

Unravelling Environmental Impact Assessments for Floating Offshore Wind and Grid Infrastructure

5 November 2025, Porto Portugal

Background and framing

The Renewables Grid Initiative (RGI), in collaboration with Redes Energéticas Nacionais (REN), and under the umbrella of Med OCEaN, organised the workshop 'Unravelling Environmental Impact Assessment (EIA) for Floating Offshore Wind and Grid Infrastructure' in Porto on 5 November 2025.

The event was conceived in response to the growing need for a more coordinated, transparent, and Nature-Positive approach to offshore wind development across Europe, specifically in the Mediterranean. As multiple countries scale up their ambitions for renewable energy deployment at sea in the Mediterranean, the demand for timely EIAs and the challenges associated with cumulative impacts, data sharing, and procedural heterogeneity have become increasingly pressing. The fragmentation of monitoring requirements and standards not only slows down permitting processes but also hinders the ability to assess ecological risks of marine ecosystems holistically.

The objective of the event was to build a shared understanding of how EIAs are applied to floating offshore wind and grid infrastructure across Southern Europe, and how Maritime Spatial Planning (MSP) and Strategic Environmental Assessments (SEA) influence national permitting processes in Portugal, Spain, France, and Italy. The workshop also sought to gather practical ideas for improving assessment quality for emerging floating technologies and to pinpoint common transboundary issues where regional collaboration could strengthen and streamline EIA processes.

The workshop provided a space to collectively reflect on shared challenges and explore potential solutions for optimisation. Participants contributed to identifying a preliminary set of priorities and minimum standards that could support greater alignment across sea basins. These insights set the stage for continued collaboration aimed at improving the efficiency and speed of permitting and the effectiveness of environmental conservation in the context of the rapid expansion of offshore renewable energy.

Themes emerged from discussions

Through a combination of expert presentations and interactive discussions, participants examined emerging approaches to environmental monitoring, opportunities for streamlining data collection and reporting, and cross-border collaboration on cumulative impact assessments. The main themes that surfaced from the discussions were:

Interdependence of MSP, SEA, and EIA

Strong emphasis emerged on MSP, SEA, and EIA as linked stages of a coherent system. SEA provides strategic environmental grounding, MSP sets spatial priorities, and EIA addresses project-level impacts. **Project-level EIAs are non-negotiable and should be consistently aligned with earlier MSP and SEA stages.**

National status and planning uncertainties

France, Spain, Portugal, and Italy are at different stages of offshore wind and maritime spatial planning, with varying targets, zoning and SEA scoping processes. **Delayed tenders and pending auction models (e.g., inclusion of ecological Non-Price Criteria) create uncertainty for wind and grid planning and permitting processes.**

Challenges of EIAs for floating offshore wind

EIAs for floating offshore wind face specific hurdles: costly and fragmented baseline data, limited historical knowledge, unclear guidelines, complexity of cumulative and transboundary impacts, and technical issues related to floating wind and grid technologies. **These challenges underline the need for enhanced coordination to improve environmental impact assessments and facilitate learning opportunities across countries.**

Data needs and knowledge gaps

Data scarcity was repeatedly highlighted, underlying the need for robust baseline data, reliance on MSP/SEA datasets, and the contribution of EIAs themselves as essential data sources. **Data transparency and cross-boarded data sharing were both identified as important issues with room for improvement.**

Political, procedural and governance factors

EIAs are social and political processes requiring early engagement, clear guidelines, and strong leadership from public authorities. **Collaboration between authorities, industry, local stakeholders (e.g., fisheries), and experts is needed to align timelines and ensure coherent guidance.**

Technical and environmental considerations for floating offshore wind

Several uncertainties linked to floating technology were noted: wake effects and their impact on hydrodynamics, electromagnetic fields, subsea cables, Fish Aggregating Device (FAD)¹ effects and operational impacts on species. **Pilot projects and prototype testing are considered necessary to understand real impacts.**

Transboundary and cross-border issues

Recommendations emerged related to **joint SEA/EIA protocols, shared baselines, coordinated stakeholder engagement, and involvement of environmental experts, particularly for cross-border or grid-related projects.**

¹ Fish Aggregating Devices are objects, like buoys or floats, anchored or drifting in the open ocean to attract fish, especially pelagic species, by providing shelter, food sources, or reference points, making them easier for recreational and commercial fishers to find and catch.

Monitoring Insights from existing projects

Early monitoring results (e.g., Provence Grand Large - PGL project in France) show limited impacts on benthic habitats and marine mammals so far, but further data and continued testing (e.g., bird deterrent systems) are needed. **Next steps should prioritise continued monitoring, data sharing, and further testing of mitigation measures to consolidate the evidence base.**

Common Minimum Standards

In the context of this workshop on EIAs for offshore wind and grid development, common minimum standards refer to a **shared set of baseline principles, practices, or quality requirements that should be upheld across countries and projects**, ensuring EIAs are scientifically robust and efficient. Participants have identified the following aspects that EIAs should include:

- A common definition of project design envelope² as a pre-requisite for requesting an EIA.
- A proper cumulative impact assessment, including social aspects and data.
- A climatic modelling component, identification of climate refugia³ and prevention/mitigation of socioeconomic impacts caused by climate change.
- Baseline information on environmental and archaeological impacts covering a minimum of two years of data (up to three years for birds).
- Proper public participation from the start of planning, progressing hand-in-hand with the project.
- Data and results collected from existing pilot and first projects (i.e. PGL in France and WindFloat Atlantic in Portugal) to deal with uncertainty.
- A mechanism to reward responsible and sustainable development.

Solutions

During the workshop, participants have also identified solutions towards more efficient and nature-inclusive EIAs.

- Solutions to fill in the gaps between SEAs and EIAs:
 - Governments should invest in gathering baseline data and encourage development mechanisms to finance pre-development costs of projects (e.g. public banks).
 - Development of a platform to share data from SEAs and EIAs with a supporting policy framework at national and cross border scale.
 - Stakeholder engagement must become a core, meaningful component of EIAs designed to influence outcomes. Competent authorities at national and European level should promote best standards beyond EIA directive basic requirements.
 - Use common language and formats between in SEAs and EIAs.

² A Project Design Envelope (PDE) is the early project definition submitted for EIA describing the range of potential design choices within which the project may be developed, allowing flexibility while assessing maximum environmental impacts within that defined boundary.

³ Climate refugia are areas expected to remain stable and suitable for species despite climate change

- Solutions to support Nature-Inclusive Designs (NIDs) and nature restoration within projects:
 - Governments should provide a clear guidance on the integration of NIDs into offshore floating wind infrastructure, and make a clear distinction between mitigation measures, nature enhancement (NIDs included in the design of the infrastructure) and compensation measures (not within the infrastructure's grounds).
 - If NIDs are part of the infrastructure's design, its potential environmental impacts and monitoring obligations should be embedded in the EIAs.
 - If compensation measures are identified within the EIA, related nature restoration actions should be planned strategically at the broader ecosystem level, while maximising ecological benefits.
 - The sharing and publication of data collected through EIAs should be mandatory, including data specifically relevant to the target species and ecological benefits associated with NIDs.

Next steps and way forward

From the discussions sparked during the workshop, several participants have expressed their interest in continuing the constructive dialogue on EIAs for floating offshore wind and grid.

RGI will explore the EIA topic in more depth through dedicated sessions with Med OCEaN Members in 2026, focusing on specific aspects related to mitigating environmental impacts of offshore wind floating infrastructure, as well as their monitoring and effectiveness. We will also organise a public workshop to advance the discussion, alongside the ongoing collection of experiences from Mediterranean countries.

About Med OCEaN

Med OCEaN is an initiative managed by RGI that brings together various voices from civil society and the wind energy and electricity grid sectors. Together, we promote the deployment of offshore wind infrastructure and electricity grids in the Mediterranean and adjacent Atlantic waters while protecting biodiversity.

Learn more on our website: <https://offshore-coalition.eu>