Universidade Vigo

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CoBlue

Co-production of Knowledge and Politics for a Just and Sustainable Blue Economy

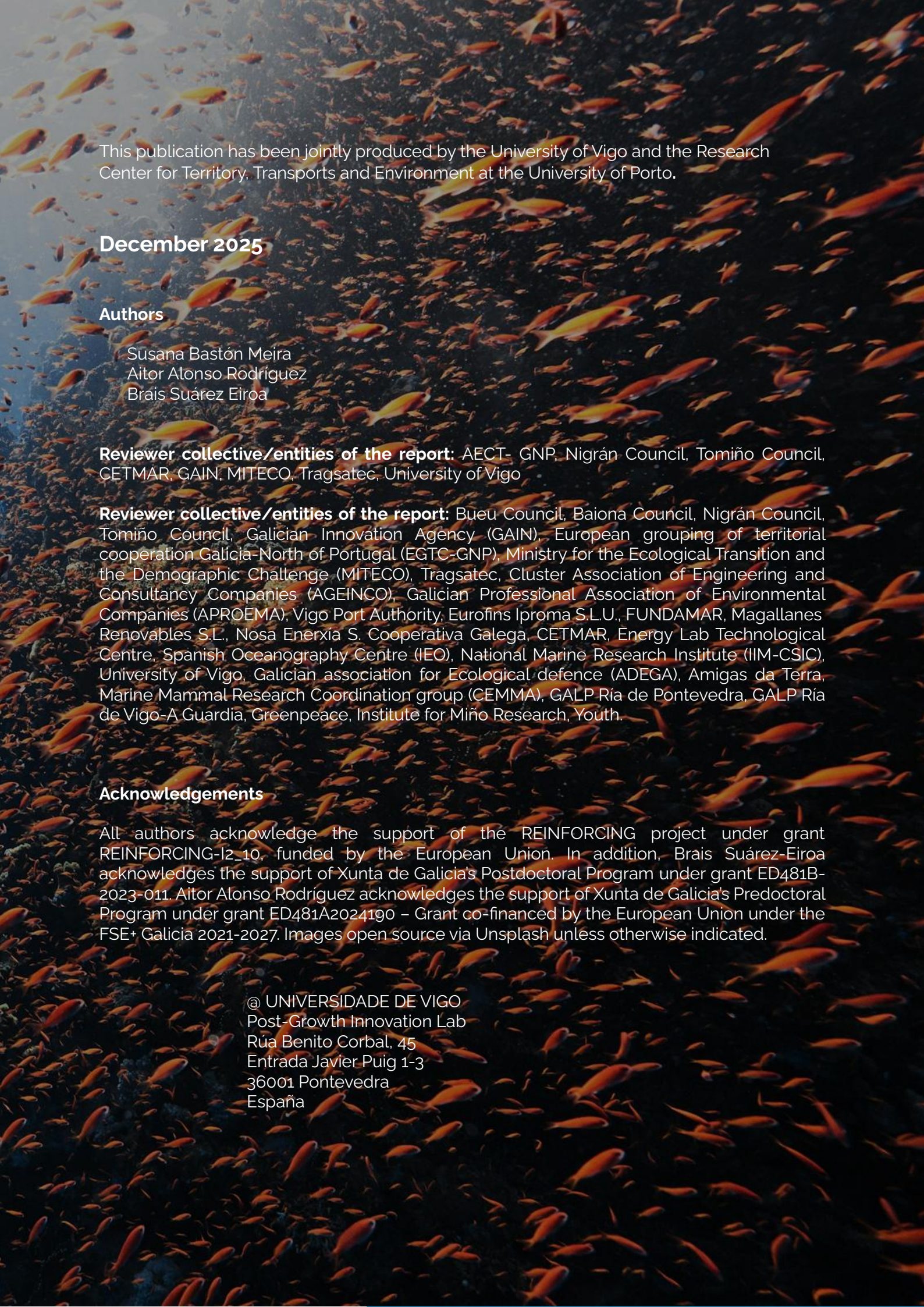
Towards a Sustainable Offshore Wind Energy Development in Galicia

Policy brief from the CoBlue project

Funded by the European Union

REINFORCING Grantee

XUNTA DE GALICIA | CONSELLERÍA DE EDUCACIÓN, CIENCIA, UNIVERSIDADES E FORMACIÓN PROFESIONAL



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Executive summary

Offshore wind energy is likely to become an important part of Galicia's energy future, but its development raises significant social, environmental, and economic questions. As part of the Horizon Europe REINFORCING project, the CoBlue team organised a multi-stakeholder forum in Vigo in June 2025 to explore how offshore wind could be governed in an open, fair, and environmentally responsible manner. Thirty-six participants from 29 institutions – including public authorities, companies, research bodies, NGOs, and community organisations – used the principles of Open and Responsible Research and Innovation (ORRI) to analyse the current legal and planning framework, identify key challenges, and co-develop policy recommendations.

The process highlighted five main concerns: weak institutional coordination, limited and uneven participation, barriers to accessing environmental and project information, doubts about the fair distribution of costs and benefits, and the need to question assumptions about continuous growth in energy production. In response, the forum produced 13 policy recommendations to strengthen coordination, ensure early and meaningful participation, improve transparency and open data, guarantee fair local benefits, and open public debate on energy pathways. From a post-growth perspective, the brief does not promote offshore wind at any cost; instead, it sets conditions under which any future development in Galicia should proceed in a transparent, inclusive, evidence-based, and ecologically responsible manner.

1. Introduction

The European Commission's 2020 strategy on offshore renewable energy marked a turning point in Europe's energy transition. In Spain, floating offshore wind is the only commercially viable marine technology due to deep coastal waters. Galicia, in the country's northwest, offers high wind potential and maritime infrastructure, making it a priority area for an imminent development.

To ensure a fair and sustainable rollout, the CoBlue project —funded under the EU REINFORCING initiative— organised a community forum in Vigo in June 2025 to apply the principles of **Open and Responsible Research and Innovation (ORRI)** to offshore wind planning. The forum brought together 36 participants from 29 institutions, including government agencies, industry, academia, and civil society. The process aimed to **co-create a roadmap** to ensure inclusivity, transparency, and accountability in the regional offshore wind agenda.

In line with post-growth perspectives, the recommendations developed under the CoBlue project are intended to support a fair and responsible transition only insofar as offshore wind development is demonstrably justified from social, environmental, and economic standpoints. This roadmap does not assume or promote offshore wind expansion as an end but rather establishes conditions to ensure that any prospective deployment in Galicia proceeds through transparent, inclusive, and evidence-based decision-making, while respecting ecological boundaries and societal well-being.

2. Offshore wind energy baseline

The offshore wind energy development process in Galicia operates within a **multi-layered legal framework** that combines European, national, and regional instruments.

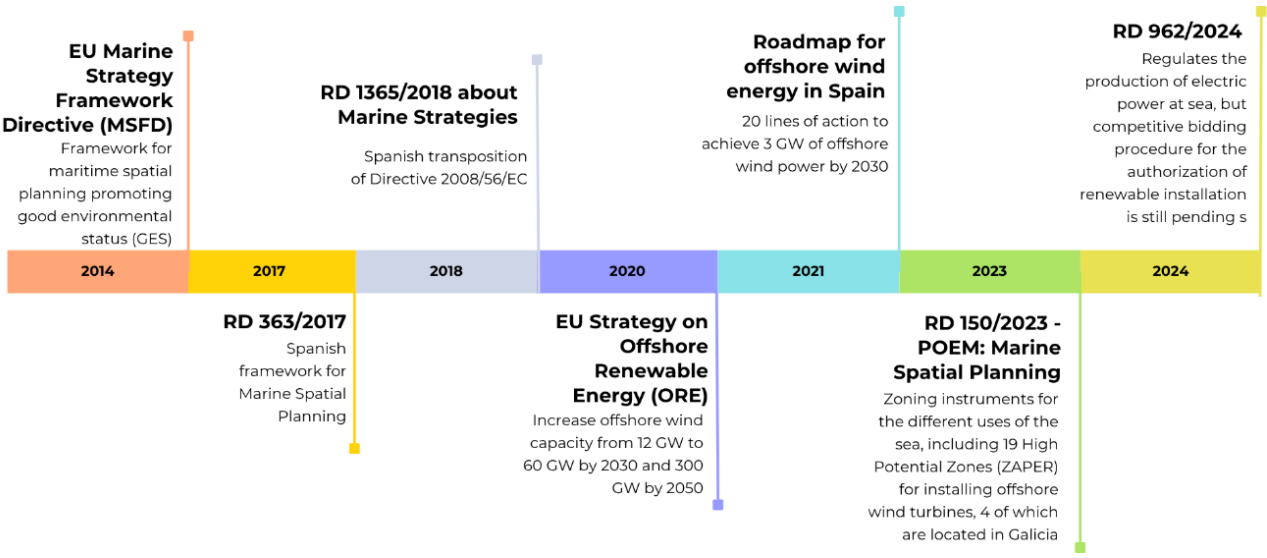

Fig. 1. Timeline of legal framework for offshore renewable energy in Spain.

Responsibilities are divided between the State and the Galician Regional Government. The National Government is responsible for overall planning of marine energies and maritime spatial management, while the Autonomous Community (first-level administrative divisions of Spain) has authority over the promotion and development of offshore wind within its territorial scope, including processing permits and authorisations. It is expected that the forthcoming Galician Wind Energy Plan will define regional priorities and align with the 2030 Galician Energy Agenda.

The Spanish Maritime Spatial Plan (called POEM) establishes the national framework and identifies High Potential Zones for offshore wind (ZAPER) along the Galician coast, where projects may be considered subject to environmental assessment and compatibility with other sea uses (Fig. 2).

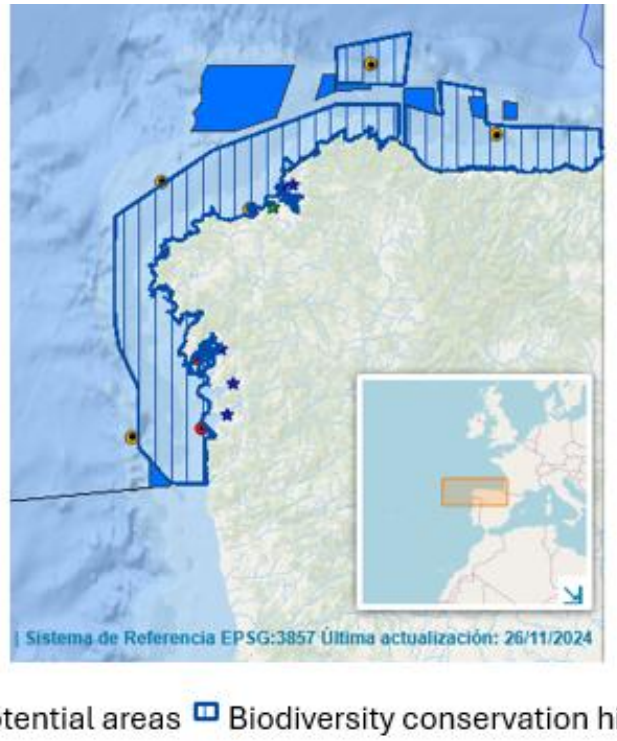

Fig. 2. Zones of High Potential for offshore wind in Galicia (ZAPER). Source: InfoMar website[1]

As Spain has a narrow continental shelf, efforts were made during the last years on the improvement of technical aspects for floating offshore wind platforms, so its viability is more plausible nowadays. Even though, projects must secure grid access and connection, coordinate with the national electrical network on evacuation capacity, and complete a full environmental impact assessment covering marine biodiversity, underwater noise, landscape, cultural heritage, safety, and navigation requirements.

Onshore works —substations, lines, and port upgrades— fall under regional and local permitting, adding another layer of coordination. National support will be channelled through competitive allocation mechanisms, and the detailed revenue framework and auction design will ultimately determine the pace and scale of deployment. Throughout, coexistence with fisheries, aquaculture, and other coastal activities is a central test of feasibility; developers are expected to demonstrate compatibility, agree operational protocols, and, where appropriate, deliver mitigation and local benefit measures. Monitoring during construction and operation, and clear decommissioning plans backed by financial guarantees, are becoming standard expectations. Against this backdrop, early, continuous, and well-designed participation with

[1] https://infomar.miteco.es/

affected communities and sectors is essential to reduce conflict, improve project design, and ensure that benefits are shared locally..

3. Multi-stakeholder engagement

A participatory, co-creation event was structured around the six ORRI principles: **Inclusiveness**, **Participation**, **Anticipation**, **Responsiveness**, **Transparency and Open Science**, and **Reflexivity**.

Participants analysed all stages of offshore wind implementation —from strategic planning to environmental monitoring— identifying challenges and policy needs to integrate the ORRI principles. **The initiative highlighted the interdependence of these principles**. For example, achieving transparency requires fostering inclusiveness, while enabling participation depends on ensuring equitable access to information through transparency and open science. Key insights from the co-creation sessions include:

- **Institutional coordination gaps** hinder effective marine spatial planning.
- **Limited stakeholder participation** reduces legitimacy in environmental and planning procedures.
- **Barriers to information access persist**, particularly regarding environmental data and project monitoring.
- **Social equity concerns** arose around benefit distribution and local community involvement.
- **Macro-level decisions on the energy system** were identified as crucial, including debates on the continuous increase in energy production and ownership models.

In more detail, the participatory initiative generated a set of **13 policy recommendations**, validated by public bodies and experts, to embed ORRI principles throughout the development of Galicia's offshore wind sector.

4. Recommendations

1. Develop a comprehensive Galician energy plan integrating social and environmental dimensions, aligned with a regional "Blue Strategy."
2. Enhance inter-administrative coordination and ensure continuous stakeholder participation in the implementation & revision of the Marine Spatial Planning (POEM).
3. Improve communication & education on marine planning and biodiversity through public outreach.
4. Strengthen public participation in Strategic Environmental Assessments by creating accessible, transparent digital platforms.
5. Centralize environmental data through the InfoMAR portal to improve accessibility and monitoring.
6. Ensure that participatory assembly outcomes are formally integrated into decision-making processes
7. Encourage companies to establish Living Labs for local dialogue and monitoring during project implementation
8. Include studies on noise, biodiversity, and oceanographic conditions in environmental monitoring programs.
9. Create a public-private collaboration framework to support informed, science-based decisions.
10. Promote energy literacy & public understanding of renewable energy and sustainability
11. Guarantee independence and rigor in Environmental Impact Assessments through third-party reviews.
12. Establish a mandatory decommissioning fund or tax to ensure proper dismantling and site restoration
13. Support community energy initiatives to foster a fair, decentralized, & participatory energy model

5. Conclusions

Offshore wind energy offers Galicia a path towards decarbonisation and economic diversification. However, its sustainability depends on inclusive governance, transparent data sharing, and long-term environmental stewardship. Implementing the ORRI framework ensures that the transition is not only technologically viable but also socially just and ecologically responsible.

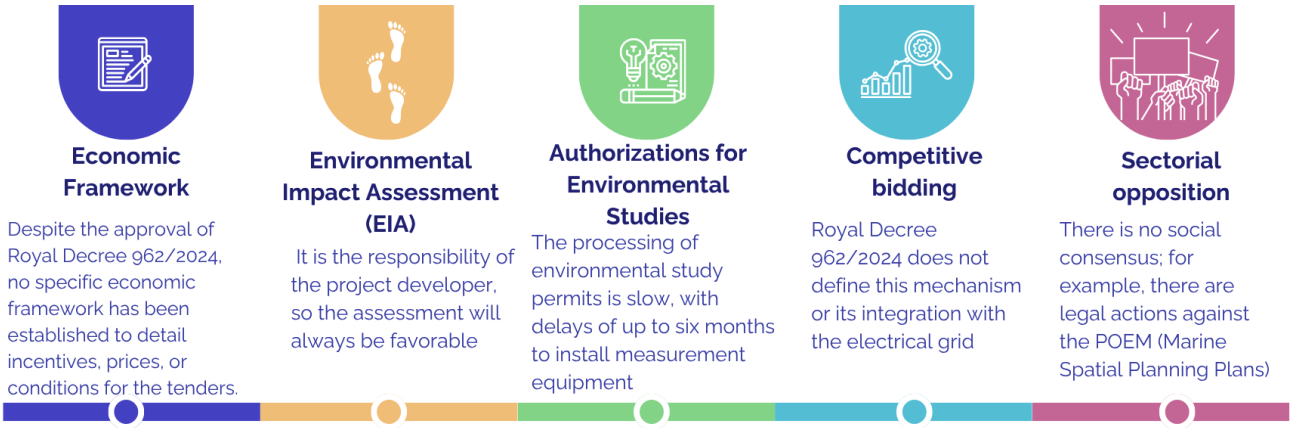

Fig. 3. Limitations to Offshore Wind Energy development in Galicia in 2025.

If developers and authorities apply the ORRI framework throughout —linking design choices to local benefits, protecting sensitive ecosystems, and sharing evidence as projects evolve— offshore wind can proceed at a measured pace that is environmentally robust and publicly legitimate. In summary, success will be judged not only by megawatts installed, but by the quality of the process and the fairness of its outcomes.

Find project deliverables at:

https://postgrowth-lab.uvigo.es/projects/coblue/

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