MITIGATION MEASURES
WEBINAR

Fostering Healthy Seas

Avoidance and Minimisation of Environmental Impacts from Offshore Wind and Grids

11:00 – 12:15 CET
Thursday, 23 January 2025

presented by

ocean Offshore Coalition for Energy and Nature
NORTH & BALTIC SEAS

Renewables Grid Initiative

featuring

The North Sea Foundation

TenneT

Iberdrola

Our panelists

Wietske van Erp Taalman Kip
Lead Licensing at Large Projects Offshore
TenneT TSO (NL)

Marija Nilova
Offshore Ecology Manager
Iberdrola

Pim Somers
Project Lead Nature-Friendly Offshore Energy
The North Sea Foundation

Ana Miljanović Rusan
Manager - Offshore Energy and Nature
Renewables Grid Initiative

Who else is in the room?

- Academic and research institutions
- Offshore wind developers
- Maritime services providers
- Supply chain companies
- Environmental & climate NGOs
- Nature protection consultancies
- Transmission system operators
- International, national and local governmental bodies

Housekeeping rules

Introduce yourself & your organisation

Not speaking? Don’t forget to mute yourself!

Question? Just raise your hand and/or write in the chat

Speaking? Please turn your camera on

What to expect today?

Presentation of the **OCEaN 'Mitigation' report** and its accompanying **database**

Panel discussion

Q&A
Your time to ask anything you want to know

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Our Members

12 Grid Operators
18 Wind Power Companies
19 Civil Society Organisations

Collaborating for a green Europe!

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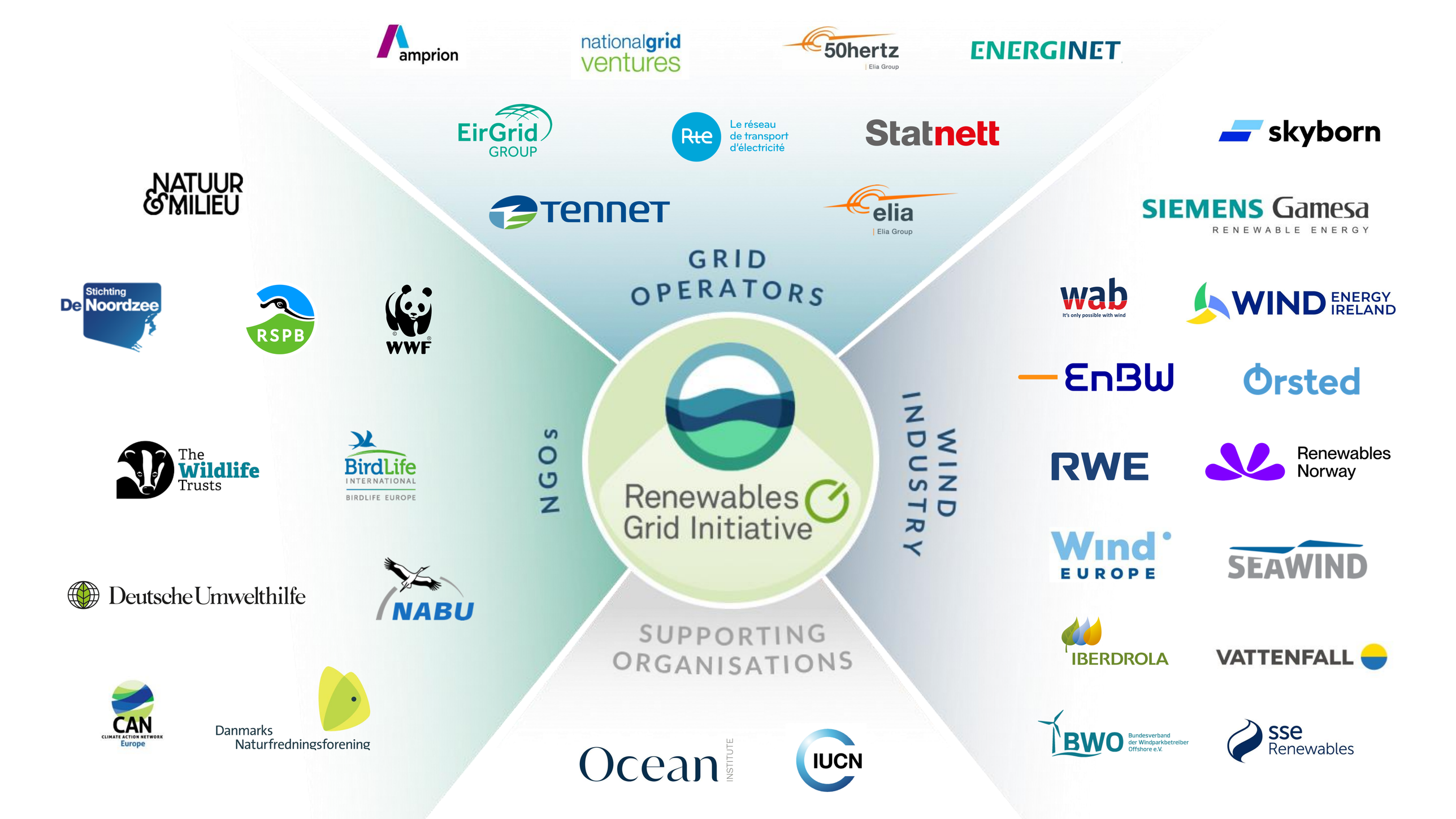
MEDITERRANEAN SEA


amprion
nationalgrid ventures
50hertz
Elia Group
ENERGINET
EirGrid GROUP
Rte Le réseau de transport d'électricité
Statnett
skyborn
NATUUR & MILIEU
TenneT
elia
Elia Group
SIEMENS Gamesa
RENEWABLE ENERGY
GRID OPERATORS
Stichting De Noordzee
RSPB
WWF
wab
It's only possible with wind
WIND ENERGY IRELAND
EnBW
Ørsted
The Wildlife Trusts
BirdLife INTERNATIONAL
BIRDLIFE EUROPE
NGOs
Renewables Grid Initiative
WIND INDUSTRY
RWE
Renewables Norway
Wind EUROPE
SEAWIND
Deutsche Umwelthilfe
NABU
IBERDROLA
VATTENFALL
SUPPORTING ORGANISATIONS
CAN CLIMATE ACTION NETWORK Europe
Danmarks Naturfredningsforening
BWO Bundesverband der Windparkbetreiber Offshore e.V.
sse Renewables
Ocean INSTITUTE
IUCN

Advocate for OW, grids & nature

Facilitate open forum for discussion

Identify and fill knowledge gaps

Showcase solutions and innovative practices

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How do we then deploy offshore wind and grid infrastructure with nature in mind?

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Implementing avoidance & minimisation measures

- Scattered, fragmented, information not up-to date
- Disagreements between stakeholders

OCEaN collection

→ Bottom-fixed offshore wind and grid infrastructure

→ Planning, construction, operation and decommissioning

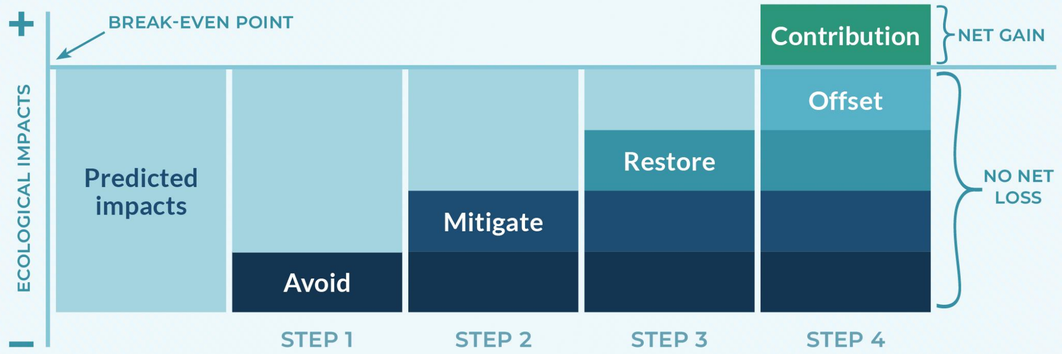
→ covers the North & Baltic Seas

→ Embraced by NGOs, wind and grid developers

→ More than 25 years of experience

01

MITIGATION HIERARCHY



The implementation of a mitigation hierarchy is essential for effectively managing adverse ecological consequences. This hierarchy, as seen by OCEaN, includes avoidance, minimisation, restoration, and offsetting measures and provides a structured framework to guide mitigation efforts.

The graphic was adapted from the International Institute for Sustainable Development (IISD)

What do we mean by avoidance and minimisation?

02

DEFINITION OF AVOIDANCE AND MINIMISATION MEASURES

Firstly, **avoidance measures** prioritise the identification and selection of project sites, or locations within a site, with minimal ecological sensitivity, thereby reducing the likelihood of significant harm to marine habitats and species.

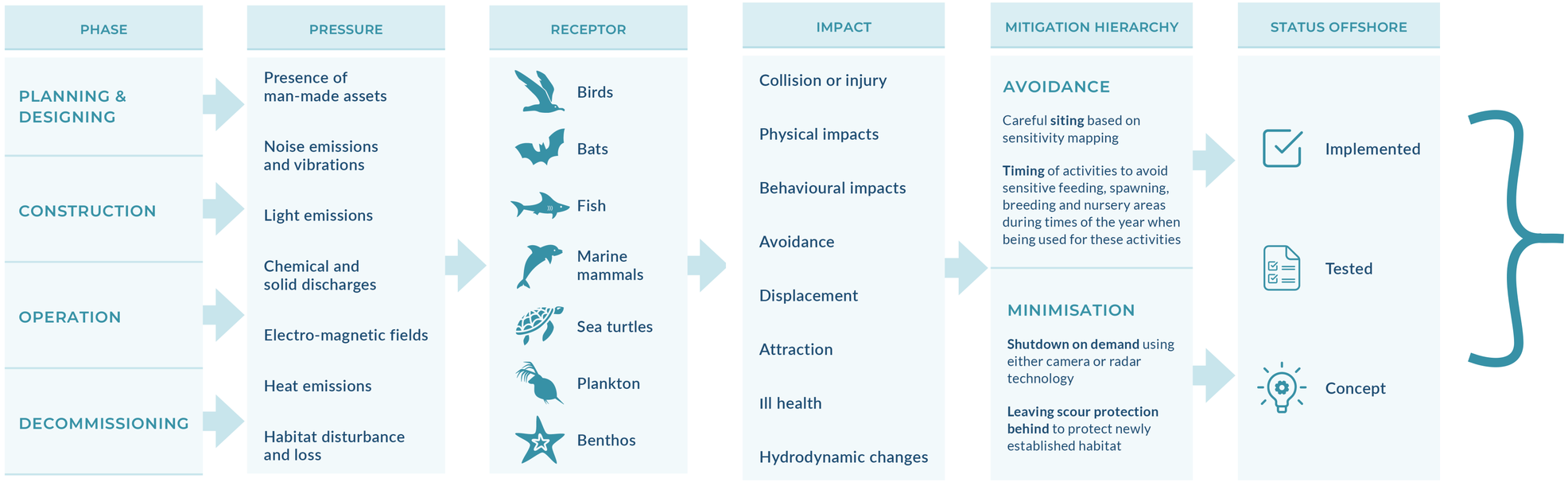
Subsequently, **minimisation measures** focus on reducing the intensity and extent of impacts through the adoption of best practices in project design, construction, operation, and decommissioning. This includes, for instance, employing advanced technologies to minimise noise and vibration during installation and implementing measures to mitigate seabed disturbance.

What is excluded?

- Nature-inclusive design
- Enhancement
- On- and off-site restoration
- Offsetting

How did we collect the measures?

FRAMEWORK USED FOR IDENTIFYING MEASURES



- **Literature reviews,**
- **Interviews with OCEaN Members,**
- **Internal discussions**

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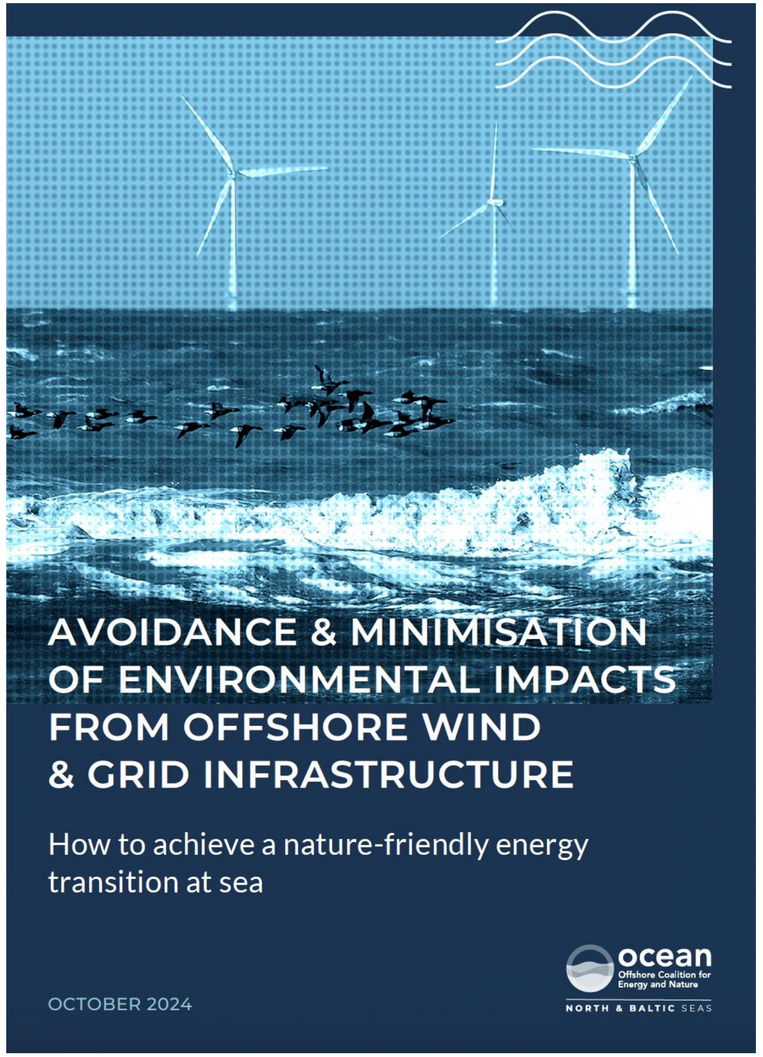
Results

1. Database of approx. 80 avoidance and minimisation measures

2. Report including:

- Brief overview of collected measures
- Identified knowledge gaps
- Best practices for offshore wind and grid developers
- Recommendations for policy makers



Mitigation Measures

To promote nature-friendly offshore wind and grid development, OCEaN – North & Baltic Seas has identified key measures to help wind developers and transmission system operators avoid and minimise potential environmental impacts on marine ecosystems.

Explore our collection of measures!

Click on one of the most prominent pressures on marine ecosystems caused by offshore wind and grid, and learn what measures can offshore wind and grid developers apply.

As innovation in the offshore wind and grid sector continues, updates to this database are expected. OCEaN welcomes feedback from all stakeholders to ensure offshore wind and grid deployment is deployed in harmony with nature protection. A full collection of these measures, their current implementation status, and real-world examples are available upon request.

For insights into OCEaN's methodology, identified knowledge gaps, and recommendations for improving environmental outcomes, we encourage you to read our report.

OCEaN Report on Avoidance and Minimisation Measures

Presence of man-made assets

Noise emissions and vibrations

Light emissions

Chemical and solid discharges

EMF and heat emissions

Habitat disturbance

Identified knowledge gaps

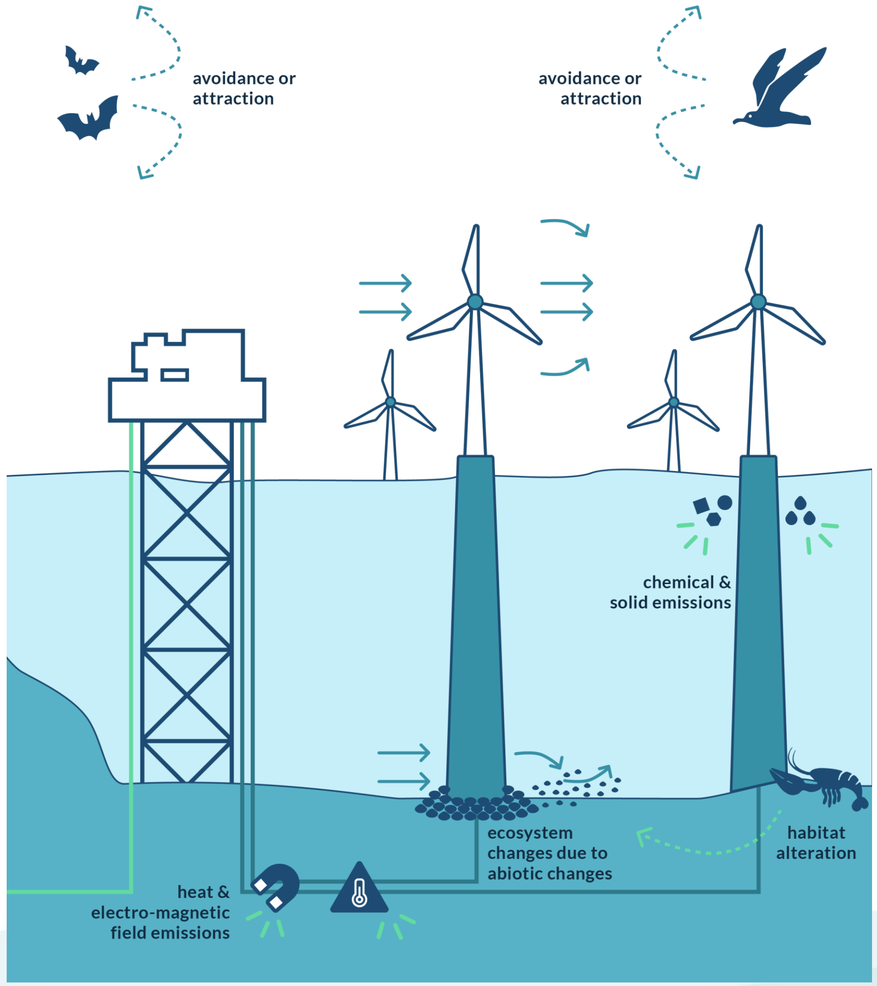
Dedicated research projects

Examples

- **Bats** & offshore wind turbines – monitoring R&D – Kattegat West Baltic Bats Project
- **Birds** & offshore wind turbines – effectivness of design measures (e.g. ReSCUE, black blade pilot)
- **Chemical pollution** – impacts (e.g. ANEMOI)
- **EMF** – impacts & mitigation measures (e.g. FlatEMF, ElasmoPower)

GRAPHIC SUMMARY

KNOWLEDGE GAPS CONNECTED TO THE PRESSURES CAUSED BY OFFSHORE WIND AND GRID INFRASTRUCTURE



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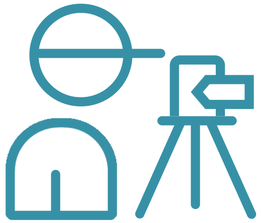
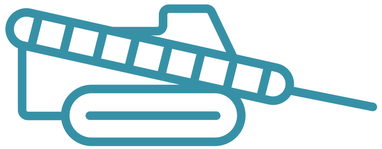
Recommendations for policymakers and permitting authorities - examples

- Light design & turbine blade colour → more flexibility
- Noise emissions → thresholds based on best available science and coordination between nation states
- Decommissioning → reconsider obligations

15 Best practices – a few examples:



- **Timing** and least-intrusive equipment for surveying
- **(Micro)siting** away valuable areas for sensitive species
- Siting substations in a way that **minimises the number and length** of intra-array cabling
- **Shield and bury** cables to reduce the amount of seabed under EMF
- Adjust piling energy in the beginning of piling (**soft start**)
- Using **Horizontal Directional Drilling**



What’s next?

Annual revision of collected measures

Mitigation infographic

Focus on knowledge gaps and innovation

Dissemination, communication and advocacy

Panel discussion

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Q&A

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Learn more on our website

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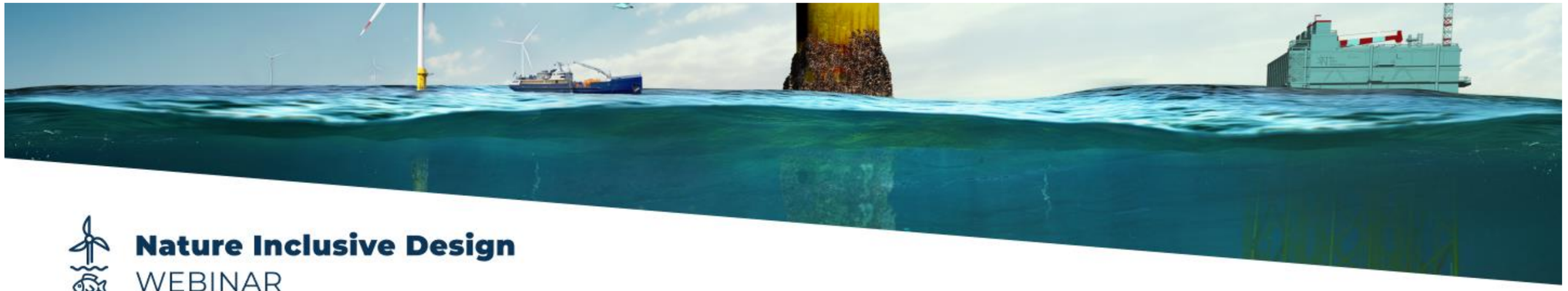
Register for our events mailing list



Nature Inclusive Design
WEBINAR

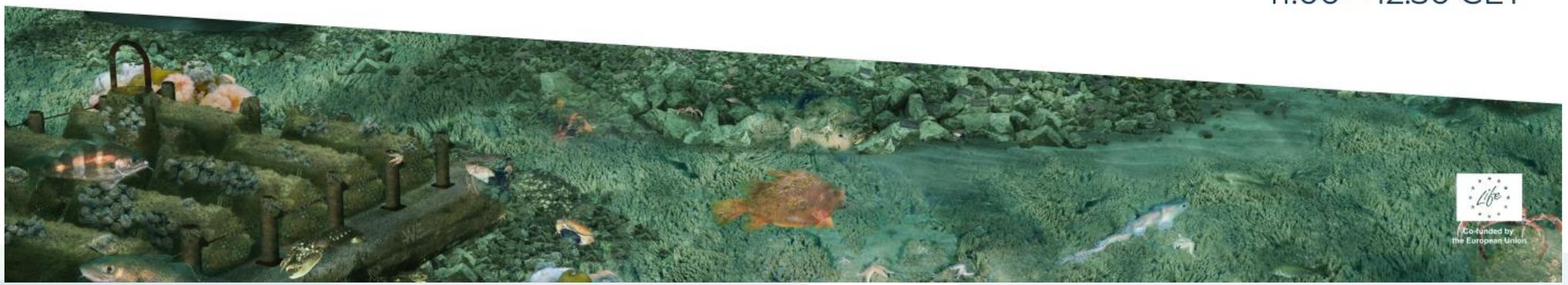
Mapping NID Solutions

An exploration of the Rich North Sea Toolbox

featuring
The Rich North Sea
ECONCRETE

presented by
ocean Offshore Coalition for Energy and Nature
Renewables Grid Initiative

13 February 2025
11:00 – 12:30 CET



Thank you for joining!

In case of any questions:

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