

One interface, multiple pathways: decarbonise, restore and transform

How A-AAGORA integrates decarbonisation and blue carbon ecosystem restoration to deliver climate change mitigation and nature recovery



A-AAGORA is positioned within the EU Mission “**Restore our Ocean and Waters by 2030**” as a lighthouse initiative that demonstrates how integrated, place-based solutions can advance climate neutrality, ecosystem restoration, and sustainable blue economy transitions. This policy brief responds to the need for actionable guidance by translating the A-AAGORA approach into targeted recommendations for decision-makers, supporting the uptake and alignment of decarbonisation and nature restoration efforts in coastal and port systems.

Key messages

- **Climate change mitigation in coastal areas is still fragmented.** Emissions reduction and ecosystem restoration are often planned and implemented separately, limiting synergies and slowing effective climate action.
- **A-AAGORA demonstrates an integrated solution.** The project combines decarbonisation of port activities, low-carbon fuels for tourism boating, and coastal ecosystem restoration for blue carbon sequestration within a single, coherent framework.
- **A shared interface enables coordination and co-creation.** By connecting calculators, models and restoration metrics, the A-AAGORA interface supports transparent scenario exploration and informed decision-making across stakeholders.
- **Integrated approaches deliver higher impact.** Combining emissions reduction with ecosystem restoration supports EU climate, biodiversity and pollution-reduction objectives more effectively than isolated actions.

Introduction

The European Union has set ambitious objectives for climate neutrality, ecosystem restoration and pollution reduction through instruments such as the European Green Deal, the EU Climate Law and the Nature Restoration Regulation. However, in coastal and port contexts, climate mitigation actions remain largely fragmented.

Emissions reduction measures, port operations, tourism activities and nature restoration are frequently managed by different actors, using separate datasets and decision processes. This fragmentation limits effectiveness, reduces opportunities for synergies and constrains coordinated action.

The A-AAGORA project addresses this challenge by validating an integrated approach to climate change mitigation that combines decarbonisation and coastal/blue carbon ecosystem restoration.

Through the “one interface” principle, A-AAGORA connects emissions calculators, fuel substitution scenarios and blue carbon restoration metrics, enabling stakeholders to jointly explore trade offs, identify synergies and co design context specific pathways from local implementation to broader replication.



Example from A-AAGORA DEMO-PT

The solution combines port decarbonisation planning, biofuel testing in touristic boating and seagrass restoration for blue carbon sequestration, demonstrating how integrated pathways can be operationalised in real-world coastal contexts. Available at <https://a-aagora.netlify.app>

Blue Carbon Calculator

Estimate blue carbon using forward calculations (area to carbon) or reverse calculations (carbon to required area).

Leisure Boat Calculator

Compare annual emissions from a small leisure boat with an internal combustion engine against an electric propulsion scenario, including electricity demand and optional battery impact.

Porto de Aveiro Calculator

Open the public Porto de Aveiro emissions calculator in a separate browser tab. This external tool remains hosted on the Porto de Aveiro website.

Relevance to legislation and relevant strategic documents

This Policy Brief contributes to the implementation of key EU legislation and strategic frameworks, including:

- **EU Mission “Restore our Ocean and Waters by 2030”**, by supporting ecosystem restoration, pollution reduction and a carbon-neutral blue economy through lighthouse-based demonstrations.
- **European Green Deal**, by promoting integrated solutions that link climate action, biodiversity protection and sustainable economic activity.
- **EU Climate Law (Regulation (EU) 2021/1119)**, by supporting pathways towards climate neutrality and the 2030 greenhouse gas reduction target.
- **EU Nature Restoration Regulation (Regulation (EU) 2024/1991)**, by linking ecosystem restoration to climate mitigation and resilience.

The approach strengthens coherence across climate, biodiversity and maritime policies by operationalising integrated implementation at regional and local levels.

Recommendations

Integrate decarbonisation and restoration in regional and local planning Regional and local authorities should adopt integrated blueprints that combine emissions reduction in ports and maritime activities with coastal ecosystem restoration under a single planning framework.

Institutionalise co-creation and participatory decision-making Authorities should use participatory workshops and scenario visualisation tools to connect port managers, tourism operators, ecosystem managers and citizens in climate and restoration decision cycles.

Adopt shared interfaces and decision-support tools Port authorities and public administrations should embed emissions calculators, restoration metrics and scenario tools within shared interfaces to improve transparency, comparability and coordination.

Support standardisation and replication at national level National regulatory and sectoral authorities should promote standardised emissions accounting methods and facilitate reuse and replication of validated tools and protocols across ports and regions.

Enable restoration through coordinated permitting and governance Competent authorities should streamline authorisation processes for restoration actions, particularly in protected or classified areas, through coordinated and transparent permitting pathways.

Strengthen monitoring and accountability frameworks Integrated monitoring should combine climate indicators (GHG reductions, blue carbon storage), biodiversity metrics and governance indicators (participation, co-production, policy uptake).

Engage citizens and stakeholders for long-term stewardship Citizen science and participatory approaches should be used to build legitimacy, awareness and long-term engagement in climate mitigation and ecosystem restoration efforts.

References

A-AAGORA (2026). *Blueprint: Climate Change Mitigation via Decarbonisation and Restoration*

A-AAGORA (2025). *Deliverables D4.2 – Integrated solution framing and business models*

[EU Mission “Restore our Ocean and Waters by 2030”](#)

[European Green Deal](#)

[EU Climate Law \(Regulation \(EU\) 2021/1119\)](#)

[EU Nature Restoration Regulation \(Regulation \(EU\) 2024/1991\)](#)

A-AAGORA integrated interface: <https://a-aagora.netlify.app>

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Digital Knowledge System



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