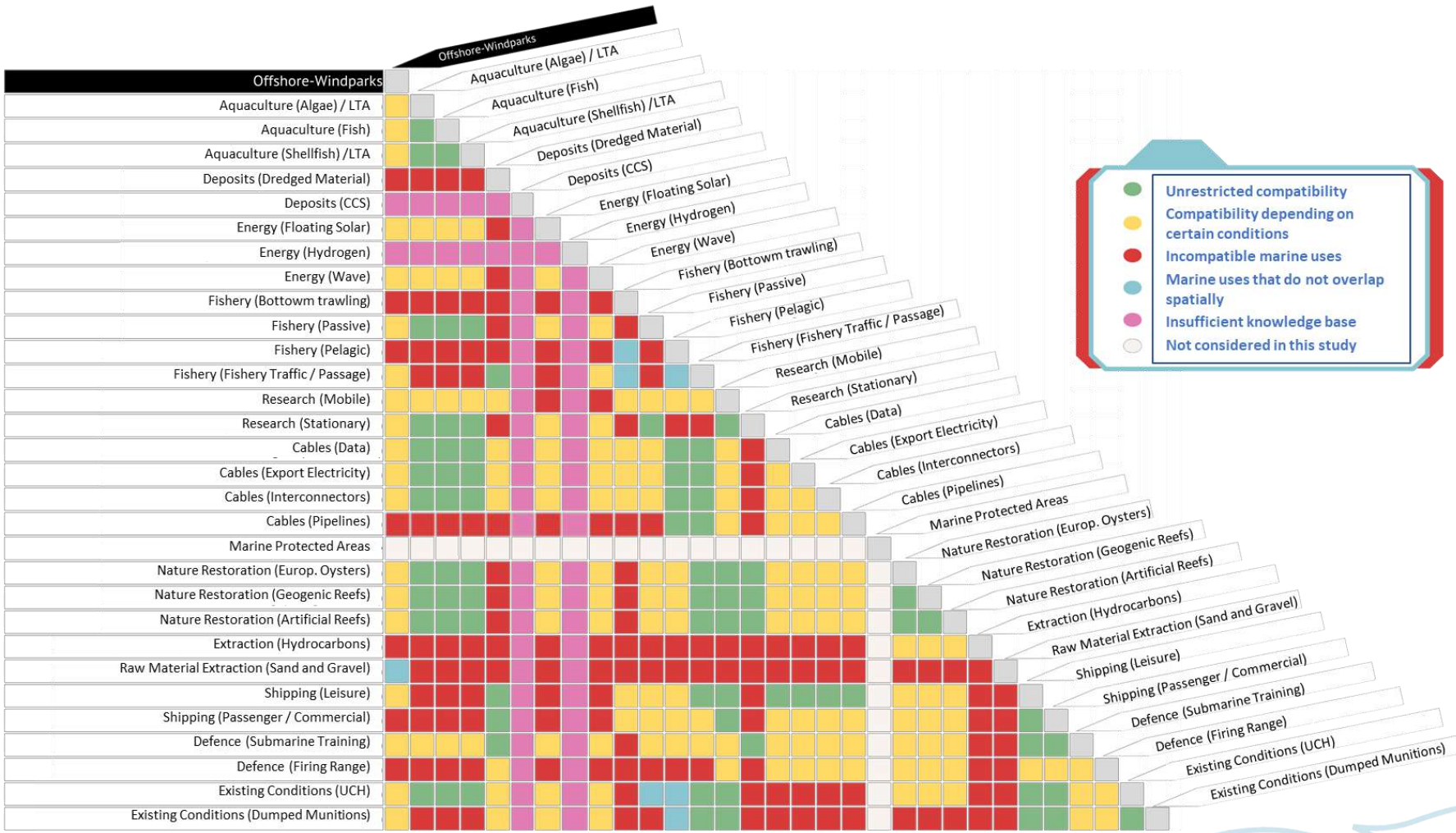
Source: s.Pro, (citing The Nature Conservancy, ARD Alpha, 2022; WUR, 2020; Univ. Oldenburg, 2021))

Compatibility of maritime activities and marine functions

From general assessment of compatibility of activities to exemplary site specific analysis

Based on:

- level of experience / state of knowledge in general
- expert judgement regarding logistics, safety etc.
- pilot projects experience
- national approaches
- on-going research



Source: Results from s.Pro: Study on Options for Multi-Use in the German EEZ (2024/2025), slightly adapted

Compatibility of maritime activities and marine functions

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Based on:

- level of ex… of knowledge in g…
- expert judgement regarding le… etc.
- pilot projec…
- national approaches
- on-going research

Low-trophic Aquaculture

(passive) Fishery

Scientific Research (mobile)

Nature Restoration

Source: Results from s.Pro: Study on Options for Multi-Use in the German EEZ (2024/2025), slightly adapted

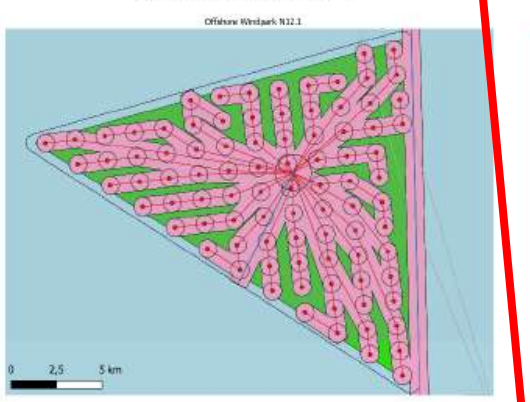
Available space for multi-use in a windfarm

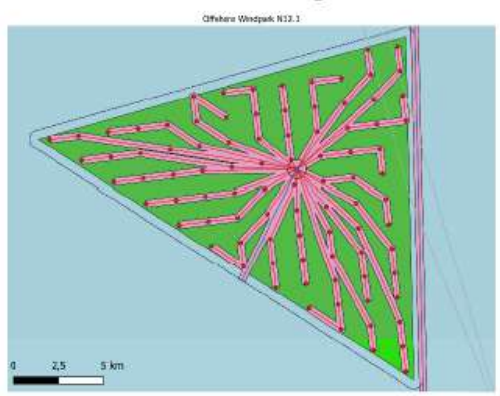
“Representative” Offshore Windfarms - Functional compatibility / technical feasibility / seasonality

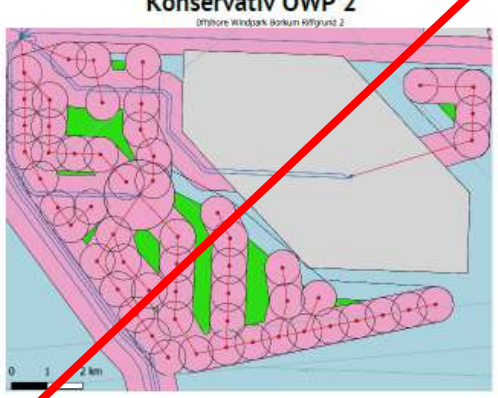
OWP 1

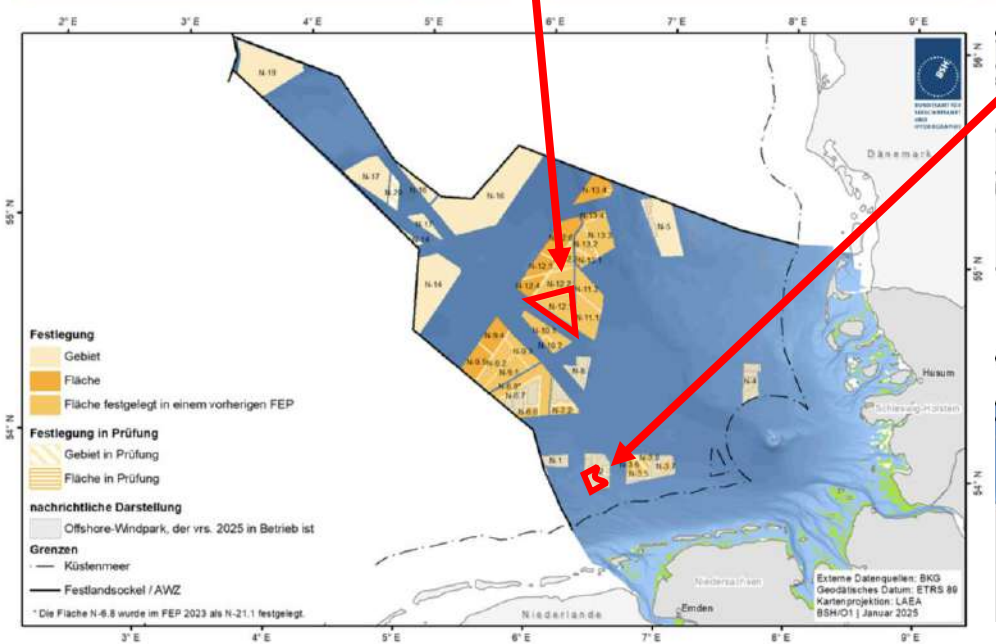
OWP 2

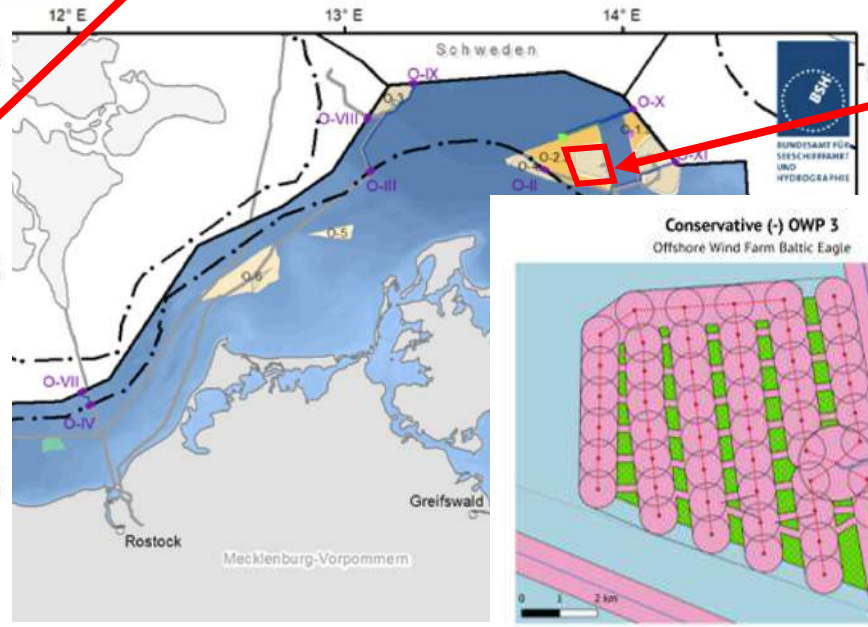
OWP 3



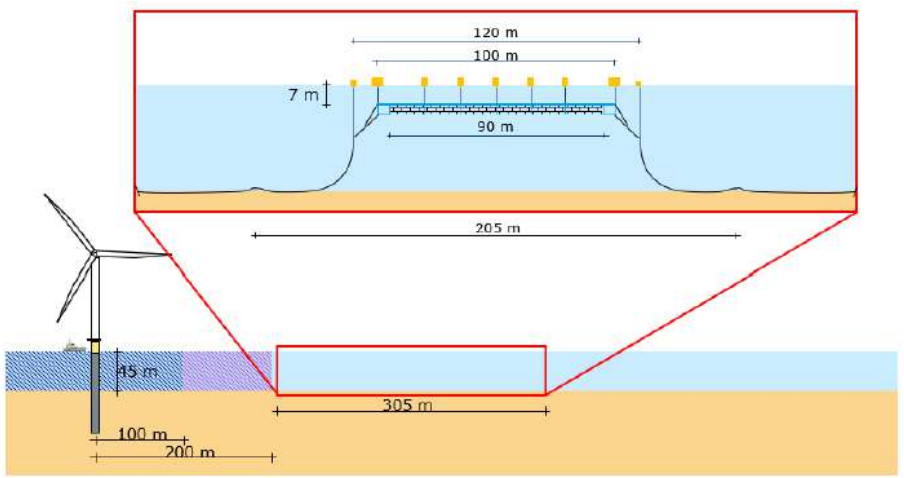




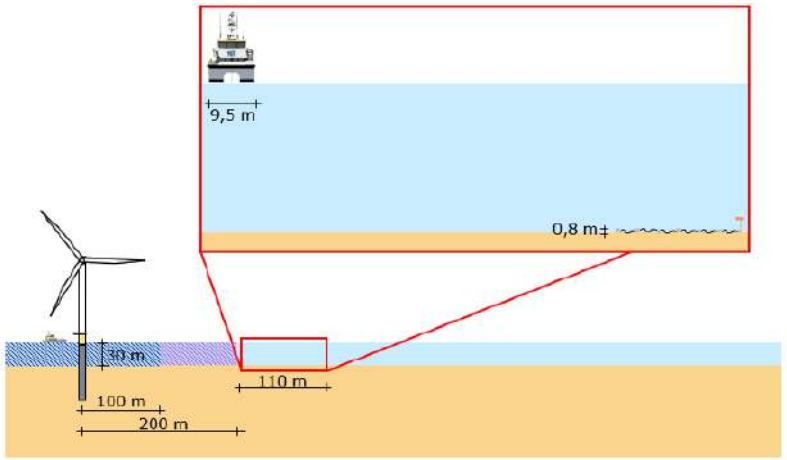




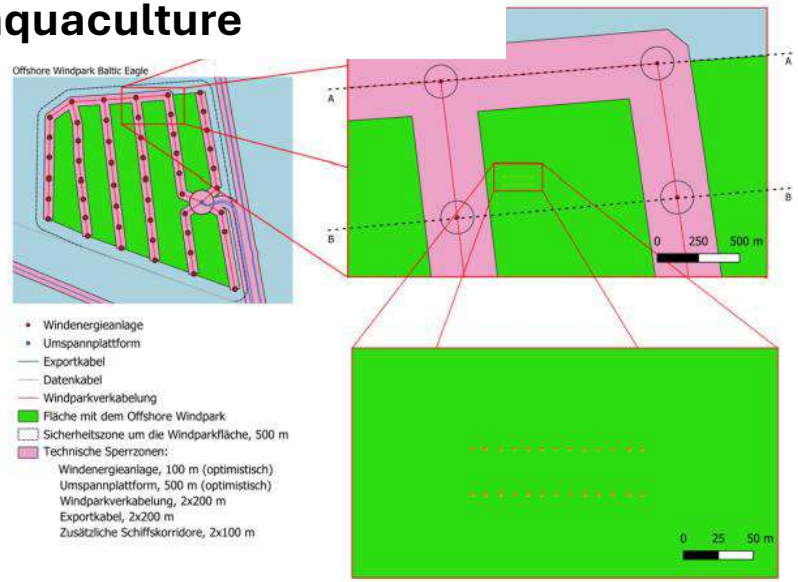
Functional compatability / technical feasbility of OWE and fisheries / aquaculture

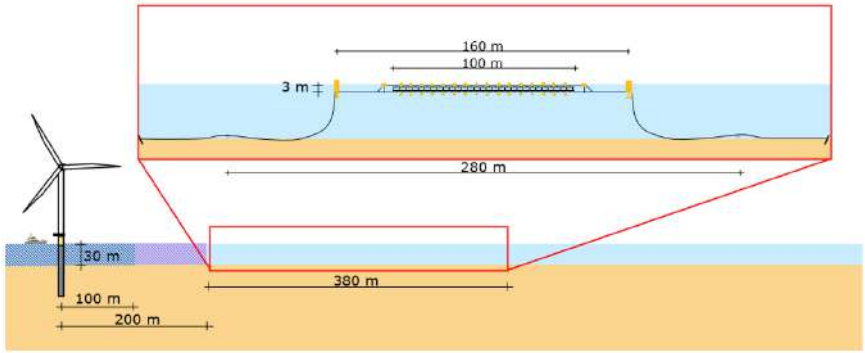


Mussles aquaculture



Passive fishery (brown crab)

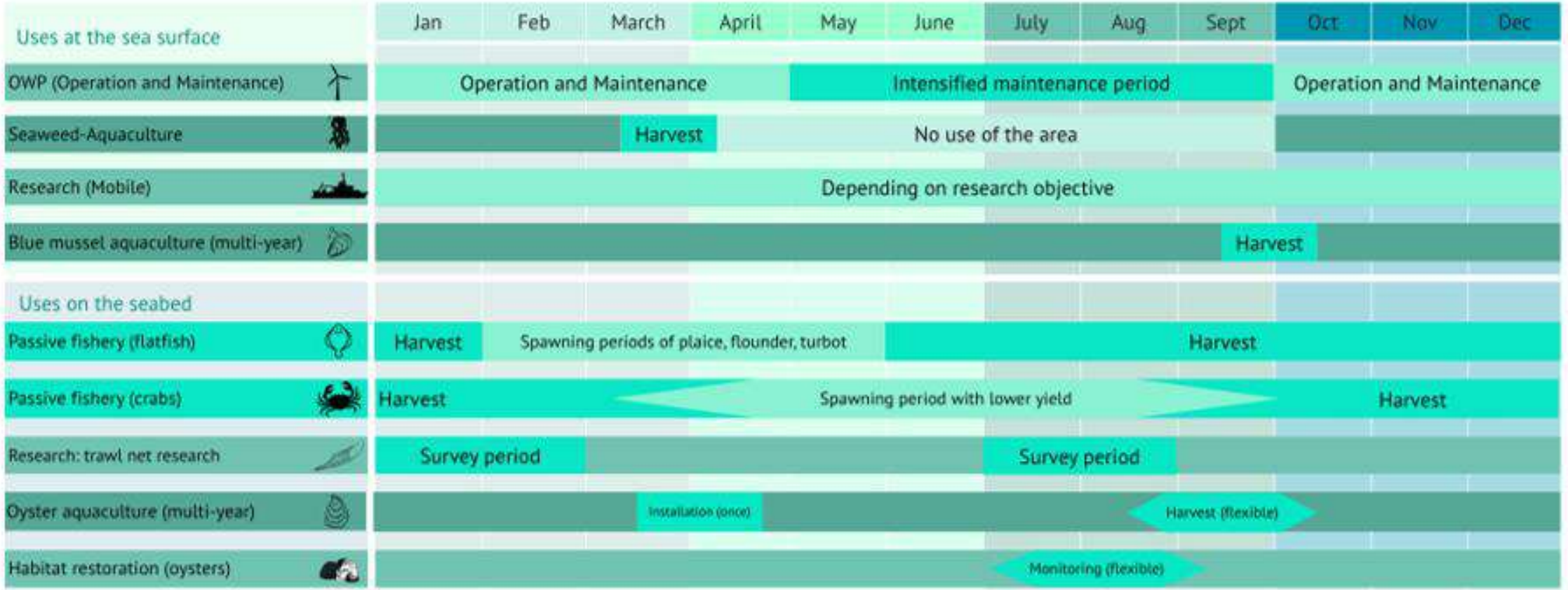




Sugar kelp aquaculture

Seasonality of Multi-Use

Temporal compatibility and traffic intensity in/around the wind farm in the case of multiple



Source: s.Pro

Risk-Assessment – Windfarm vs Co-Use

Safety / Security / Risks – Risk Assessment

Risks for Offshore Windfarm Operator

Risk Category	Risk Description	Probability	Impact	Criticality Level	Use
Additional Growth	On the cable suspension system	Not expected	Low	Low	
	On the monopile structure		Medium		
	On the transition piece	Possible	Low		
Damage to the OWP Infrastructure through Activities of Secondary Use	Cable or cable insulation damage caused by research equipment such as grabbers	Not expected	Low	Medium	
	Cable or cable insulation damage caused by bottom trawl nets				
	Corrosion at the boat landing due to cleaning and removal of biofouling	High	Low	Low	
Collisions	Ship collision (CTV) with multi-use systems	Not expected	Medium	Medium	
	Damage to the protective coating of monopiles due to collisions	Possible	High	Low	
	Ship collisions during O&M operations may reduce the load-bearing capacity of monopiles	Possible	Medium	Medium	
	Collision of jack-up vessel with rotor blades		Low		

Seaweed Low Trophic Aquaculture
Low Trophic Aquaculture (Oysters)
Low Trophic Aquaculture (Blue Mussles)
Passive Fisheries (Crabs)
Passive Fisheries (Flatfish)
Nature restoration (Oysters)
Mobile research – Low mobility requirement
Fisheries research with trawl nets

Risks for „Co-User“

Overall Category	Risk Description	Probability (1–5)	Impact	Criticality Level	Use
Multi-use Vessel Traffic	Collision of secondary-use vessel with OWP vessel	2	4	Medium/high	
		3	5	High	
		3	1	Medium	
		3	5	High	
		2	4	Medium	
		1	5		
	Contamination of Oysters/Mussels by Wind Farm Operation	3	5	High	
		1		Medium	
	Parasitic Infestation due to Multi-use Vessel Traffic	2	4	Medium	
		3			
	Destruction of Natural Reef Expansion by a Jack-up Vessel or Construction Activities	1	4	Medium	
Accessibility of the Site (Environmental Factors); Access and Permit Restrictions (Legal Factors)	No access over an extended period due to multi-use site	3	3	Medium	
			1	Low	
	Delays or failures due to access restrictions or permit procedures	4	3	Medium	
		3			
Restrictions/Damage to Secondary Use due to the Site within the OWP	Entanglement or damage to trawl nets by OWP structures when nets drift (e.g., around cable protection or scour protection)	3	3	Medium	
	Data incompatibility with previous surveys due to altered ecosystem and ecosystem changes after construction phase	3	3	Medium	
			4		
	Siltation of the reef due to sediment resuspension during OWP construction work | 3 (depending on current conditions and distance to construction)	3 (depending on current conditions and distance to construction)	5	Medium	
	Decommissioning of the reef	1 (possible, but avoidable through long-term planning)	5	High	
Societal Perception	Negative public acceptance	2	1	Low	
		1			
		3		Medium	

Seaweed Low Trophic Aquaculture
Low Trophic Aquaculture (Oysters)
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Fisheries research with trawl nets

Economic Aspects / Potential

Economic Viability

Potential Yields from low-trophic aquaculture in exemplary windfarms, based on realistically sized farmed areas

OWF	OWP1	OWP2	OWP3
„Conservative“ area calc. incl. shipping corridors	41,1 km² = 4000 ha = 4000 plots	4 km² = 400 ha = 250 plots	7,7 km² = 770 ha = 480 plots
Realistic Usable Area	400 ha	400 ha	770 ha
Multi-Use	Oysters	Sugar Kelp	Blue Mussels
Yield per Plot (based on realistic area)	7,5t / year 3.000 t/ year	10t / year 2.500 t / year	5t/ year 2.400t / year
Current Price	3 € / piece	5 – 25 € / kg (10 €/kg)	1 -4 € /kg (2 € / kg)
Revenue per Plot	225.000 € / year	100.000 €/ year	10.000 € / year
Revenue (based on realistic area)	**90 million €**	**25 million €**	**4,8 million €**
Current Production in Germany	100 t/year	1 farm	14.000t
Current Production in Europe	100.000 t/year	300.000t, only 12.000t in farms	425.000t
Global Production	Europe accounts for only 1–2% of global production	35 million t	n/a

General Conclusions (1)

Legal, political and administrative framework

- **Integrated marine strategy** (national, international, sea-basin wide), **cross-sectoral** and **inter-ministerial agreements** needed.
- **Legal clarification** needed in relevant national planning laws.
- Implementation of multi-use regulation needed in **planning procedures** (from MSP via sectoral spatial planning (OWE) to pre-assessments, tendering and permitting procedures).
- Changes of administrative procedures regarding **risk assessments** and conditions for additional uses/activities in offshore wind farms as well as permit conditions.
- Establishing (informal ?) **stakeholder discussion** and **agreements**.

Recommendation by contractors: "Demonstration" sites to be designated in MSP (for existing as well as for future OWF) to allow for more targeted extensive pilots, research options, monitoring and evaluation, technology development etc. and prospectively implementation of commercial projects of multi-/co-used offshore windfarms

General Conclusions (2)

Spatial requirements / accessibility

- Availability of sufficient space for co-use while need to maintain **safety buffers** around installations and passage ways for maintenance work and operation of wind farm.
- **Service ports and service traffic** to and from the co-use sites within offshore wind farms.
- Accessibility for co-users with adequate **agreements** on communication, access corridors etc.

Functional compatibility / technical feasibility / seasonality

- Implementation of co-existence concepts based on thorough **multi-factor pre-assessments of compatibility**.
- Provisions to be made for **anticipated technical and economic developments** and future requirements of additional uses in offshore wind farms.
- Elaboration of **potential synergies** in maintenance and operation of OWF and additional uses.
- Consideration of **seasonal aspects** of activities.

General Conclusions (3)

Economic Viability

- Projects (e.g. low-trophic aquaculture, passive fishery) may initially need to be supported further and more extensively to achieve economic viability (→ up-scaling).

Safety / security / risks

- Need for realistic **risk assessment** and **mitigation measures**.

Environmental considerations

- Suitable environmental conditions for certain aquaculture species.
- Suitable environmental conditions e.g. for target species for passive fishery.
- Suitable environmental conditions for nature restoration projects.
- **Assessment of environmental impact** of additional activities within wind farms and of **adequate mitigation measures**.

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THANK YOU!

Bettina Käppeler

German Federal Maritime and Hydrographic Agency (BSH)
bettina.kaeppeler@bsh.de

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Nordic study on coexistence between offshore wind and fisheries

Kerstin Bly Joyce

Senior Research Advisor, Nordregio

Green Energy Meets Blue Food – Sustainable Coexistence in Nordic Seas

Kerstin Bly Joyce
Nordregio

Nordregio

Photo: Shutterstock

The Green Meets Blue project aim was to…

Enhance Nordic knowledge for enabling a sustainable coexistence of offshore renewable energy (wind) and marine food sectors (fishery).

Provide insights that support Nordic countries to cooperate effectively and address potential sea-use conflicts between these sectors.

Nordregio

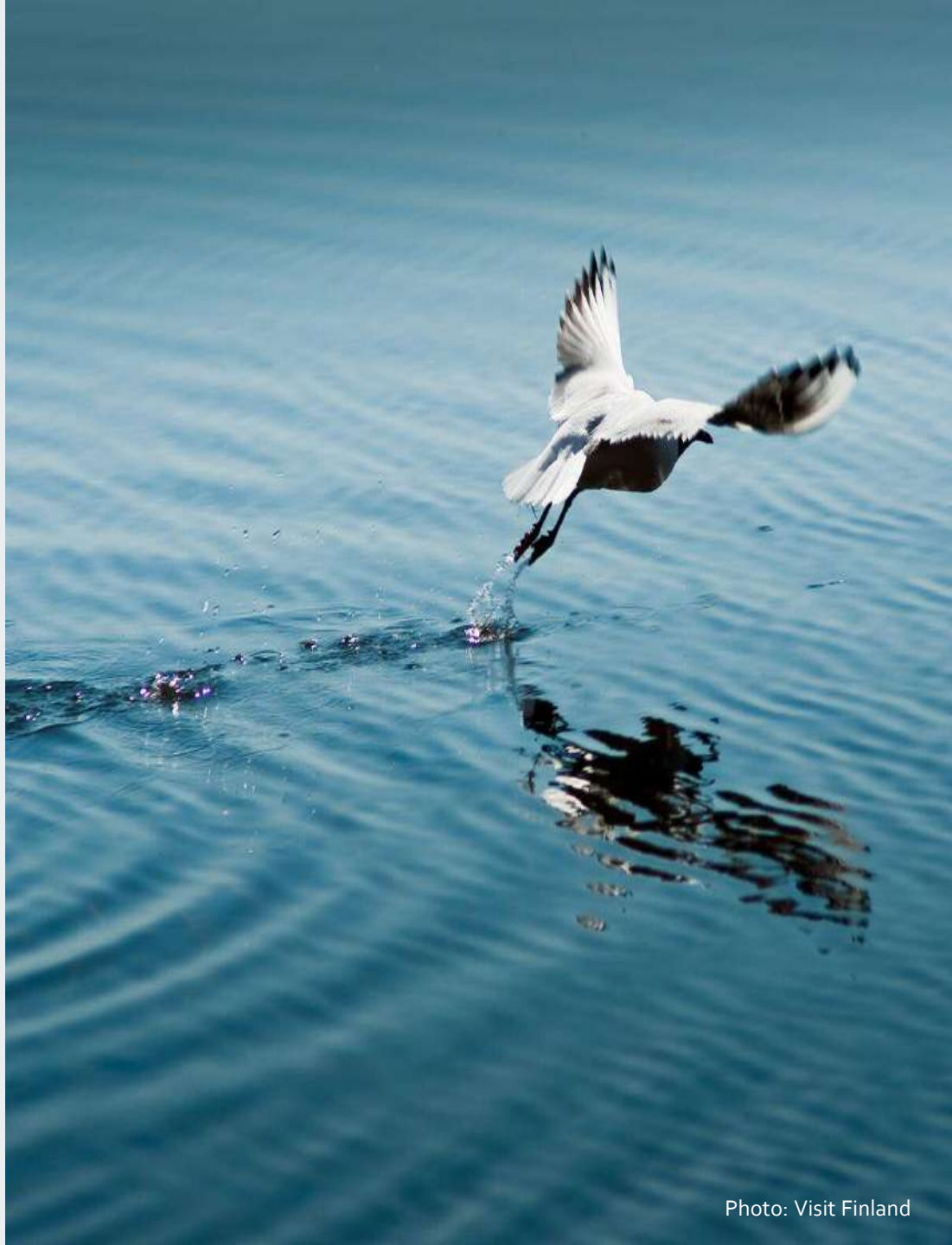


Photo: Visit Finland

We specifically looked at…

-How coexistence conditions between offshore wind and marine food sectors have been described in research

-How conflicts and synergies between the sectors have been addressed in Nordic marine spatial planning

-How conflicts and synergies have been managed in various geographical settings across the Nordic region through case studies

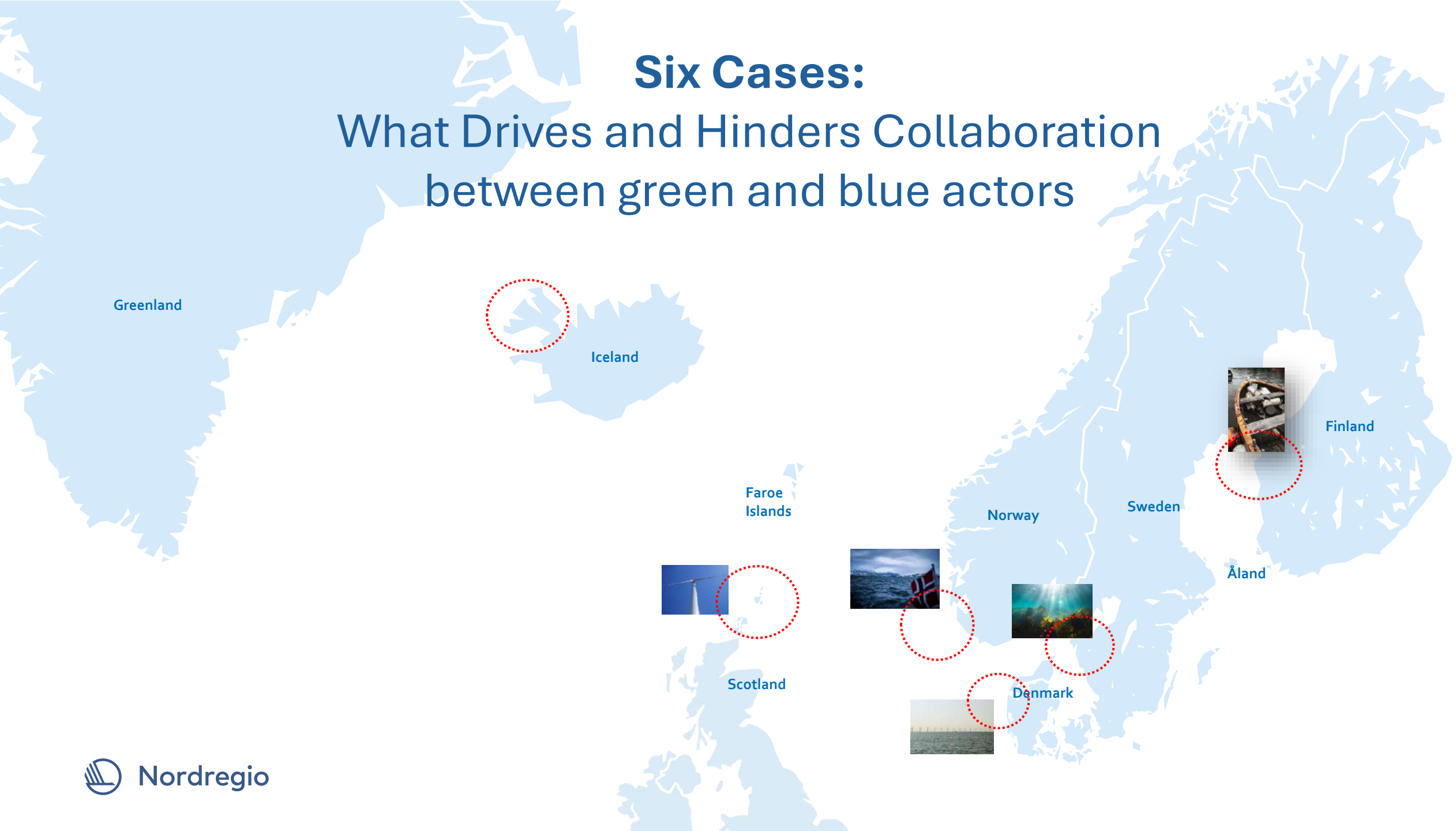
-What lessons we can draw from Nordic experiences in policy for managing conflicts and fostering collaboration between these sectors

Nordregio

Photo: imagebanksweden

Six Cases:

What Drives and Hinders Collaboration between green and blue actors



Nordregio

Collaboration across OWE development phases

1 Area Designation

2 Detailed plans

3 Auctioning

4 Permitting & site planning

5 Construction

6 Operation

7 Decommissioning

8 The future

Over several years-decades

Nordregio

Policy Brief: 'How can offshore wind energy and fisheries sustainable coexist in the Nordic Seas?'

Tensions arise **not only from spatial competition** but from:

-Contrasting **values and operational practices**
-Different **relationships** with the marine environment
-**Fragmented and inconsistent** political, planning, permitting **systems**

- Sustainable coexistence requires structures for **continuous and meaningful collaboration**, not just technical **spatial solutions.**

Nordregio

Photo: unsplash

Key governance challenges:

- **Political volatility**
  Shifting priorities, subsidies, and regulations
  Erodes trust and collaboration

- **Marine spatial planning frameworks limitations**
  Unclear mandates, inconsistent engagement, limited cumulative assessments

- **Fragmented permitting**
  Project-specific approvals
  Overlapping legal frameworks
  Late stakeholder involvement
  Reduced transparency

Nordregio

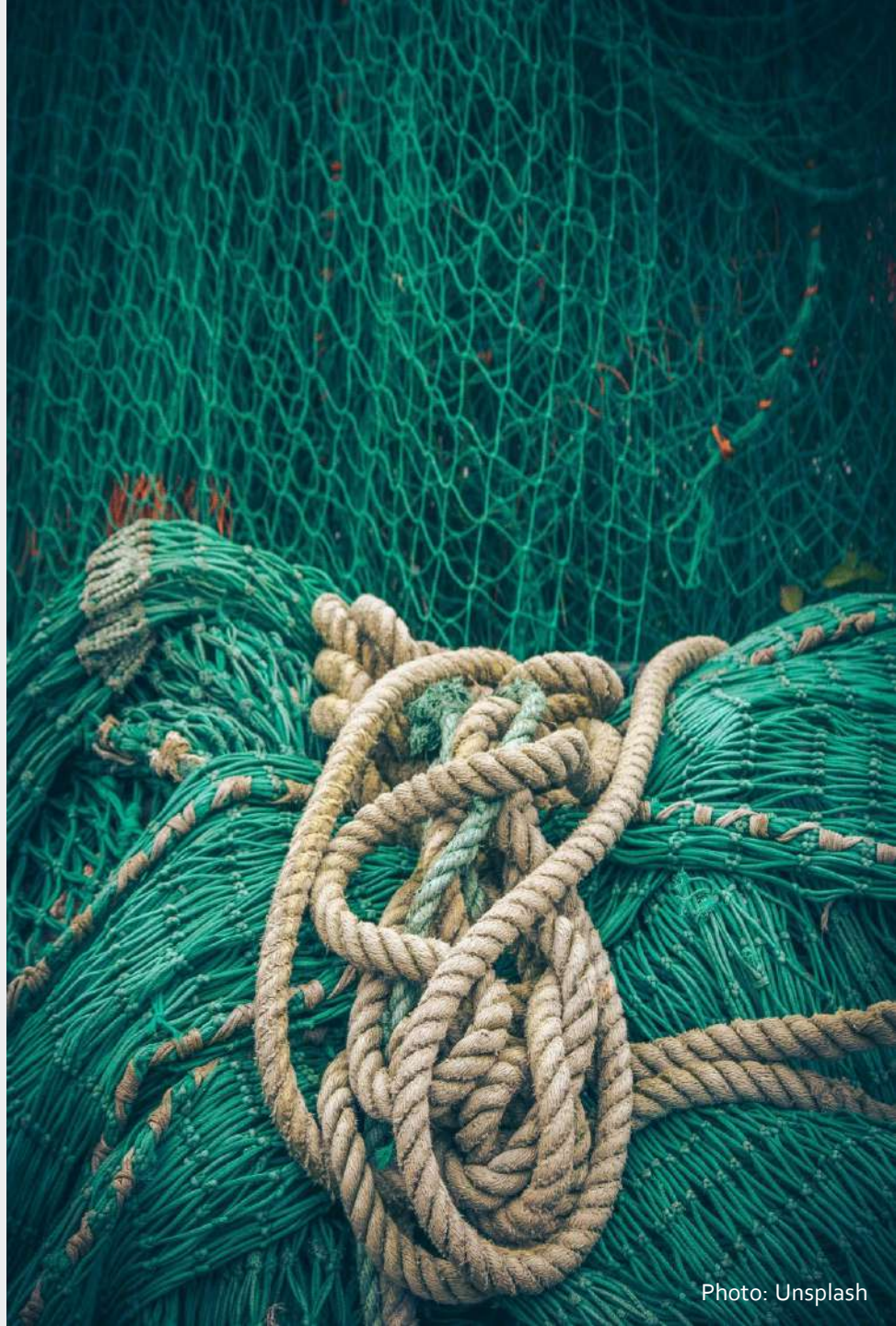


Photo: Unsplash

Nordic experiences point to 4 building blocks for enabling coexistence:

Structured dialogue: Sustained, well-resourced forums with skilled facilitation and guidelines.

Participatory culture: Responsive planning processes with regular interactions, dedicated coordinators, feedback loops, clear and accessible information, ongoing process.

Knowledge foundations: Early, broad, and inclusive impact assessments that integrate ecological and socio-economic data across scales.

Institutional pathways: Centralised permitting and strategic, clear phased OWE governance models where public authorities leads early planning knowledge collection and stakeholder engagement.

Recommendation

- **Key Point:** No single Nordic country has all the solutions and cross-border dialogue is essential.

- **Why Collaborate:** shared sea basins and ecosystems, strong democratic traditions, high public trust, robust stakeholder engagement

- Recommendation: **Nordic-Level Dialogue Platform**
  - Navigate sectoral tensions and align governance
  - Exchange lessons and develop shared tools
  - Focus Themes:

    Structured Dialogue – inclusive platforms
    Participation – iterative engagement
    Knowledge and Assessments – data and impacts
    Institutional Pathways – clearer governance

Nordregio

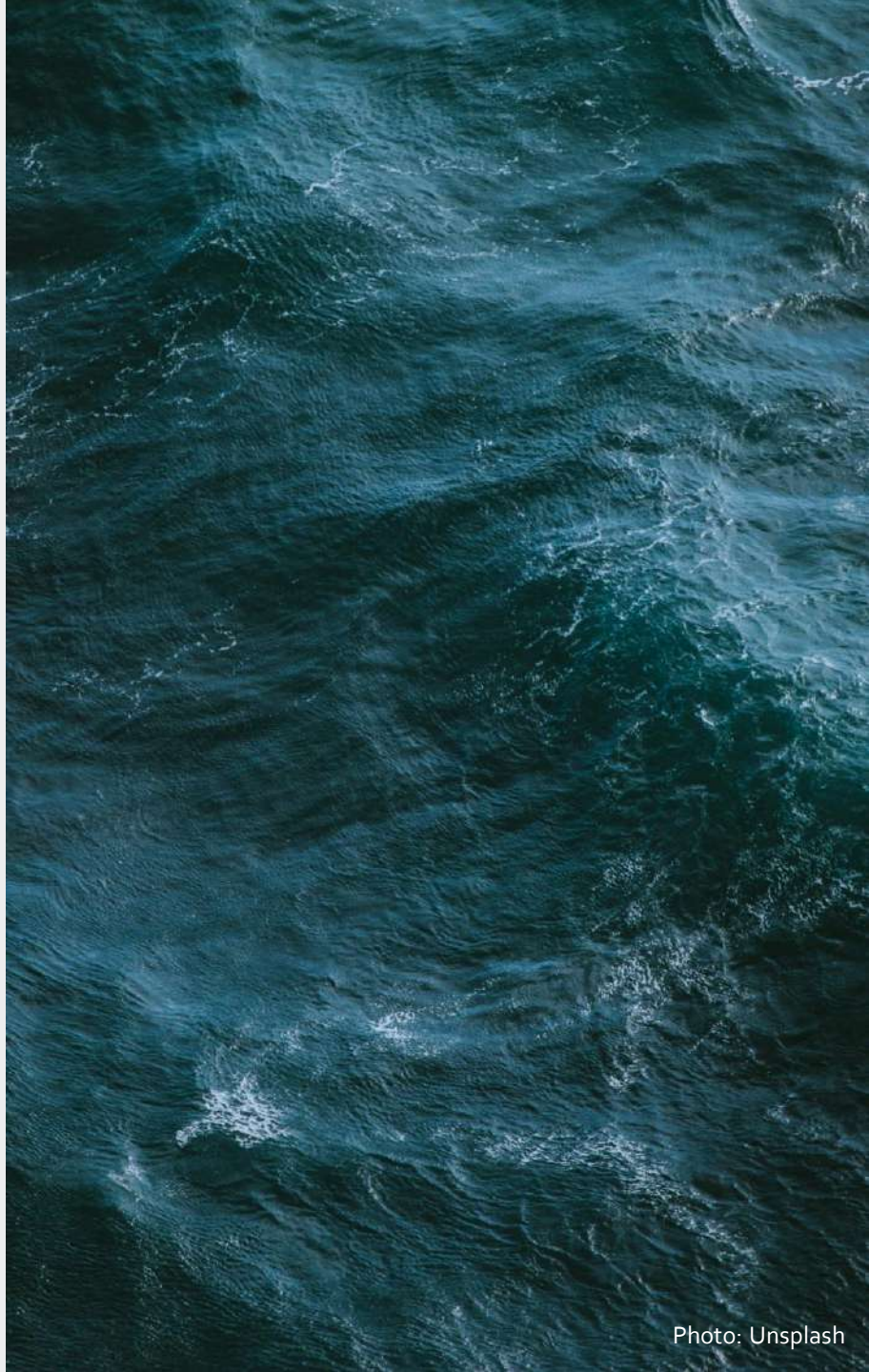


Photo: Unsplash

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Green Energy Meets Blue Food - Nordregio

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Contact: kerstin.joyce@nordregio.org

Nordregio

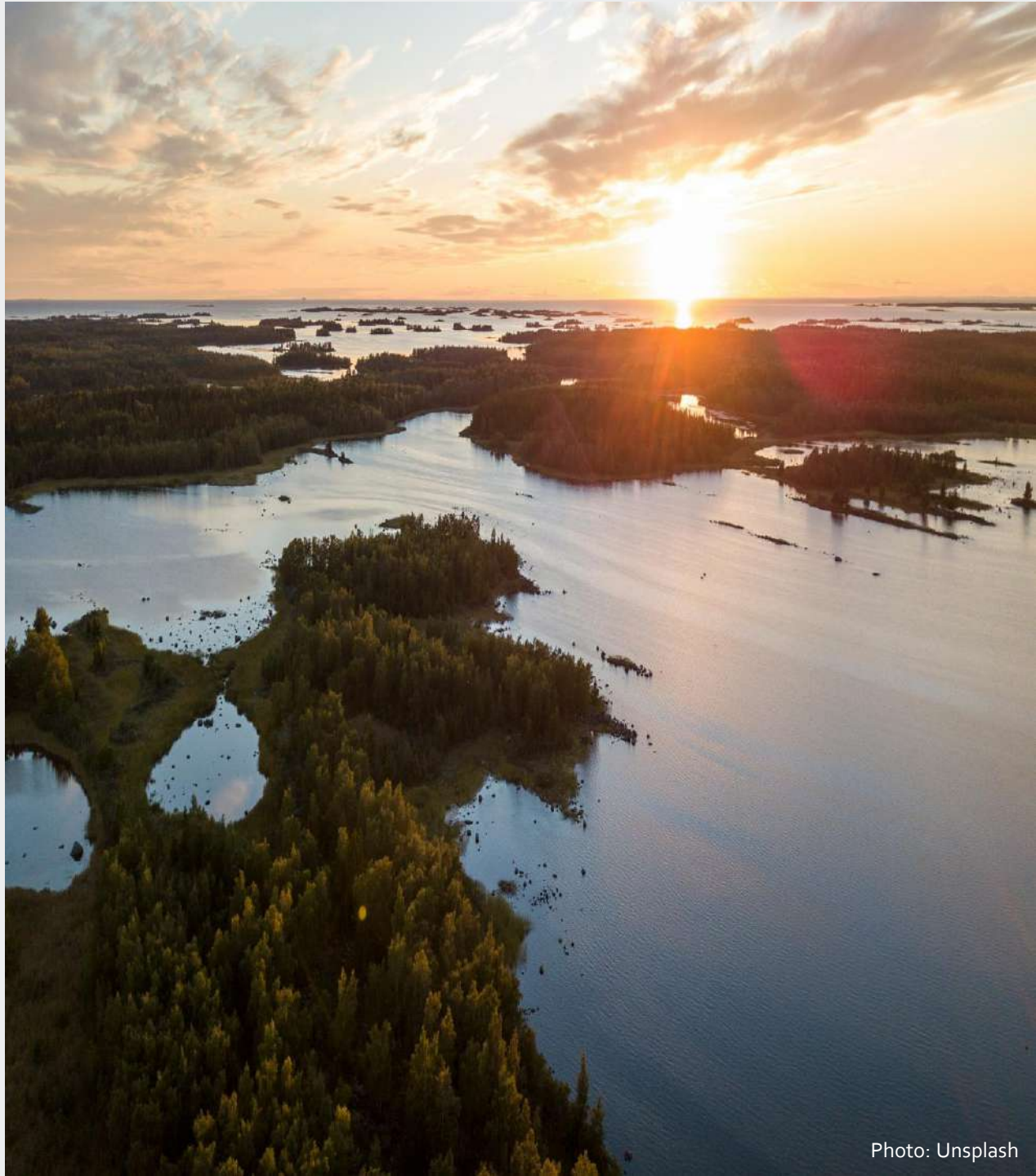

Photo: Unsplash

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5th BALTIC MSP FORUM

11-12 November 2025 Riga, Latvia

THANK YOU!

Kerstin Bly Joyce

Senior Research Advisor, Nordregio

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Maripark North and Baltic sea a presentation from Flanders

Session 9 – Effective Use of Space for a Sustainable Blue Economy: Baltic Approaches to Multi-Use in Marine and Coastal Areas

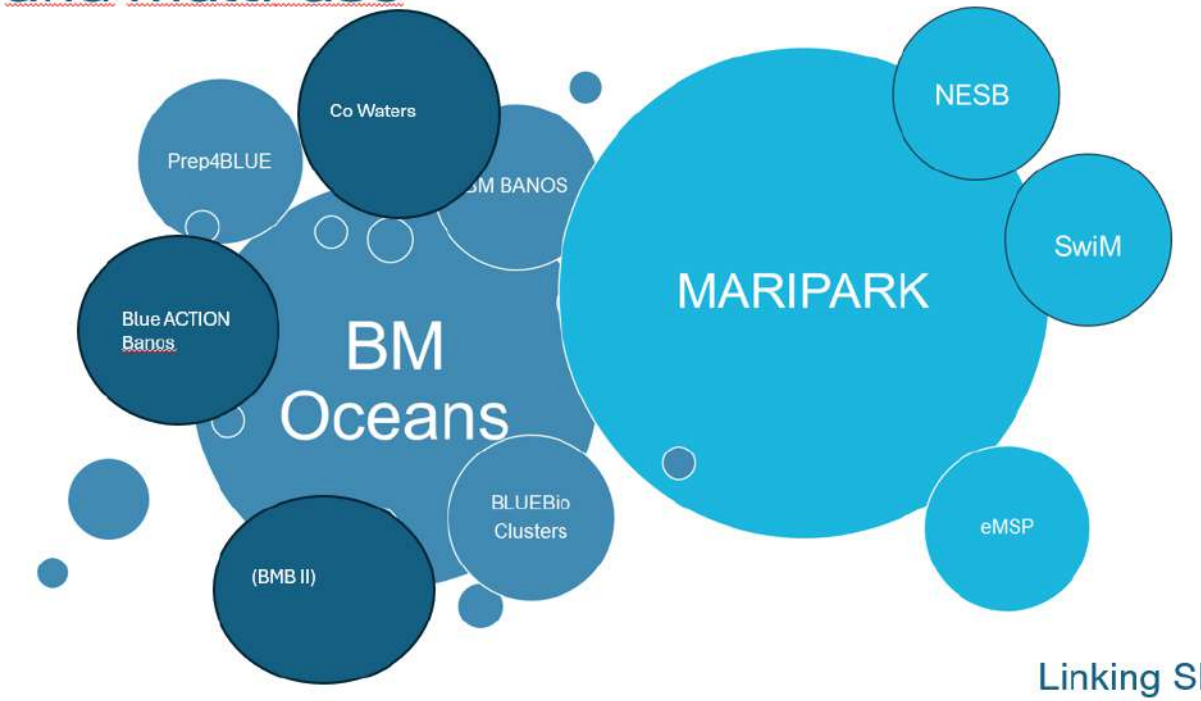
Ir. Kinnie De Beule

European project manager, Blue Cluster

BLUE CLUSTER

Intro

MOW and multi-use



LINK Marine science, SHENG and DATA

Linking SBE with
CC, GD, Ocean pact, Act, MOW
3 global transitions

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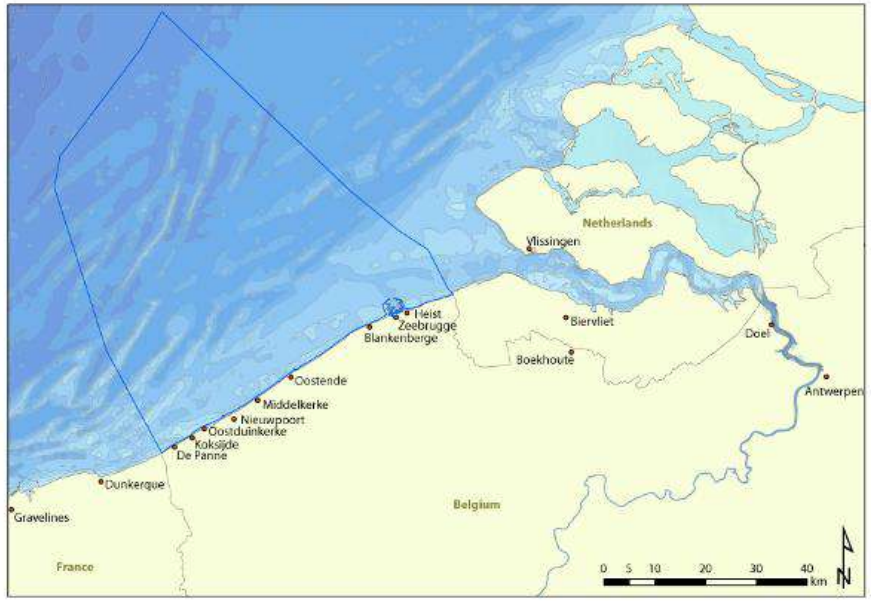


BLUE CLUSTER HIGHLIGHTS IN 2024

BLUE CLUSTER PROJECTS

ONGOING	NEW (launched in 2024)	COMPANIES INVOLVED
34	13	106

€ 29.2 M >> € 26.6 SUBSIDIES

MEMBERS & PARTNERS

TOTAL	SMEs	NEW
179	62%	39

PROJECTS

Maritime Security
New Blue Cluster roadmap on security at sea

Supersized 4.0 and 5.0
Optimised operation and maintenance for a fleet of (offshore) wind farms

SUSANA
Looking for alternative sand sources for nature-based solutions

EVENTS

- Blue Innovation Awards 2024
  Four awards presented to companies
- Debate on the future of the North Sea
  Political debate with all democratic parties
- Decommissioning: Be Part Of It
  +100 companies & organisations present
- Oostende voor Anker
  200,000 visitors for Blue Innovation Village
- 4 Blue Sessions
  On floating solar, nature-based solutions, maritime security & ecosystem approach

INTERNATIONAL

International projects
Involved in 10 EU projects

Direct funding
For 24 SMEs within the scope of ELBE Eurocluster and LEVIATAD

International activities
Blue Bio Bootcamp, Blue Mission Banos Mission Arenas, EU Maritime Days, 5 missions, 14 fairs & conventions, ...

VLAIO BLUE CLUSTER Clusters for Growth
FLANDERS INVESTMENT & TRADE Structural Partner

In which areas are we active?

6 focus areas

A roadmap for each area

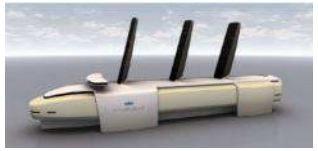
OVERARCHING CONCEPT

ECOSYSTEM APPROACH

COASTAL PROTECTION

RENEWABLE ENERGY

MARITIME CONNECTION



SUSTAINABLE SEAFOOD

DIGITAL SEA

MARITIME SECURITY

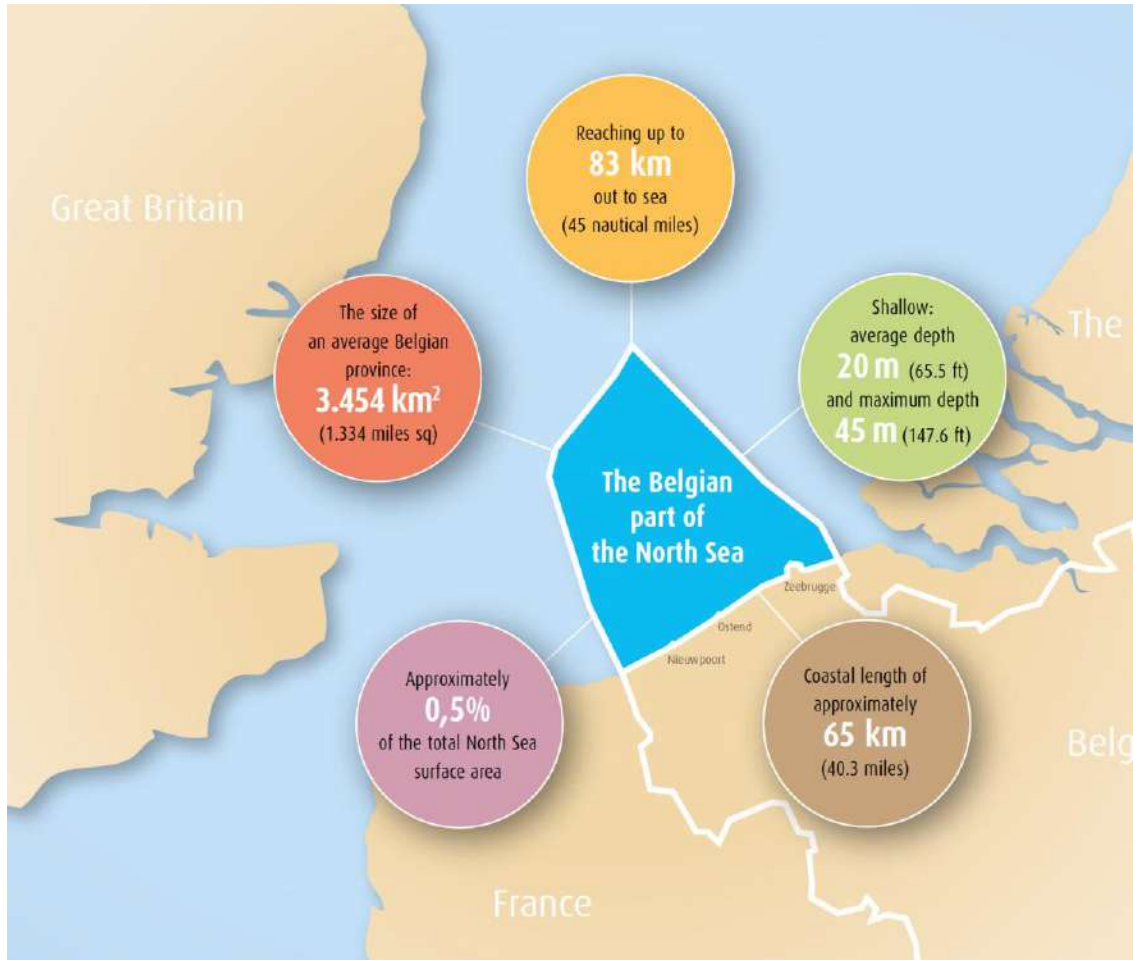
BLAUWE CLUSTER

5 strategic priorities 2025-2028

- Acceleration of digitisation and automisation
- Value chain offshore energy (energy trans)
- Protection of maritime infrastructure and security
- Sustainable coastal management and NBS (biodiversity)
- Commercial benefits of Multi-Use

- Aquaculture and food transition – Tourism - Sheng

Commercial benefits of multi-use and a Maripark



MAKING THE SBE CARBON NEUTRAL AND CIRCULAR

ENABLERS: DIGITISATION AND SHENG

REDUCE POLLUTION

PROTECT OCEAN

Why is the industry important?

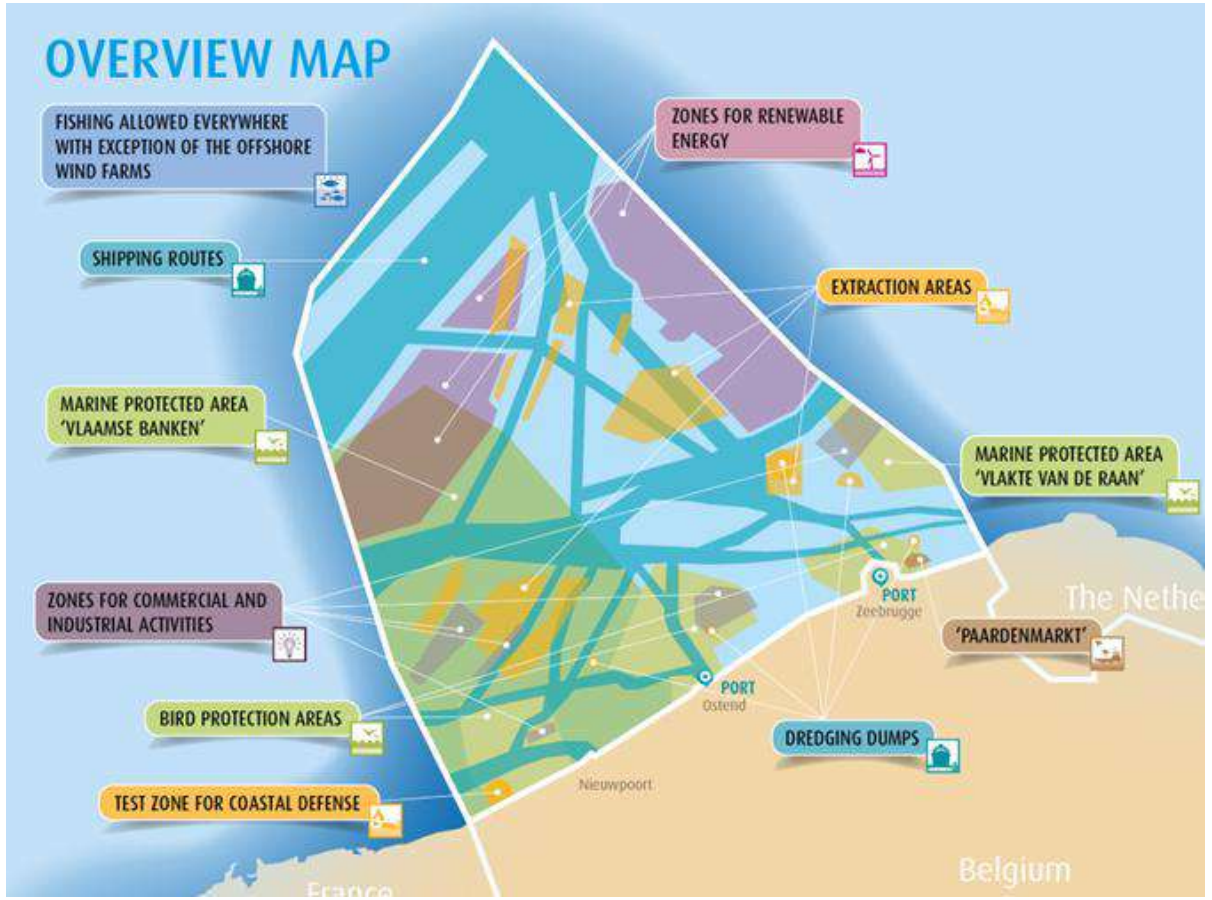
INNOVATION

MONEY

Power of planning

Chandigarh, India by Le Corbusier - Green, functionalities, aesthetics, design

MSP 2020-2026 -> 2026 - 2034

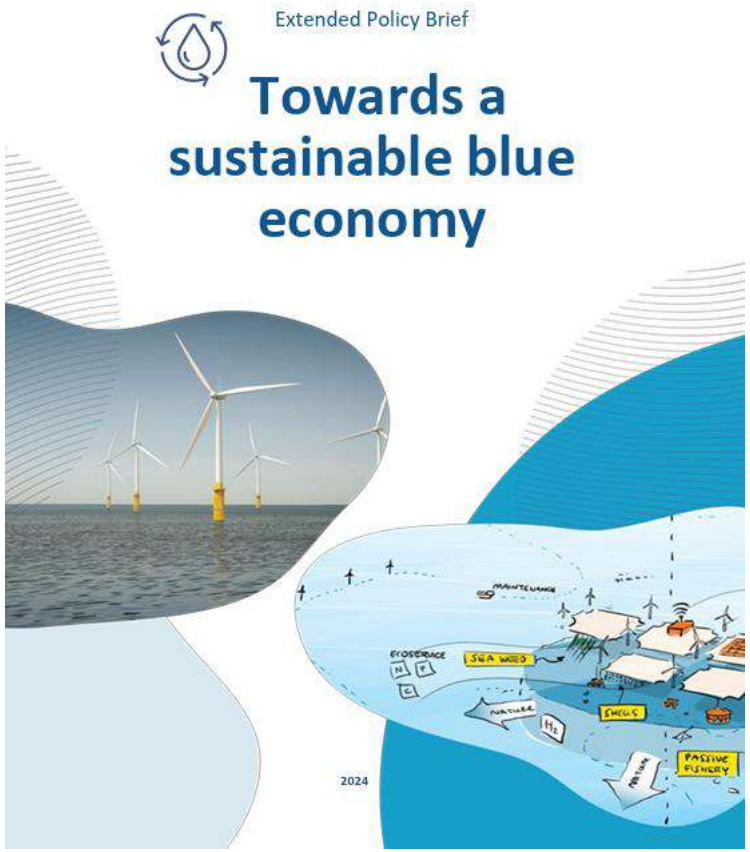


Revision = less CIA, more testing, in principe wind zones open for MU

Maripark to accelerate transitions and innovations

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

Co-funded by the European Union



Multi Use zones (MSP)

Overarching concept to provide services

Derisk the entrepreneur

Infrastructure or hub?
Holistic data management
E robustness
Safety and security
Governance
EBA

++ biodiversity
++ energy transition
++ food transition

++ digitisation
++ security
++ competitiveness

-> EU policy

NESBp Northern European Sea Basins project

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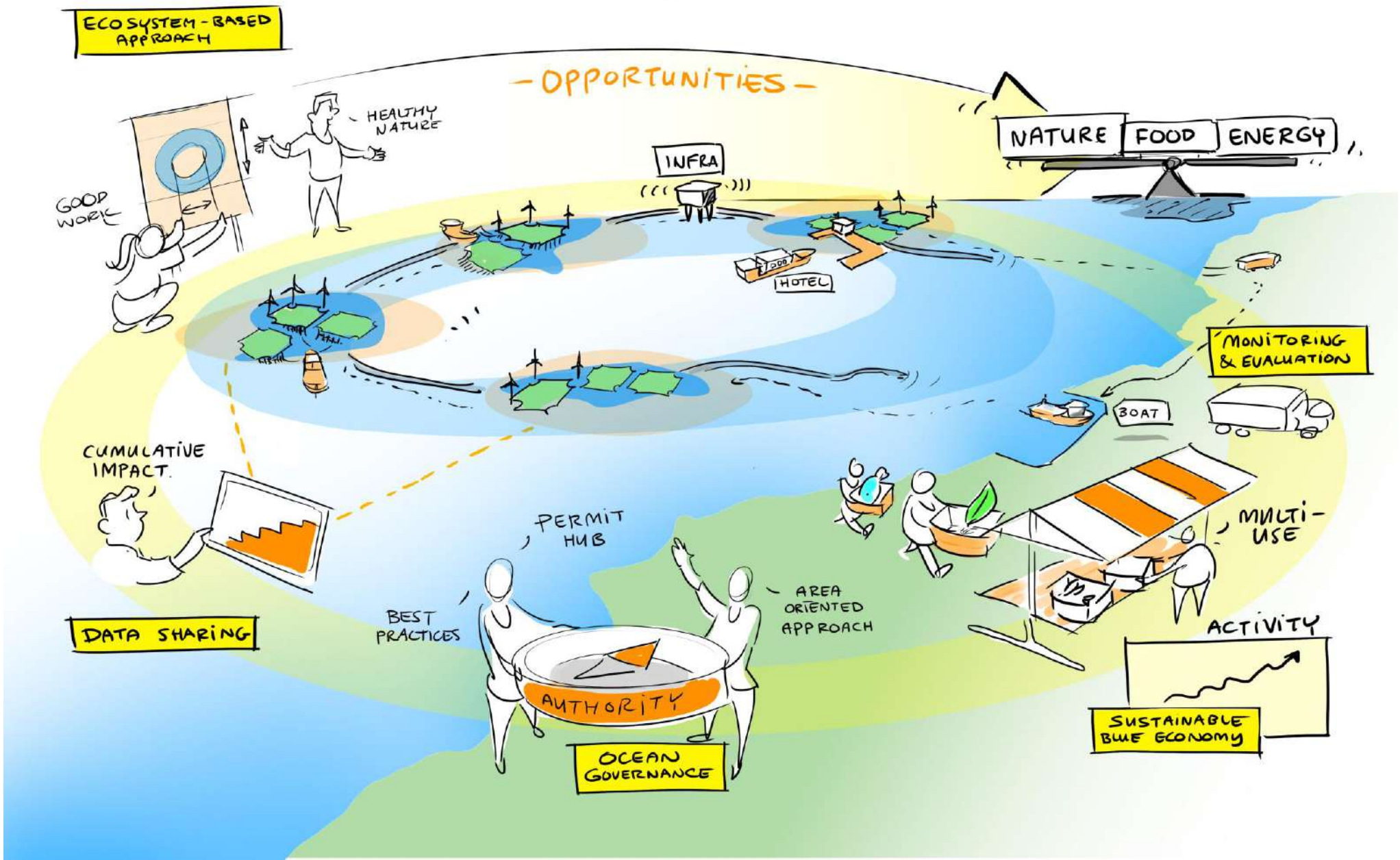
MARIPARK

2023-2024



How to start?

- Business model?
- Activity selection
- Actually contribute to the transitions?
- Energy optimisation or robustness?
- What is nature restoration and definition?
- Data
- Geological tensions and economic priorities

Model?

DRAFT scenario

4.1 Mantis, IMDC, BC
EBA governance framework

- opportunities permitting
- opportunities incentives
- foster collaboration

Maripark in zone X BE/NL NS

4.3 Shom, SUB, IMDC
Monitoring by data

- environmental monitoring plan data park management
- advanced monitoring
- adaptive management
- security and safety

4.2 Blue Cluster, BSH, Mantis, LNV
Sustainable strategies

- location & activity selection
- integration and max. synergies
- MSP

4.4 ORG, SUB, Mantis, IMDC, BC, RVO, LNV
Designing parks

- analysis marketable scenarios incl. business cases & economic feasibility + comply with regulation
- test scenarios & full scenario development towards masterplanning
- work shops and external expert input

Output: advise policymakers, investors, and stakeholders to promote the sustainable development of Mariparks and enhance European maritime infrastructure sea basin wide

GNSBI

-> 4.5 Upscaling to Sea basin level SUB, ORG, Mantis, IMDC, BC

T4.4 Designing Mariparks

Steps and Output

Step 1 A. Create a Spatial Catalogue of Maripark functionalities

List, Spatialize & Visualize

- the different functionalities and potential synergies, feasible within a maripark
- their technical boundary conditions and this throughout their lifespan

Step 1 B. Spatialize and Visualize Maripark Operations

List, Spatialize and Visualize

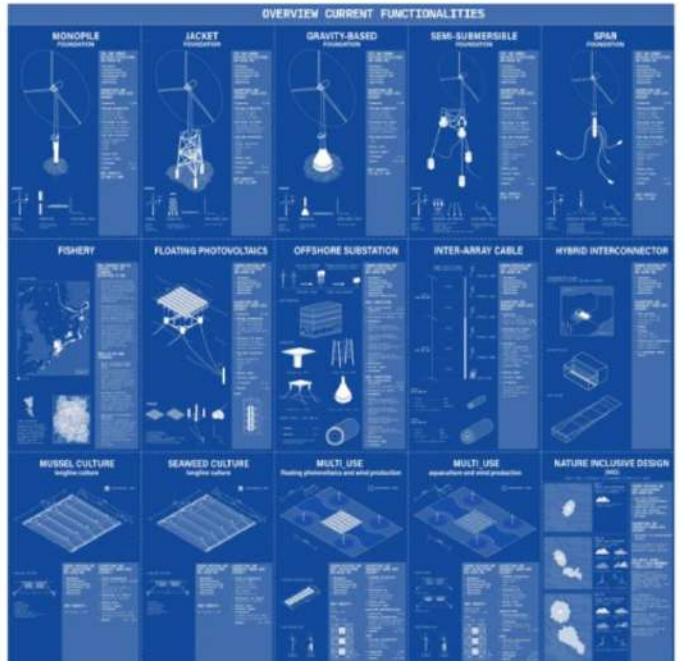
- the technical requirements and limitations for infrastructure development & operation
- the regulatory constraints.

Step 2. Look for a set of masterplanning guidelines

- Define, Test and Visualize diverse marketable scenarios for Maripark deployment, throughout their lifespan
- Analysis and Comparison should lead to an overarching spatial and technical framework

Output

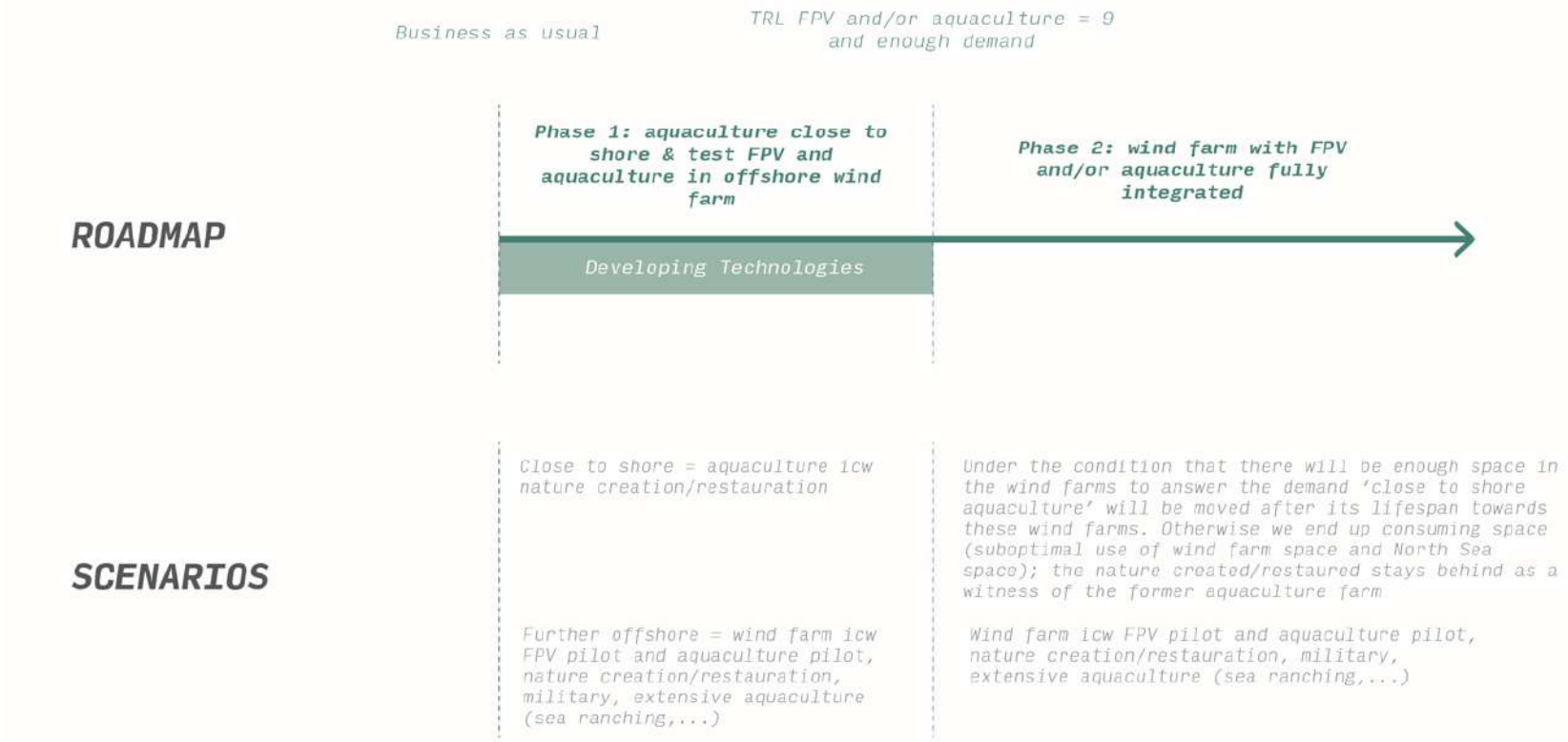
Masterplanning guidelines incl recommendations for policymakers, investors, and stakeholders



Status & proposed timeline

Expert opinion

Food security
Smart aquaculture status
Cable dimensions
Market demand
Governmental prioirities



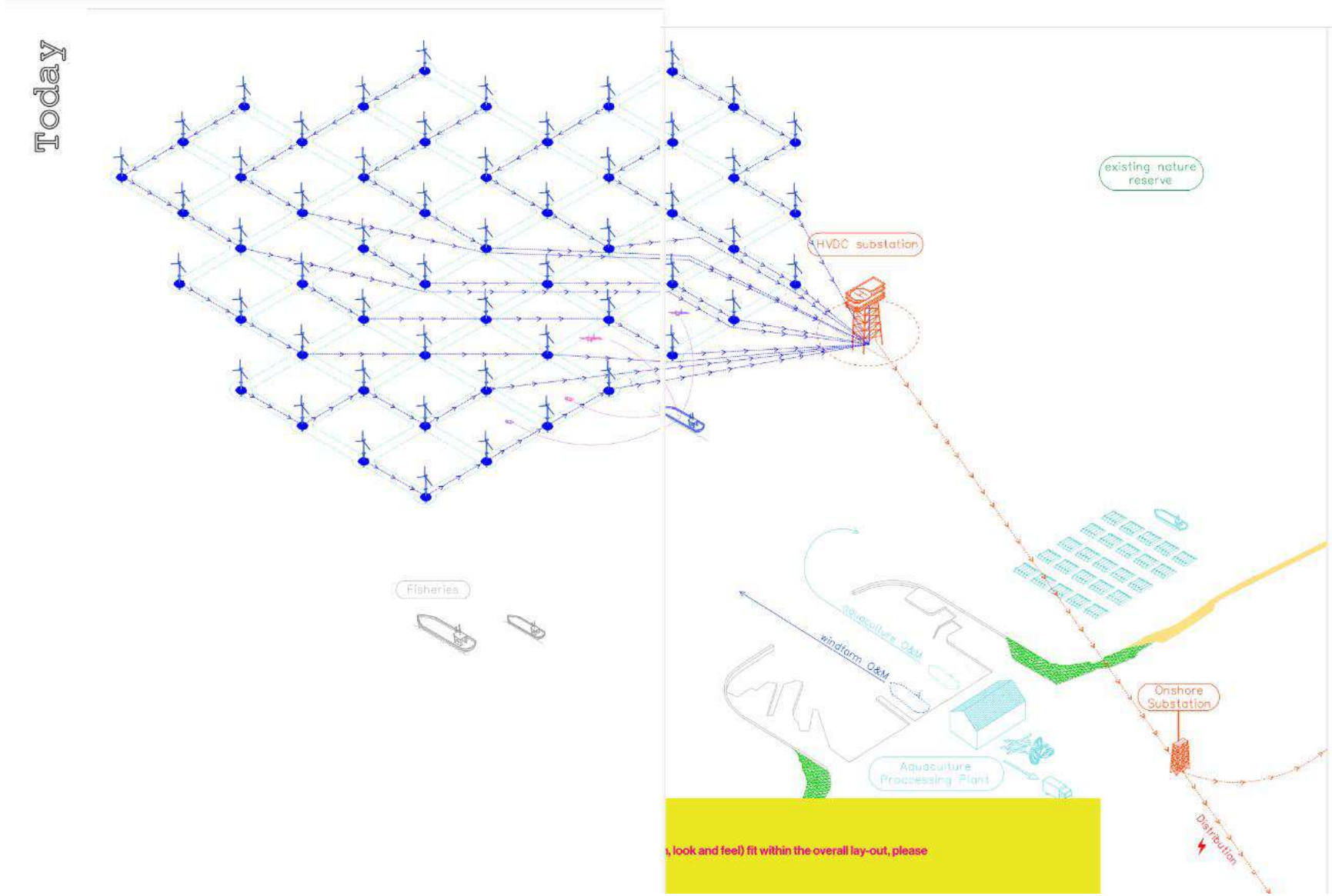
Workbench I

Workbench II and II

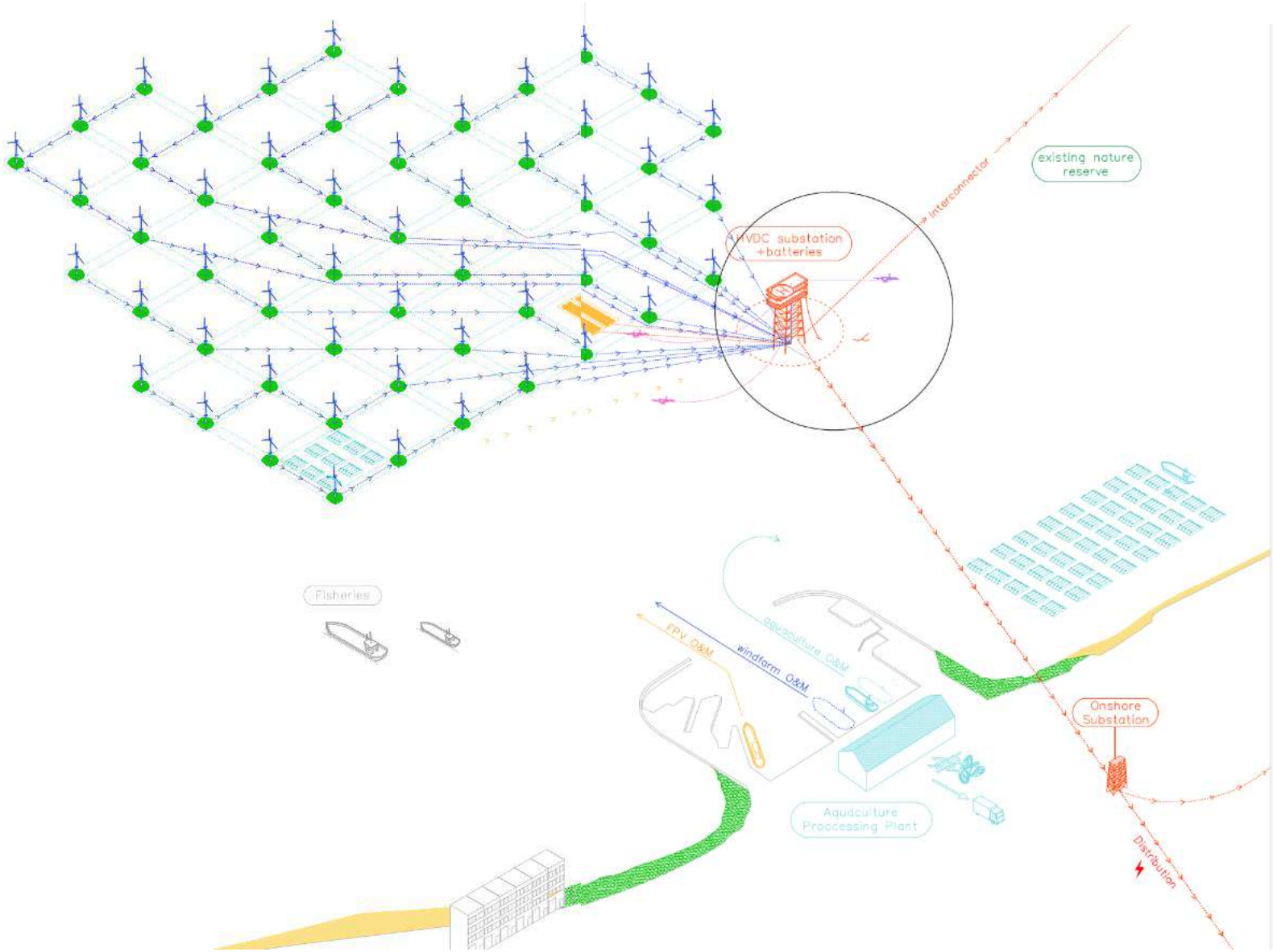
Workbench IV to come

Innovation = prepare MSP, tender, permits for future implementation

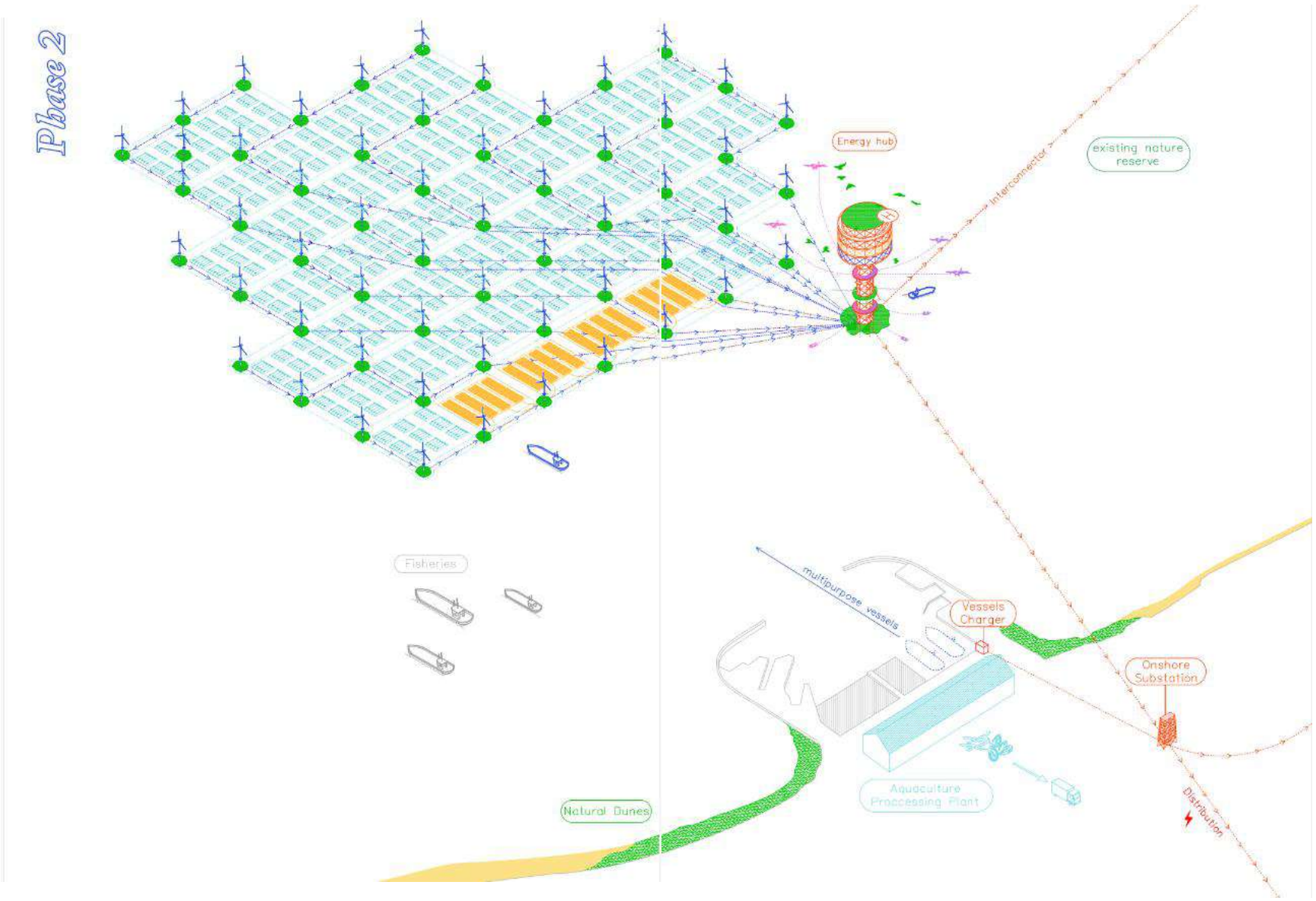
Today

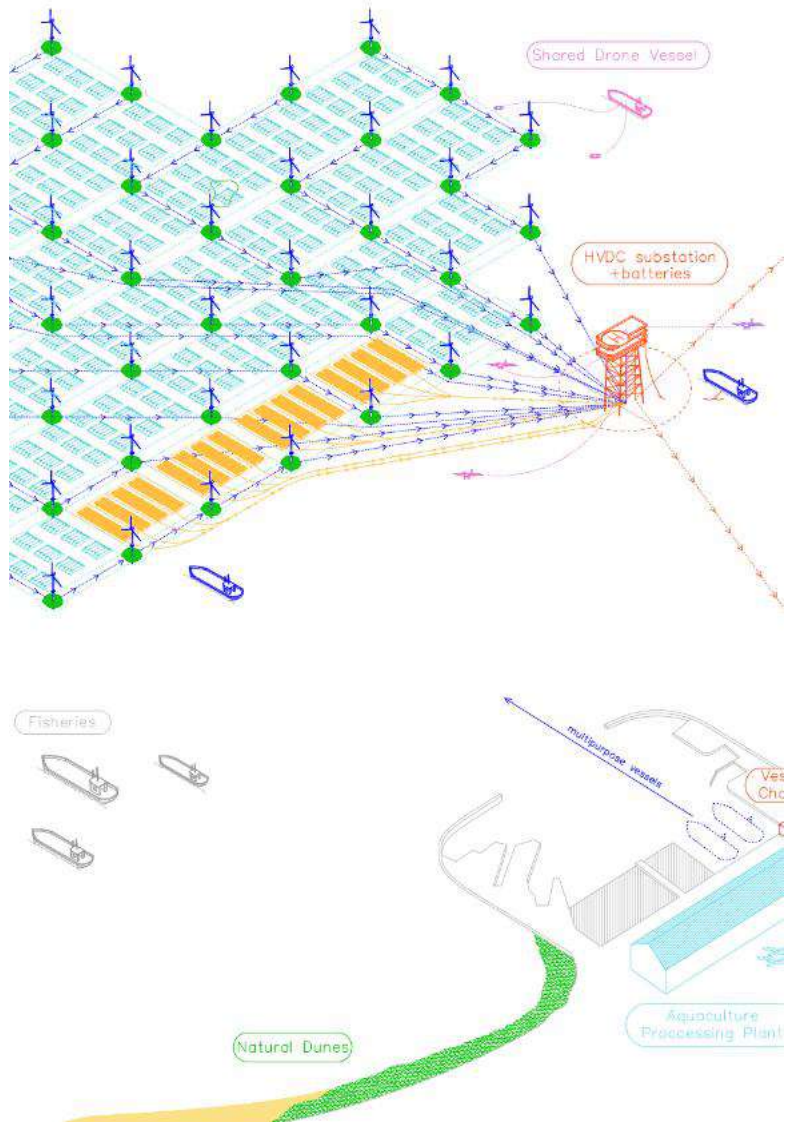

existing nature reserve
HVDC substation
Fisheries
windfarm O&M
Aquaculture O&M
Onshore Substation
Aquaculture Processing Plant
Distribution
, look and feel) fit within the overall lay-out, please

Phase 1

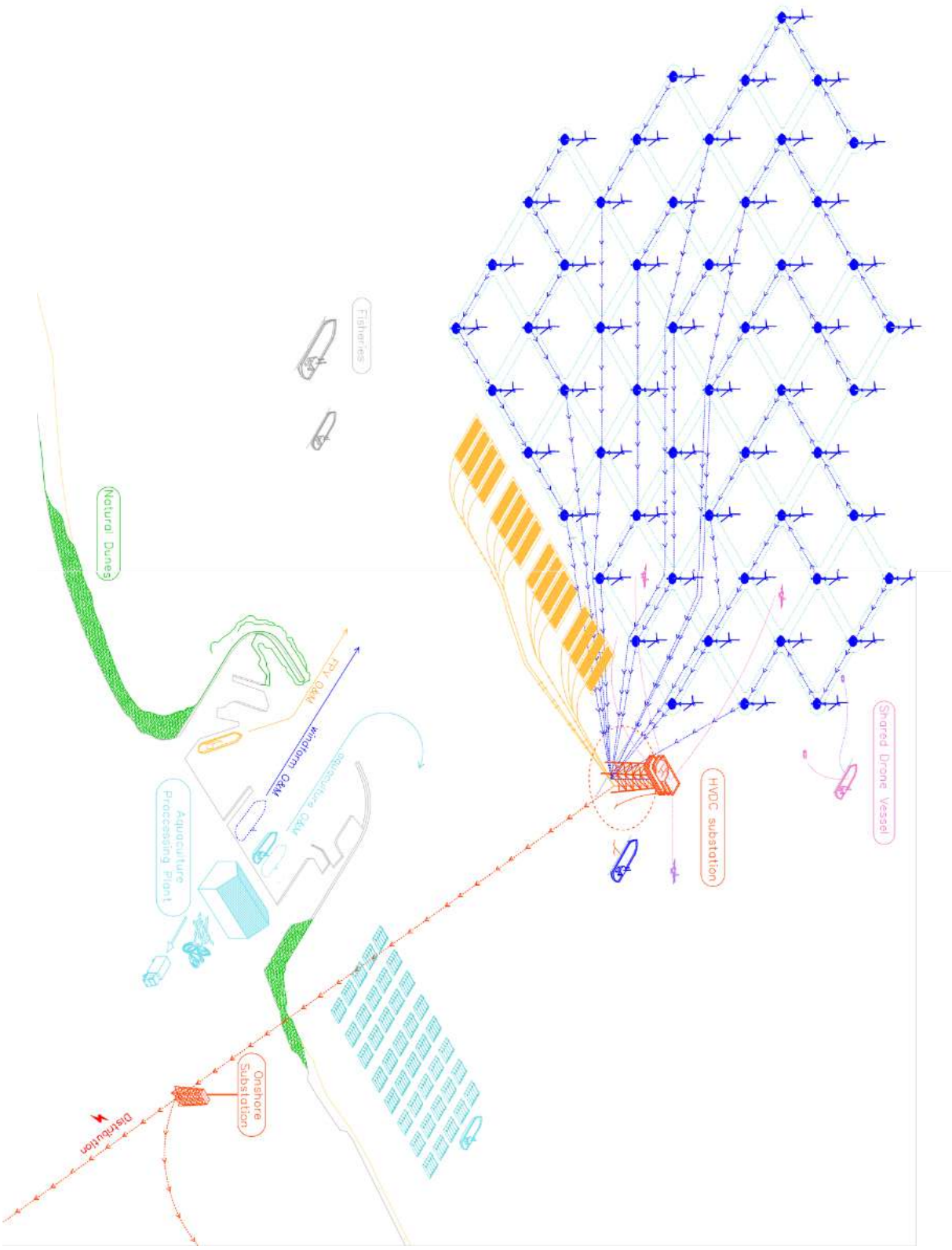

existing nature reserve
Interconnector
HVDC substation +batteries
Fisheries
FPV O&M
windfarm O&M
aquaculture O&M
Onshore Substation
Aquaculture Processing Plant
Distribution

Phase 2


Energy hub
existing nature reserve
Interconnector
Fisheries
multipurpose vessels
Vessels Charger
Onshore Substation
Aquaculture Processing Plant
Distribution
Natural Dunes


Shared Drone Vessel
HVDC substation +batteries
Fisheries
multipurpose vessels
Natural Dunes
Aquaculture Processing Plant

What if we continue with Business as usual



Strategic choices

- Energy robustness vs. System optimisation
- Policy priorities
- Clear environmental treshold to start (ACT NOW)
- Digitisation & smart systems

- EU support

URGENTE

DÉLIO JASSE Sem Valor - Urgente, 2019

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5th BALTIC MSP FORUM

11-12 November 2025 Riga, Latvia

We are Blue Cluster

The 5th Baltic MSP Forum is suppo

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Effective Use of Space for a Sustainable Blue Economy: Baltic Approaches to Multi-Use in Marine and Coastal Areas

Pitch:

Alexander Ziemba, Deltares: Multi-use pilot cases from ULTFARMS

www.BalticMSPForum.eu

SUBMARINER NETWORK

Advancing Multi-Use Aquaculture in Offshore Environment – Lessons from the ULTFARMS Project

Alex Ziemba

Deltares

Riga, 5th Baltic MSP

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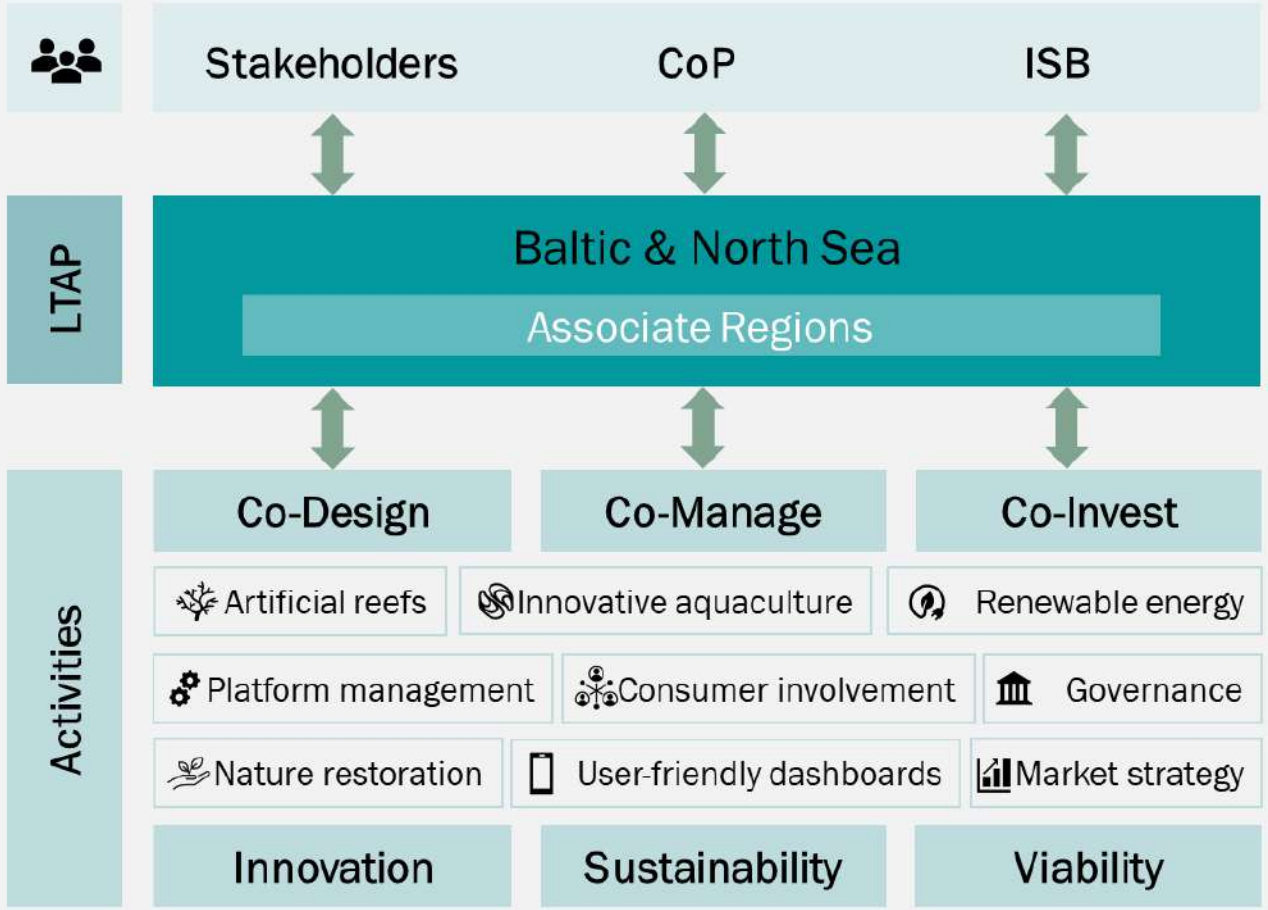
The ULTFARMS Project

- Focus on Low Trophic Aquaculture: mussels, oysters, seaweeds
- Integration of multiple activities
  Renewable Energy, Nature Restoration, Food Security
- Adaptation, Replication, Commercialization



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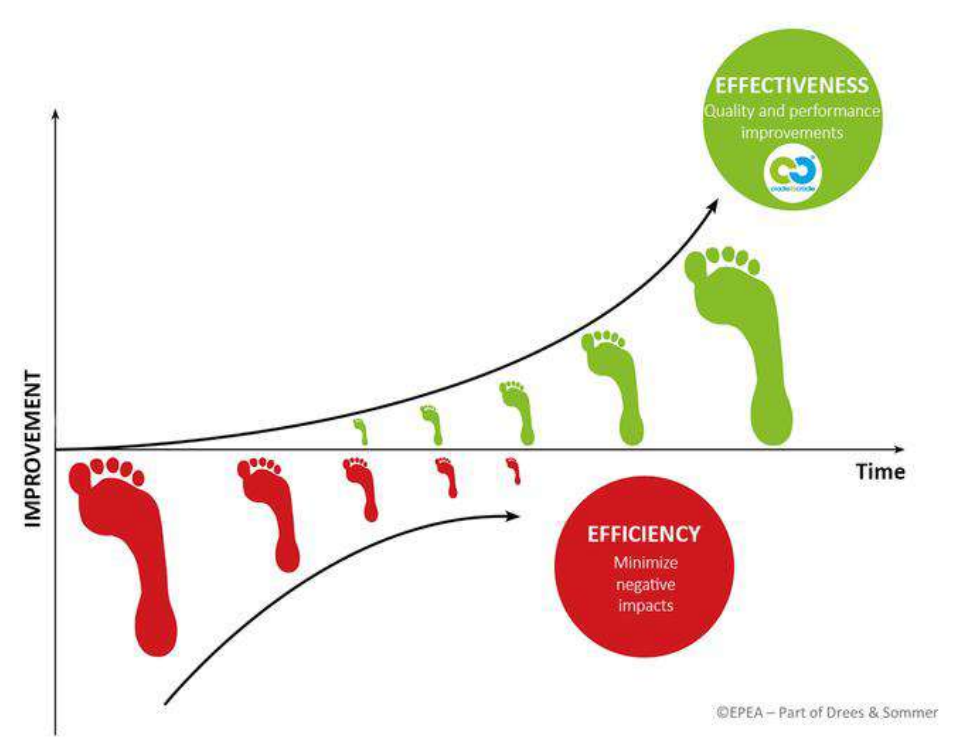
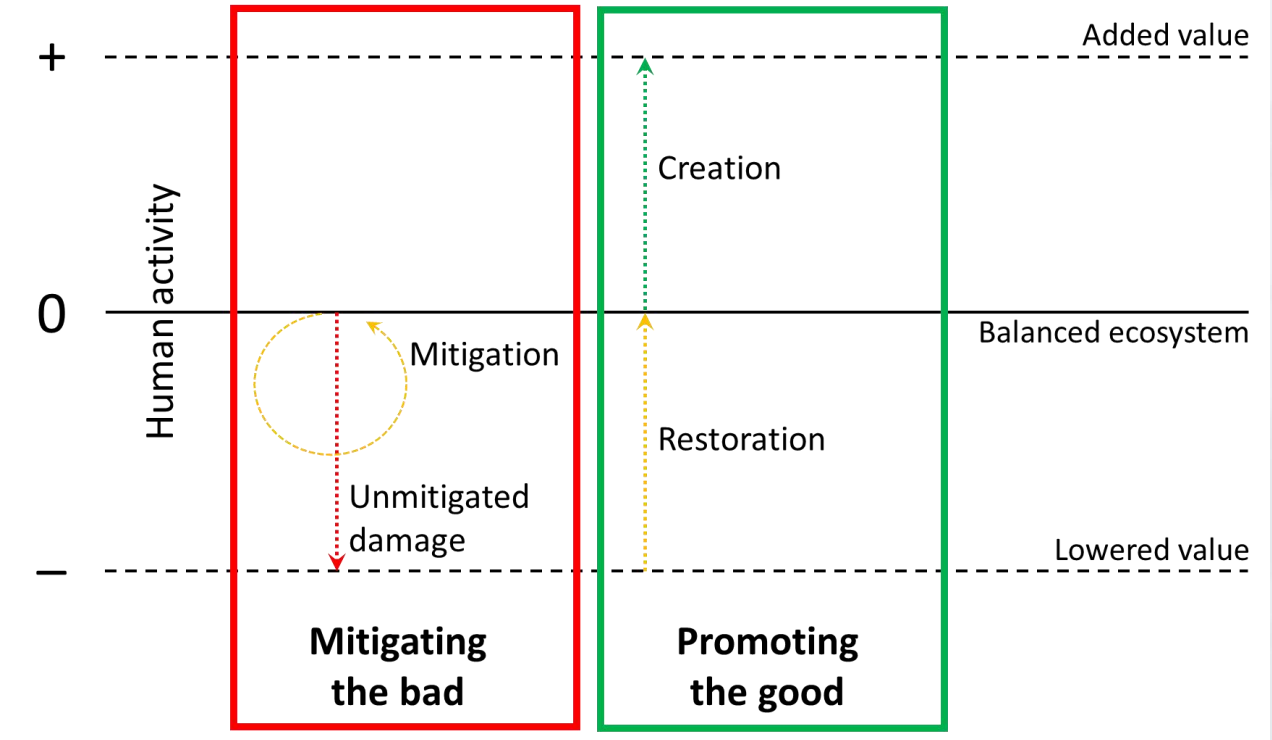
Sustainability and Restoration





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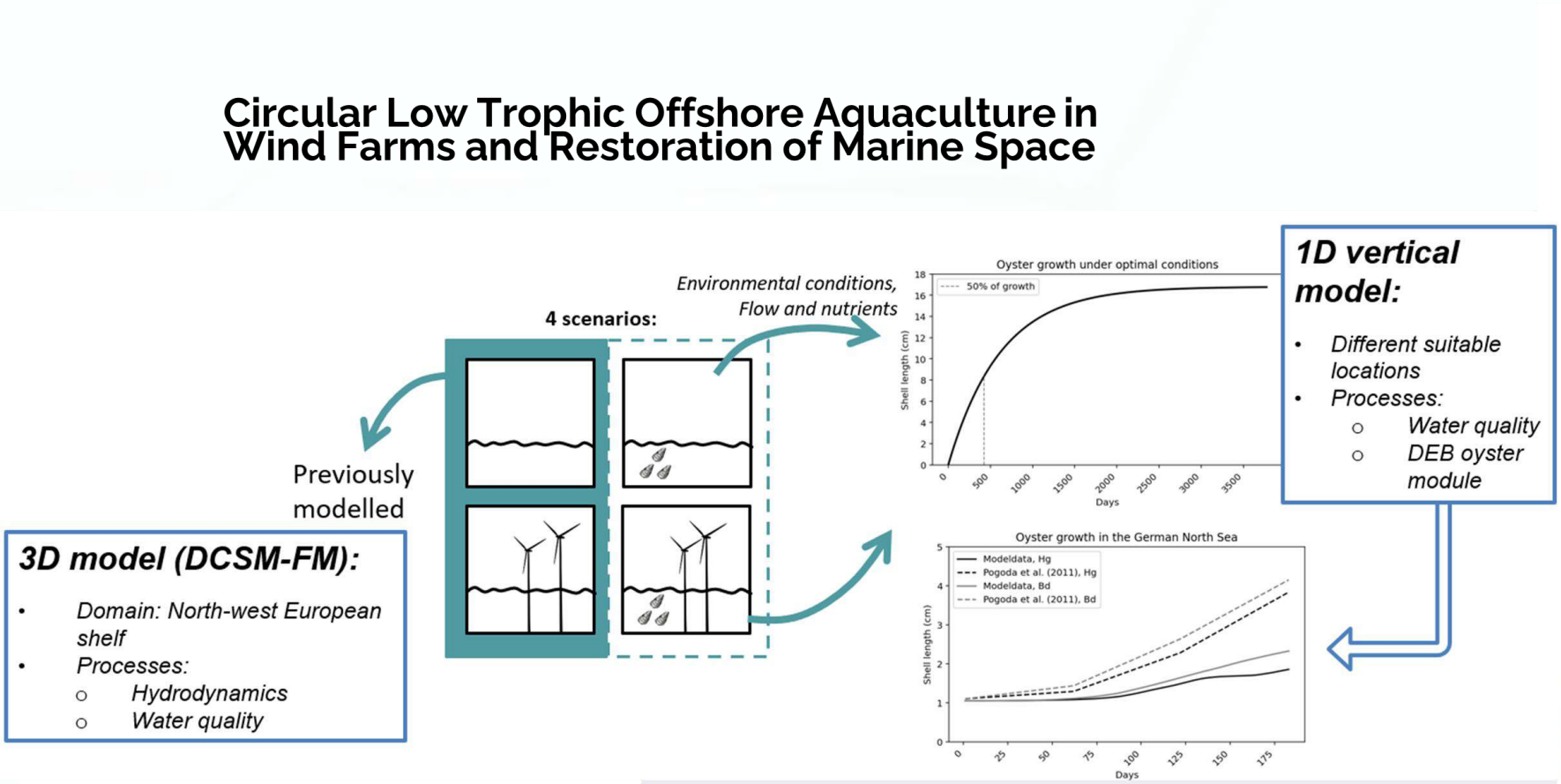
Sustainable Low Trophic Aquaculture and Energy Production

Circular Low Trophic Offshore Aquaculture in Wind Farms and Restoration of Marine Space

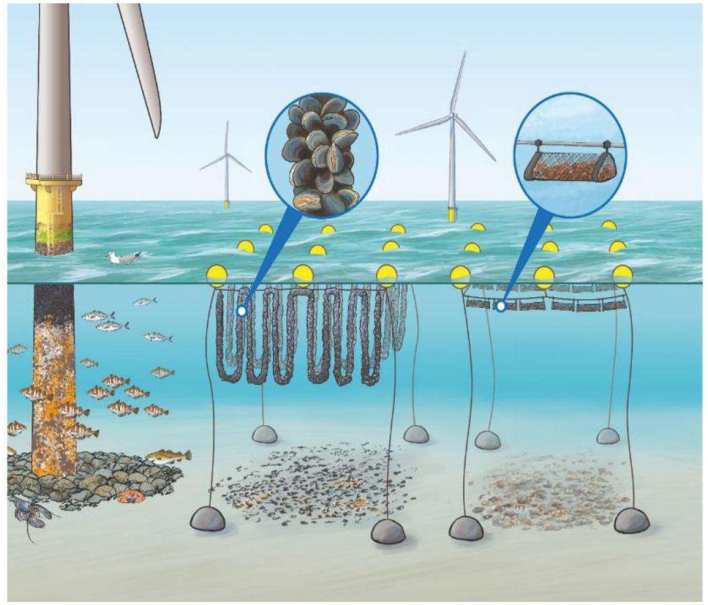


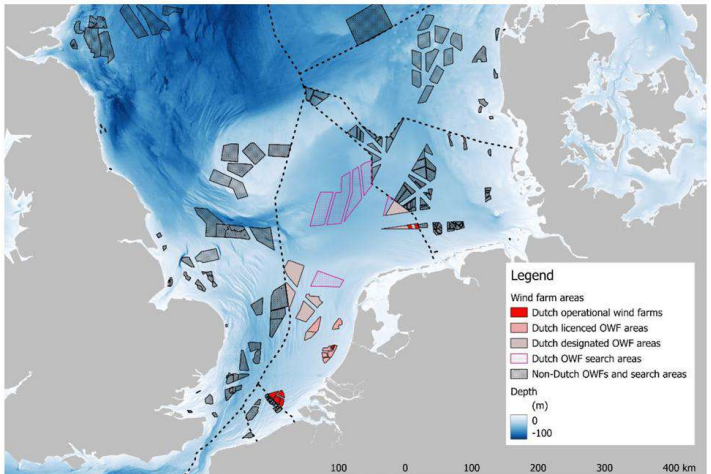
3D model (DCSM-FM):

- *Domain: North-west European shelf*
- *Processes:*
  - *Hydrodynamics*
  - *Water quality*

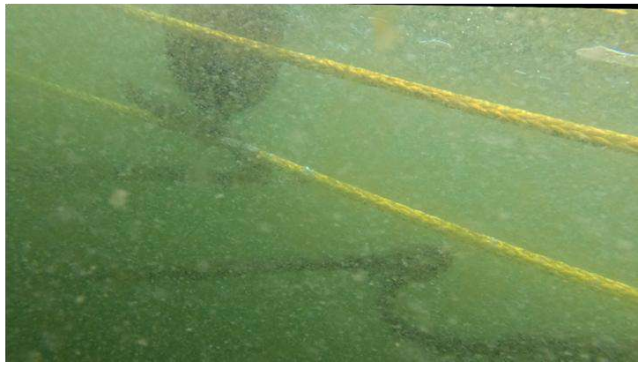
1D vertical model:

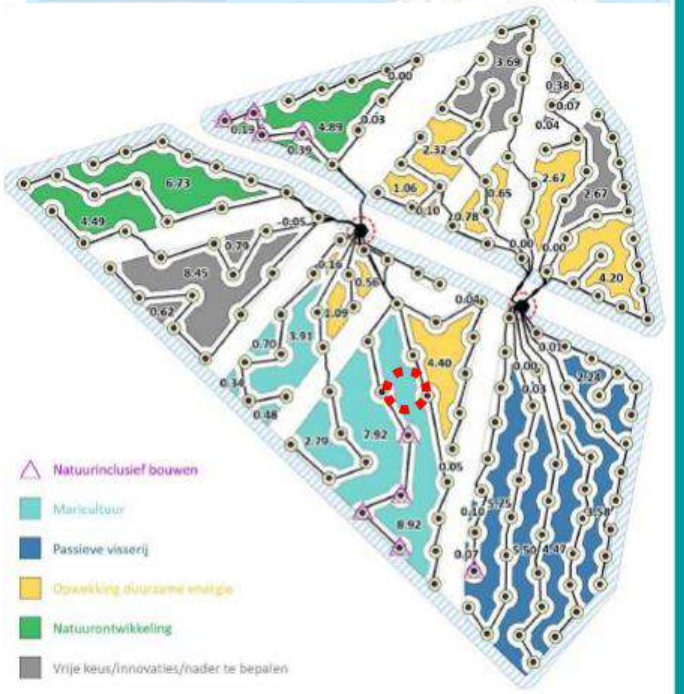
- *Different suitable locations*
- *Processes:*
  - *Water quality*
  - *DEB oyster module*





Dutch Pilot - Borssele III wind farm





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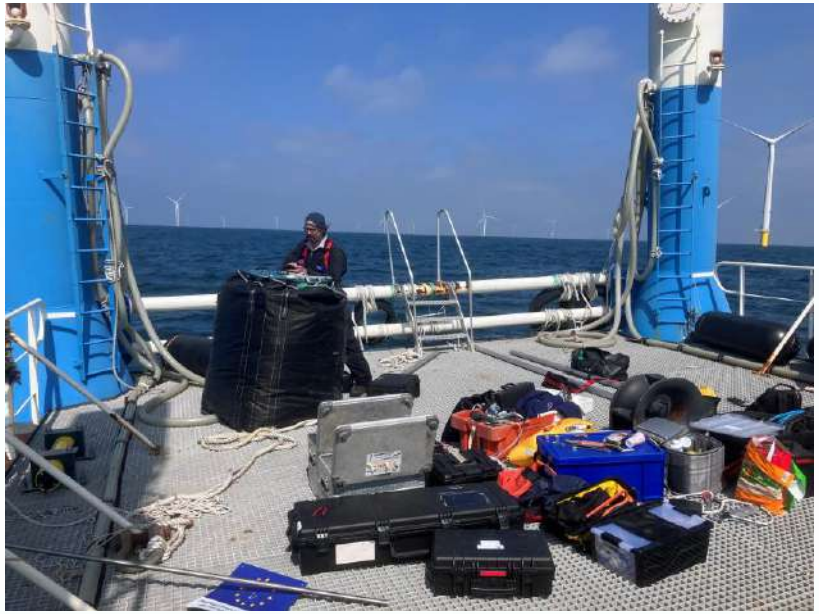
Monitoring birds and fish

- Camera takes pictures of platform and longlines above water
- Pictures analysed for bird presence
- Acoustic sensor for fish installed 14 August 2025
- Mussels of 1-15 mm present on monitoring line, not much on droppers



ding from the European Union's Horizon Europe research and innovation program
iews and opinions expressed are however those of the author(s) only and do not r
. Neither the European Union nor the granting authority can be held repsonsible fo

Reef development

- Eco friendly artificial reef development (BESE)

•Installation of artificial reef at nearshore site (June 2024)
- Monitoring in April 2025
- Placement of new substrate in June 2025

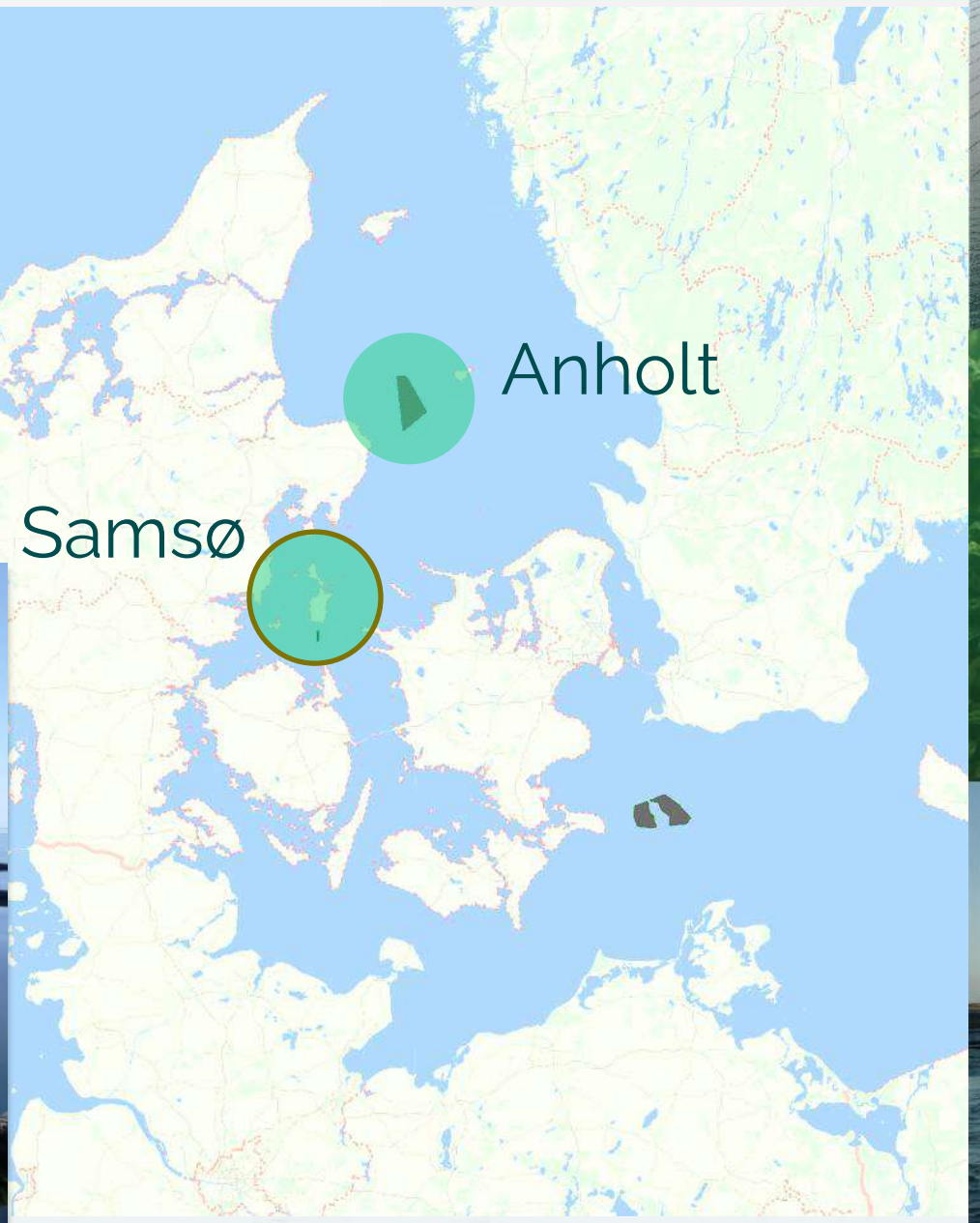
arch and innovation programme under Grant
e author(s) only and do not necessarily reflect
ty can be held repsonsible for them.

Anholt is an experimental site for:

- Seaweed and mussel cultivation
- Offshore gear development and testing
- Environmental and farm physical monitoring
- Biodiversity assessment

Samsø is a commercial test site for:

- Commercial mussel farming
- Testing of existing technology (tubes and net)
- Will start spring 2024



ULTFARMS@Deltares.nl

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5th BALTIC MSP FORUM

11-12 November 2025 Riga, Latvia

Interactive session: LIVE SLI.DO

Moderators:

Franziska Drews-von Ruckteschell

Ivana Stojanovic

SUBMARINER NETWORK

Guiding points for the session

- Read the question and think about the answer.
- Select the answer that you agree with the most (A, B, C, D) and go to the corresponding corner of the room.
- 2min to discuss why you chose that answer and elaborate on best practices/initiatives backing up your perspectives.
- 20 sec to highlight main discussion points.

Upscaling horizon: *By when is significant multi-use feasible in the Baltic Sea basin? What about the North Sea basin (any insights)?*

A. Within 3 years

B. 3–7 years

C. 8–12 years

D. Beyond 12 years

Primary bottleneck to scale: *Which barrier is most limiting to upscaling? Baltic Sea? North Sea?*

A. Permitting and regulatory fragmentation

B. Technical standards and safety rules for shared assets

C. Bankability/insurance and unclear business models

D. Stakeholder acceptance and perceived risk

Policy instrument that would help most with MU advancements: *Which policy lever would most accelerate MU in the Baltic Sea? What about the North Sea?*

A. One-stop permitting for co-located uses

B. Financial incentives tied to co-location

C. Sea-basin MSP guidance with MU or innovation zones

D. Mandatory MU assessment for large offshore projects

Preferred multi-use combinations: *Which combination should be prioritised first in the Baltic sea basin? ….or which combination will be most relevant/is most relevant? What about the North Sea?*

A. Offshore wind + seaweed/mussels

B. Offshore wind + restoration (e.g., oyster/reef, nature-inclusive design)

C. Offshore wind + renewable energy (wave and solar energy)

D. other

Multi-Use Implementation: *How should designated MU areas be framed/organised to gain support from different stakeholders? Consider both sea basins separately*

A. Mariparks

B. Combination Specific MU areas (i.e. through Area Passport)

C. MSP dedicated innovation zones (zones for multiple uses coordinated through MSP)

D. Other

Assurance we most need: *Which evidence would most increase confidence to permit MU in the Baltic? What about the North Sea?*

A. Robust biodiversity & acoustic baselines with ongoing monitoring

B. Proven gear/anchoring designs that minimise seabed impacts

C. Clear cumulative-effects thresholds agreed regionally

D. Transparent incident reporting and adaptive management approaches

Permitting strategy: *Which approach best fits MU projects?*

A. Amend existing permits to add secondary uses

B. New integrated MU permit class

C. Time-limited permits for pilots only

D. Keep separate permits; coordinate through MSP conditions

Cross-border MU governance: *Which policy action would most effectively support sea basin–wide adoption of multi-use? Consider the status in the BANOS region, discussing differences if possible.*

A. Harmonisation of national permitting rules and procedures

B. Establishment of regional coordination bodies under MSP frameworks

C. Binding regional MU targets within EU directives or sea-basin strategies

D. Formalised cross-border stakeholder forums for shared planning

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