



European
Environment
Agency

OFFSHORE WIND ENERGY AND THE ENVIRONMENT

Eda BAYAR
Wadden Sea Day 2024
29 Aug 2024

PRESENTATION OUTLINE

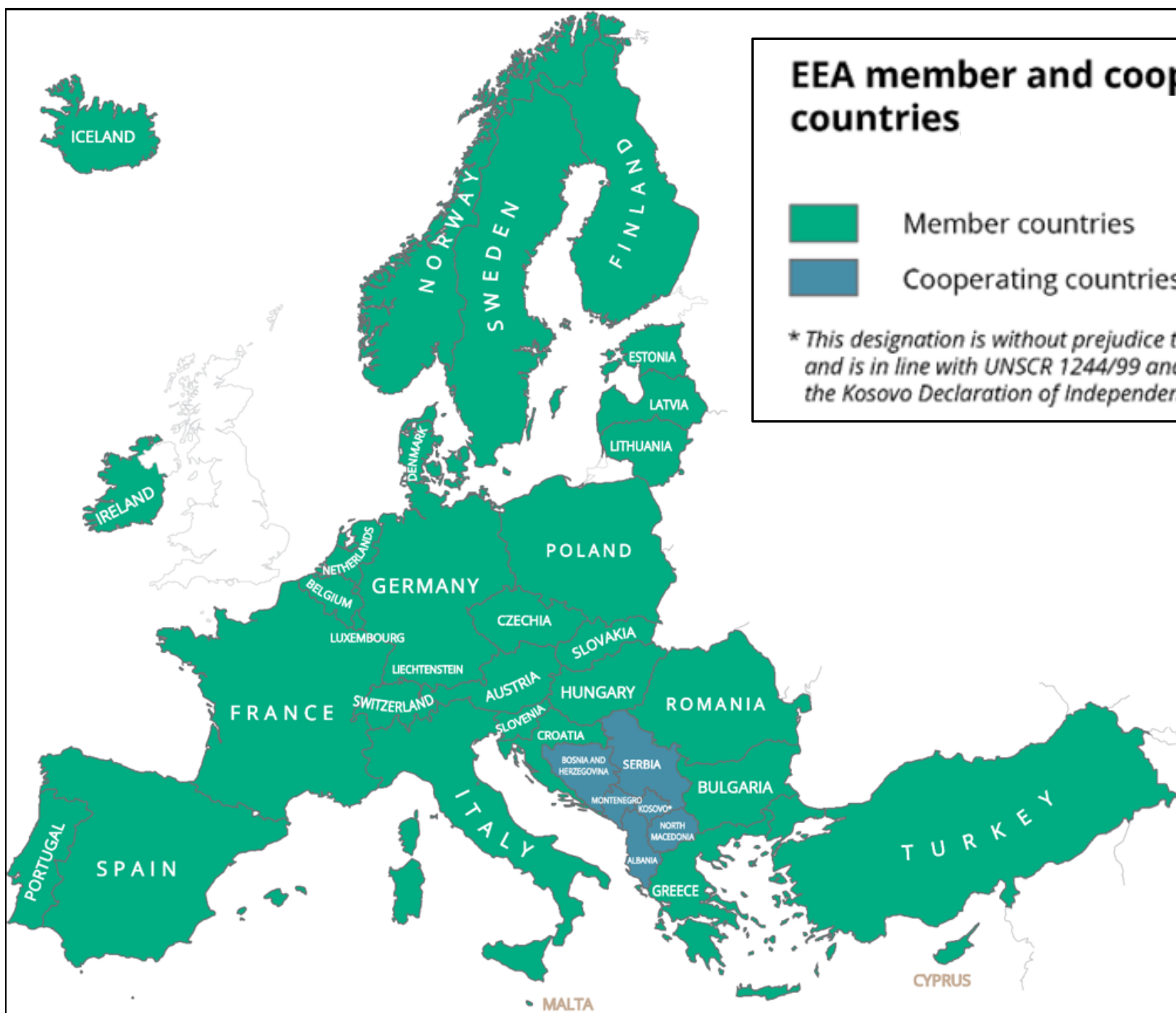
Information about EEA

What do we do
How do we work
Priorities and Flagship Products

Setting the scene: Offshore wind energy briefing

EEA's future work

Q&A



EEA member and cooperating countries

- Member countries
- Cooperating countries

** This designation is without prejudice to positions on status, and is in line with UNSCR 1244/99 and the ICJ Opinion on the Kosovo Declaration of Independence.*

**Informing
policy
implementation**

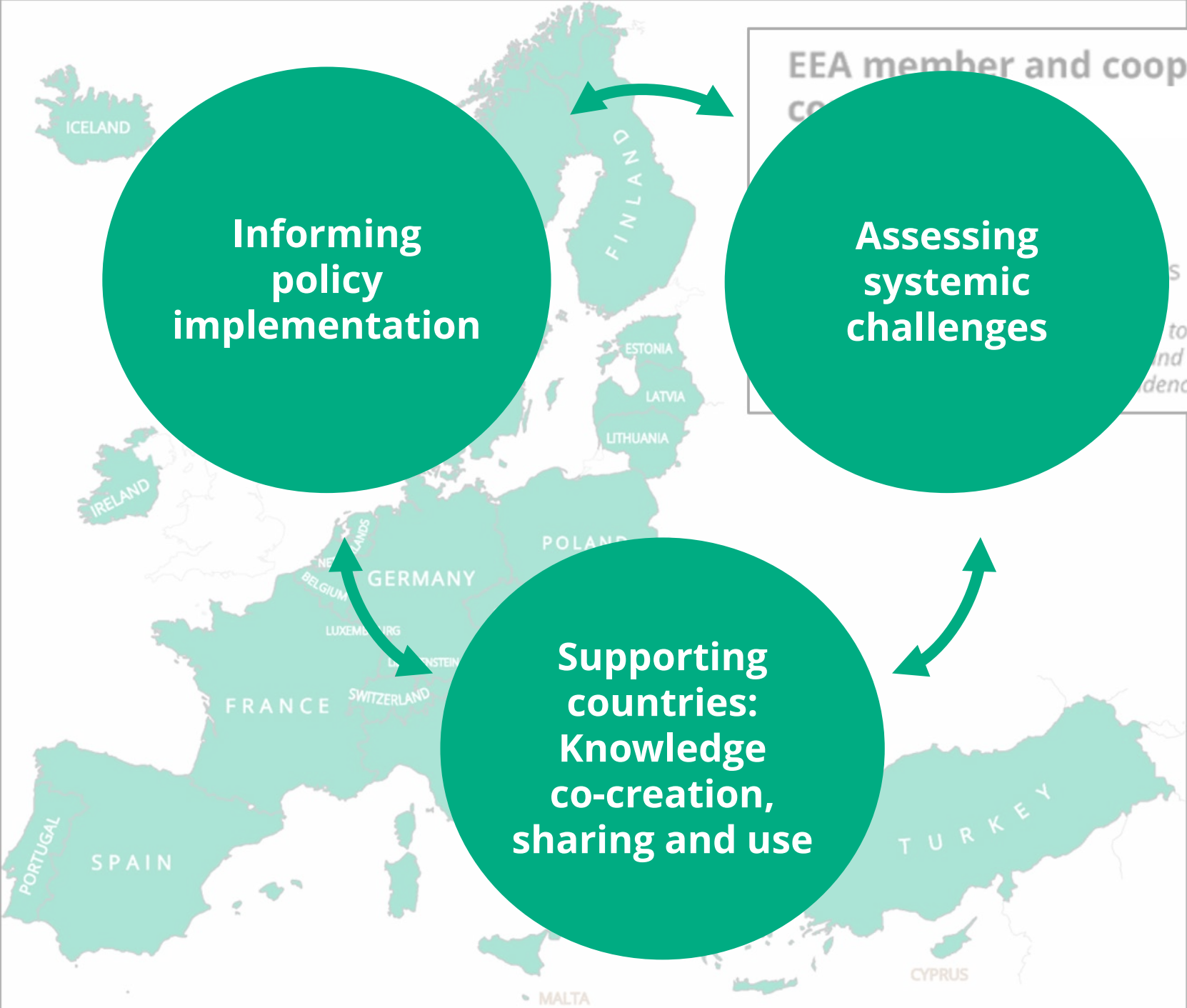
**Assessing
systemic
challenges**

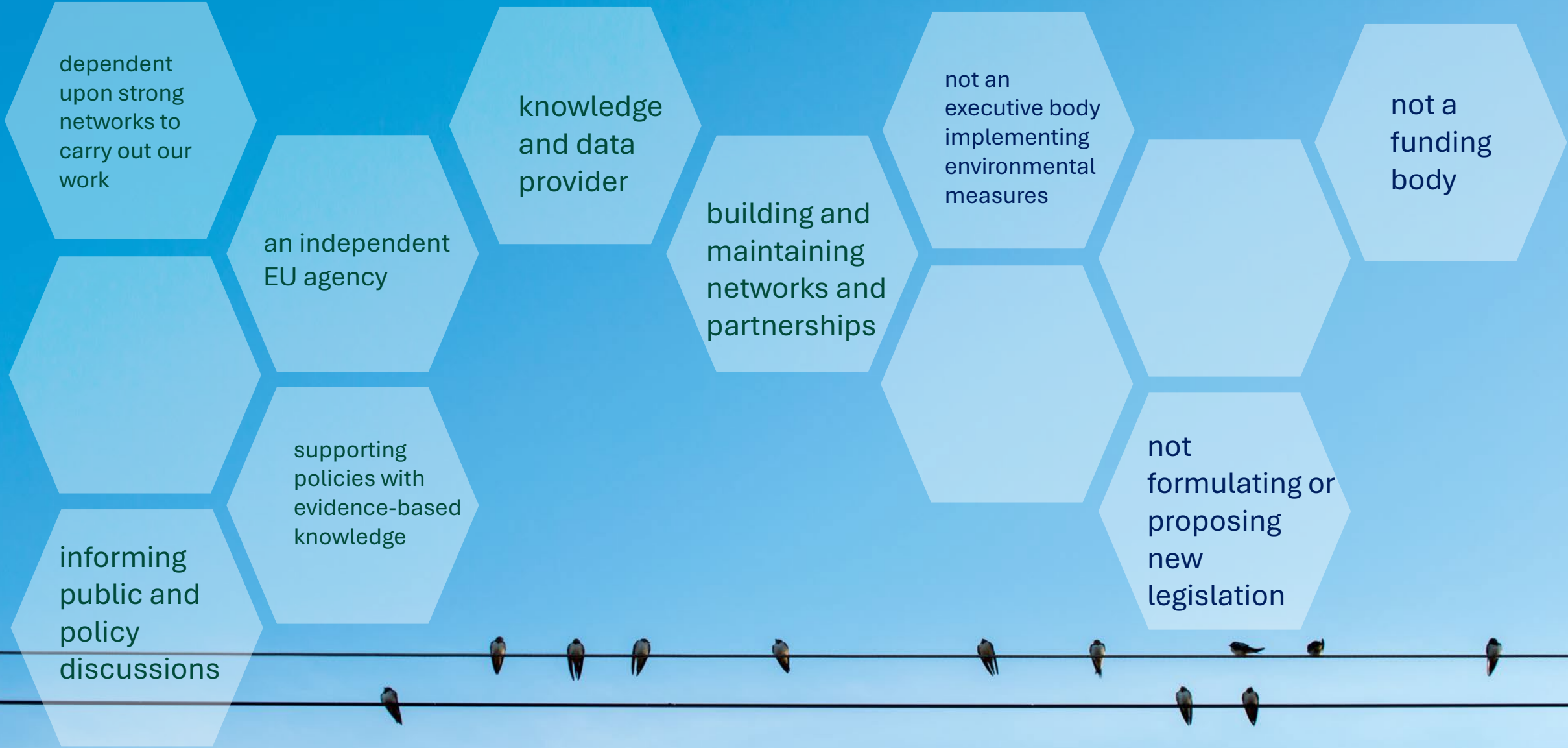
**Supporting
countries:
Knowledge
co-creation,
sharing and use**

EEA member and cooperating countries

to positions on status, and the ICJ Opinion on competence.

What we do





EEA'S MAIN TOPICS

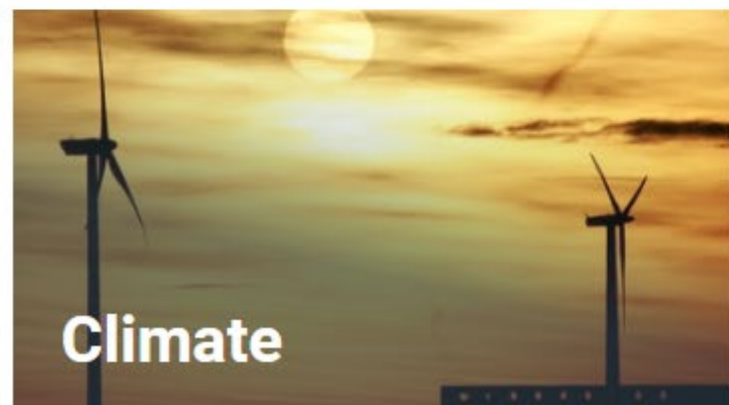
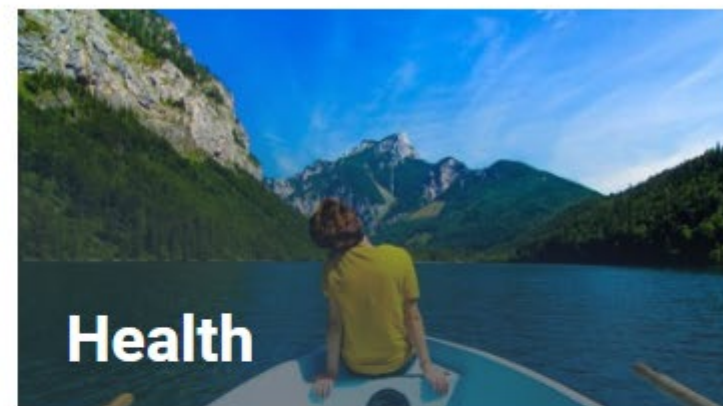


Image source: eea.europa.eu

IN DEPTH TOPICS

Agriculture and food system

Air pollution

Bathing water quality

Biodiversity: state of habitats and species

Buildings and construction

Chemicals

Circular economy

Climate change impacts, risks and adaptation

Climate change mitigation: reducing emissions

Electric vehicles

Energy

Energy efficiency

Environmental health impacts

Environmental inequalities

Extreme weather: floods, droughts and heatwaves

Forests and forestry

Industry

Land use

Nature protection and restoration

Noise

Plastics

Pollution

Production and consumption

Renewable energy

Resource use and materials

Road transport

Seas and coasts

Soil

Sustainability challenges

Sustainability solutions

Sustainable finance

Textiles

Transport and mobility

Urban sustainability

Waste and recycling

Water



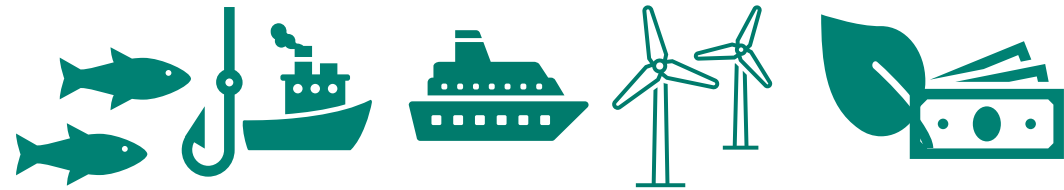
Oceans and Sustainable Blue Economy group in a nutshell

Pressures and state of the marine environment



- Marine Strategy Framework Directive
- Bathing Water Directive
- Water Framework Directive
- Habitats and Birds Directive - Natura 2000 network – 2030 Biodiversity Strategy
- Zero Pollution Action Plan

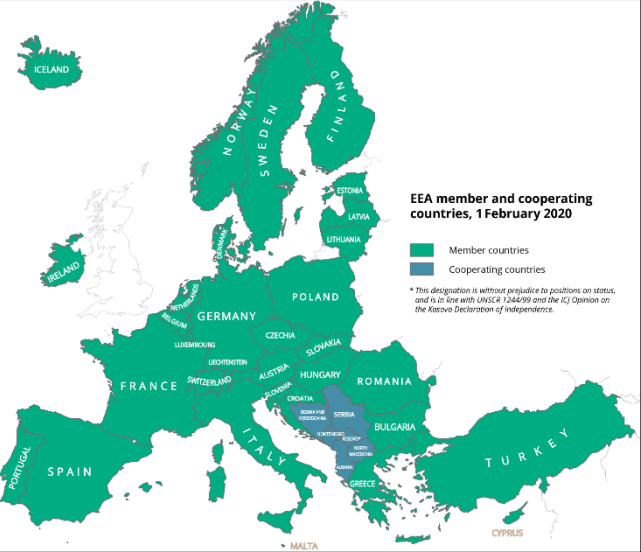
Transition to sustainability of the maritime sectors



- Sustainable Blue Economy Strategy
- Fisheries and Ocean Package – Marine Action Plan
- Maritime Spatial Planning Directive
- Fit for 55 - EU Emission Trading System - FuelEU Maritime
- Emission Control Areas
- Port Reception Facilities Directive

Knowledge and cooperation at the heart of progress

EEA member and cooperating countries



Reporting bodies

Europe

European Environment Agency

European Commission

Regional Sea Conventions

North-East Atlantic

Mediterranean Sea

Baltic Sea

Black Sea

Others

International Council for the Exploration of the Sea

European Knowledge Platforms / Data infrastructures

EMODnet

Eurostat

Join Research Centre

Copernicus
Europe's eyes on Earth

JPI OCEANS

European MSP Platform

Funded by the

WISE MARINE

MARINE INFORMATION SYSTEM FOR EUROPE

Climate ADAPT | SHARING ADAPTATION INFORMATION ACROSS EUROPE

WISE FRESHWATER

BIODIVERSITY INFORMATION SYSTEM FOR EUROPE

Priorities and flagship products

European Maritime Transport Environmental Report (EMTER)



Marine Messages



Setting the Scene- EEA's upcoming offshore wind energy briefing

Renewable energy is the backbone of Green Economy efforts

However, it can affect ecosystems and biodiversity adversely by causing habitat loss/change, pollution, overexploitation, climate change and introduction of invasive species



Expansion of offshore wind energy capacity from 20 GW to 300 GW by 2050

52,000 km² of marine space is needed to meet this goal

Environmental impacts need to be addressed throughout the life cycle of offshore wind farms



Legislative challenges related to maritime spatial planning and environmental concerns

Emerging need for balancing energy production with the protection and restoration of marine ecosystems while considering competition for space with other maritime sectors

Growing need to address trade-offs



OFFSHORE WIND ENERGY AND THE ENVIRONMENT



Our **target audience** is the Commission, the industry, policy makers, taxpayers



Outcome of this report **will be used for**: mapping what is new on the European agenda, understanding what should be prioritised (looking at data/knowledge gaps), influence the EU policy agenda



The report will be published at the end of February 2025

[Publications | European Environment Agency's home page \(europa.eu\)](#)

**Policy and
monitoring
practices**

1

**Environmental
impacts, risks, and
data gaps**

2

**Trade-offs, emerging
technologies and
country examples**

3

**Data and knowledge
gaps**

4

**Outlook to 2030 and
2050**

5

Environmental impacts and risks

SCAIRM method to assess cumulative impacts for all life cycle steps: exploration - production - installation - operation - maintenance - decommissioning - recycling

Benefits of offshore wind energy such as
-The possibility to incorporate habitat restoration
-Increased nutrient cycling and carbon sequestration in the case of multi-use designs with aquaculture.

Data and knowledge gaps

Identify gaps in data, information and knowledge as well as monitoring needs.

Ch1

Policy and monitoring practices

What is new in EU legislation since 2022, What do the new legislation mean for increasing need for space and environmental protection?
- How do they help us ensure resilience of the marine environment?

Ch 2

Ch 3

Trade-offs, emerging technologies and country examples

Trade-offs between expanding the offshore wind energy capacity and a) climate and energy targets, b) clean, healthy and sustainable seas, c) circularity targets, d) competition with other maritime sectors for use of space and resources.

Ch4

Country examples a) good circularity practices, or b) coexistence of offshore wind energy, other maritime sectors and environmental protection.

Ch 5

Outlook to 2030 and 2050

An outlook of environmental impacts associated with EU's targets for OWE in 2030 and 2050.

THANK YOU

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