

Enabling transformation: conditions for scaling Nature Based Solutions (NbS) in coastal systems

How A-AAGORA operationalises enablers to support the co creation, implementation, and scaling of NbS
across socio-ecological systems



A-AAGORA is positioned within the EU Mission “**Restore our Ocean and Waters by 2030**” as a lighthouse initiative demonstrating how integrated, place based solutions can support ecosystem restoration, climate resilience, and sustainable blue economy transitions.

This policy brief responds to the need for actionable guidance by translating **A AAGORA’s enablers framework** into targeted recommendations for decision makers, supporting the uptake, replication, and scaling of Nature Based Solutions (NbS) in coastal and marine systems.

Key messages

- **Nature Based Solutions require enabling conditions to succeed at scale.** Implementation of NbS is often constrained by fragmented governance, limited stakeholder integration, and insufficient mechanisms to connect knowledge, policy, and practice.
- **A-AAGORA operationalises enablers as a coherent framework.** Four complementary validated blueprints—digital Living Lab processes, ecosystem based management, participatory mapping, and gamification—are provided to support co creation, decision making, and implementation of NbS.
- **Enablers bridge the science–policy–society interface.** They facilitate stakeholder engagement, support knowledge integration, and translate complex information into accessible and actionable formats.
- **Integrated and modular approaches increase replicability and scalability.** Flexible, adaptable tools enable transfer of solutions across regions, responding to different environmental, institutional, and socio economic contexts.

Introduction

The European Union increasingly prioritises Nature Based Solutions (NbS) as a key approach to address climate change, biodiversity loss, and environmental degradation. However, successful implementation and scaling of NbS depend not only on technical design, but also on **enabling conditions** that support co creation, governance, and knowledge integration. In coastal and marine systems, these enabling conditions remain unevenly developed. Fragmentation between scientific knowledge, stakeholder perspectives, and policy processes limits the effectiveness, legitimacy, and long term sustainability of NbS interventions. The A-AAGORA project addresses this challenge by developing and validating a set of **enablers**, operationalised through four interconnected blueprints within Transformative Living Labs. These blueprints provide **methodological guidance, practical tools, and implementation pathways** to support stakeholder engagement, collective learning, and evidence informed decision making.

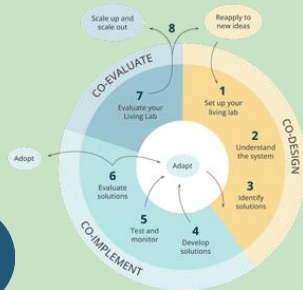
Together, these structural enablers:

- support inclusive and continuous stakeholder engagement,
- strengthen links between scientific evidence and decision making,
- enable systems thinking and co creation, and
- facilitate replication and scaling across diverse contexts.

A-AAGORA Blueprints for Structural Enablers of Nature-Based Solutions (NbS)

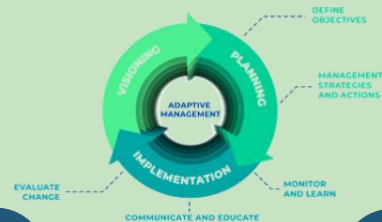
Living Lab Wheel

Structure the co-creation process from engagement to scalable solutions



Ecosystem-Based Management

Adaptive coastal management



Digital participatory mapping (PPGIS)

Transform local knowledge into spatial evidence for informed decision-making



Gamification (Serious Gaming)

Enable shared understanding and collaborative decisions through interactive learning



Relevance to legislation and strategic frameworks

This Policy Brief contributes to the implementation of key European and international frameworks, including:

- **EU Mission “Restore our Ocean and Waters by 2030”**, by supporting scalable, co-created solutions for ecosystem restoration and climate resilience.
- **European Green Deal**, by enabling integrated approaches linking biodiversity, climate, and sustainable economic development.
- **EU Nature Restoration Regulation**, by supporting effective implementation through participatory and adaptive approaches.
- **EU Marine Strategy Framework Directive and ICZM approaches**, by strengthening ecosystem based, knowledge driven management and stakeholder integration.

The structural enablers framework enhances coherence across policy domains by providing **practical pathways for implementation**, connecting strategic objectives with local action and stakeholder engagement.

Recommendations

Institutionalise Living Lab frameworks and participatory governance Public authorities should adopt Living Lab approaches as enabling infrastructure for NbS, ensuring continuous and inclusive stakeholder engagement across communities, industry, science, and policy throughout the full NbS lifecycle.

Embed integrated, ecosystem based approaches in planning and implementation NbS should be developed within socio ecological frameworks that combine ecological, social, and economic dimensions, supporting coherent and adaptive decision making.

Integrate digital and participatory tools into decision processes Participatory mapping and other digital tools should be embedded in planning and governance systems to translate local knowledge into policy relevant and actionable information.

Support systems thinking and collaborative decision making Scenario based and interactive approaches, including gamification, should be used to explore trade offs, strengthen dialogue, and enable informed, collective decisions.

Enable replication, scaling, and long term capacity building Authorities should promote modular and adaptable blueprints, while investing in capacity building and communities of practice to sustain NbS implementation beyond pilot phases.

References

A-AAGORA (2026). *D6.3 Blueprints for Structural Enablers of Nature-Based Solutions (NbS)*

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Digital Knowledge System



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