



Policy guidance 1

Strengthening stakeholder mobilisation to drive transformative change for coastal ecosystem restoration

April 2026



PART OF THE

EU MISSIONS

RESTORE OUR OCEAN & WATERS



Co-funded by
the European Union



UK Research
and Innovation



Role of stakeholders' mobilisation in coastal ecosystem restoration

Facing the decline in biodiversity in Europe, the EU has adopted in 2024 the Nature Restoration Regulation (NRR), anchored in the EU's ecological restoration agenda and the Biodiversity Strategy for 2030. The NRR mandates Member States to restore 20% of EU land and sea areas by 2030, rising to 30% by 2035 and 50% by 2050, with legally binding targets for habitats like forests, wetlands, grasslands, and marine ecosystems.

To support the achievement of EU environmental goals, the EU has placed the emphasis on innovation (European Green Deal, innovation agendas, etc.). Innovation must support the scaling up of restoration on a larger scale in order to multiply the effects of projects and funding. However, scaling up a project requires not only technological innovation, but also promoting its acceptability on a larger scale. As such, it requires overcoming fragmentation in governance, securing long-term finance (public and private), and increasing stakeholder engagement.

There are many reasons for involving stakeholders for upscaling innovations in ecological restoration. In particular, coastal ecosystem restoration can be either “passive” by limiting pressures on an ecosystem, or “active” when it is assisted or requires a human intervention. Throughout the project and from its earliest stages, stakeholder mobilisation facilitates social acceptance, reduces conflicts and increases long-term acceptance, collects local communities' knowledge specific to ecosystems and socio-cultural context.

However, getting stakeholders engaged is not an easy process. Despite a favourable international and EU context and framework, challenges, uncertainties and gaps remain, especially when coastal restoration projects are confronted to economic development. Formal and legally binding stakeholder engagement exists such as in marine and water planning design or in some projects' environmental impact assessment. In response to these formal and politically established processes, less formal and more democratic mechanisms are developing, such as living labs, which facilitate co-creation by strengthening trust in less institutionalised processes.

This policy guidance aims at presenting the EU regulatory context for stakeholder mobilisation, how stakeholder engagement can facilitate the implementation of public policies in practice with the Living Labs, as well as policy recommendations on how to enable and strengthen their use in the context of coastal restoration and innovation.

The EU regulatory framework to support stakeholder mobilisation

Since the 1990s, following the 1992's Earth Summit and the 1998's Aarhus Convention, the European Union has been actively involved in promoting citizen engagement in its policy frameworks, programmes and funding schemes. From the outset, this dynamic has been strongly correlated with environmental policies (Habitats and Birds Directives (HBD), Water Framework Directive (WFD), etc.), but to a lesser extent with economic and sectoral policies.

Even today, despite changes in strategies and frameworks, this distinction remains. Indeed, the EU Biodiversity Strategy 2030 requires stakeholder involvement in the designation and management of marine protected areas (MPAs) and the restoration of coastal habitats while other strategies – with a focus on both environmental conservation and sectoral development – such as the European Green Deal, the EU Restore our Ocean and Waters Mission and its Lighthouses and the EU Strategy on Adaptation to Climate Change remain more moderate, recommending stakeholder engagement without imposing it.



This distinction is even stronger when focusing on legally-binding directives and regulations. The environment-related directives such as the WFD, the Marine Strategy Framework Directive (MSFD), the EU Nature Restoration Regulation (NRR) and the Life Regulation (Programme for the Environment and Climate Action) require an active stakeholder engagement. The Marine Spatial Planning Directive (MSPD) focusing both on environment and economic sectors remains tempered, underlining that *“it is essential that stakeholders, authorities and the public be consulted”*. The Environmental Impact Assessment directive (EIA) on the assessment of the effects of certain public and private projects on the environment made consultation mandatory for certain projects.

While sectoral policies such as the Common Agricultural Policy (CAP) and Common Fisheries Policy (CFP) do not make any explicit reference to public mobilisation, the Aarhus Convention applies to all planning documents, regardless of whether mobilisation is mentioned in European directive. Thus, in practice, despite the absence of any mention in the CAP and CFP guidelines, their related national strategic plans do almost automatically include detailed sections on stakeholders' engagement. Another example is the 2001 Strategic Environmental Assessment directive (SEA), which sets out a mandatory procedure for assessing a plan or programme, which has a dedicated pillar on participative, open and transparent processes.

Stakeholder mobilisation is also taking shape at the local level through European programmes, tools, and funding, such as the Life Programme, where projects' funding requires stakeholder participation; the Horizon Europe programme, which supports stakeholder-driven research and innovation projects and multi-actor partnerships; the Strategic Research and Innovation Agendas (SRIAs); and the EMFAF (European Maritime, Fisheries and Aquaculture Fund) implementing the CFP, which emphasises the importance of stakeholder engagement.

Living Labs: an effective mechanism for stakeholder mobilisation in coastal restoration

Several practical mechanisms exist for implementing stakeholder mobilisation, in particular the Living Labs, which provide real-world environments where stakeholders co-create, test, and refine solutions collaboratively. The Living labs have been receiving increasing attention from the European Union and supported by the creation of the European Network of Living Labs (ENOLL). Living labs are central for the implementation of the EU Mission 'Restore our Ocean and Waters' through its 'lighthouses'.

Living Labs are user-centred, real-world innovation environments in which multiple stakeholders collaboratively co-create, test, evaluate, and refine solutions in situ rather than under controlled laboratory conditions. They are commonly defined as open innovation ecosystems that integrate research and innovation processes within everyday community settings, positioning citizens and end-users at the centre of decision-making and experimentation.

Living Labs can function both as a methodological approach, enabling co-design, co-production, and co-learning processes; and an organisational or spatial platform, such as a marine protected area, a coastal city or region where experimentation and innovation occur over time. Living Labs differ from co-creation alone. Living Labs provide the structured environment and governance that enable repeated co-creation across multiple projects and timeframes. Thus, Living Labs institutionalise collaboration, transforming episodic participation into continuous engagement.

When applied to Nature-based Solutions (NbS), Living Labs become real-life testbeds where ecosystem-based measures are collaboratively developed to address complex societal challenges, including climate adaptation, biodiversity loss, and social sustainable practices. Testing innovations in actual environments allows immediate feedback, iterative learning, and adjustment to social, ecological, and local communities realities.

In recent years, research has progressed on both advancing and evaluating the living lab concept and implementation in various projects. The European Living Labs are not isolated ecosystems. To ensure Living Labs meet with high-quality criteria and support efficient stakeholder mobilisation into an innovative context, the ENOLL has developed a harmonised evaluation framework based on 6 criteria (Strategy, Operations, Openness, Users & Reality, Impact and Value, Stability & Collaboration) to standardise user-driven innovation. A growing network is emerging from this labelling.



Enabling Living Labs in the EU policy framework

The implementation of the Living labs within European regulatory frameworks often encounters several structural and procedural bottlenecks that limit their full potential. Regulatory environments can be rigid, fragmented across Member States, and slow to adapt to experimental, iterative approaches typical of Living Labs. Issues such as complex funding requirements, administrative burden, and misalignment between short-term project cycles and the long-term nature of innovation processes can hinder continuity and scalability. Additionally, uncertainties around data governance, ethical compliance, and legal accountability (especially in cross-border contexts) can create barriers for stakeholder mobilisation in the Living Labs. These constraints are further amplified by uneven institutional capacity and varying levels of stakeholder readiness.

Thus, the following enablers are needed to integrate Living Labs into policy and regulatory structures:



1. Favourable regulations and policies

Favourable regulations and policies are a critical enabler for the successful implementation and usability of Living Labs, in particular for upscaling innovations in coastal restoration. Explicit inclusion of Living Labs in EU and national innovation, environmental, and regional development policies (e.g., Horizon Europe, EU Biodiversity Strategy 2030, Cohesion Policy) becomes crucial, as well as explicit mentioning of the stakeholder engagement in sectoral policies and directives (CFP, CAP etc.), and a delivery mechanism for Natura 2000 management. At the same time, flexible regulatory frameworks are needed to allow for real-world experimentation, enabling Living Labs to test, iterate, and refine innovative solutions through pilots without being constrained by rigid rules.

2. Institutional and governance structures

Strong institutional and governance structures are also a very important enabler for the long-term success and impact of Living Labs. At the European level, the development and adoption of common guidelines for co-creation processes, data sharing, and impact measurement are essential to ensure consistency and comparability across initiatives, particularly within EU-funded programmes. Complementing this, certification or labelling schemes (e.g., “EU Living Lab Certified”) can help guarantee quality standards and build trust. Central to this is the establishment of long term partnerships and formal coordination bodies that ensure continuity beyond individual project cycles while aligning restoration actions with regional and spatial planning instruments. At the national level, innovative approaches such as the creation of “Living Lab Zones” with simplified regulatory conditions, alongside the designation of National Living Lab Coordinators and managers, can significantly streamline implementation.



3. Financial resources

Adequate and sustained financial resources are a fundamental enabler for the effective functioning of Living Labs. Different financial instruments, such as procurement schemes for experimentation, tax incentives or grants for public-private partnerships engaging in living lab activities, or inclusion of Living Labs in public procurement through “Innovation Partnerships” (Directive 2014/24/EU) to procure ecosystem restoration services via Living Labs. In the EU Funding programmes, it is recommended to make living lab approaches mandatory and fund training programmes on Living Labs for public administrators, researchers, and communities. In other funding instruments (e.g., Interreg, LIFE), it is recommended to prioritise transnational Living Labs to address shared challenges. There is a need for a longer term commitment in terms of funding to ensure the sustainability and effectiveness of the restoration projects, beyond project-based funding. Here private-public partnership can play a bigger role.

4. Engagement process design and evaluation

A well-designed engagement process, combined with robust evaluation mechanisms, is central to the success of Living Labs, particularly in complex and multi-stakeholder contexts such as nature restoration. These processes are typically supported by multi-method approaches, combining workshops, real-world pilots, digital tools, and field trials to ensure both inclusivity and practical validation of ideas. Professional facilitation and mediation play a crucial role in managing diverse perspectives, resolving conflicts, and maintaining constructive dialogue among stakeholders. Games and other participative tools (developed under various Horizon projects and Joint Research Centre (JRC)) enable an attractive participatory engagement. Finally, systematic evaluation of Living Labs’ impacts is essential, not only to measure the effectiveness of interventions but also to build trust among participants.

5. Knowledge and integrated platforms

Effective knowledge systems/platforms are also critical for enabling Living Labs, supporting the integration of local, tacit, and scientific knowledge to ensure solutions are both evidence-based and context-specific. Central to this is the sharing of data and lessons from real-life cases through dedicated knowledge exchange platforms, which facilitate learning and replication (such as ENOLL). Multi-disciplinary collaboration and Quadruple Helix partnerships—linking public authorities, industry, academia, and citizens—further strengthen co-creation processes. Cross-sectoral and cross-border collaboration in Living Labs enables efficient use of resources and effective implementation of the coastal restoration projects, especially in shared river-basins.

6. Training and capacity building of Living Labs tools and approaches

Establishment of continuous Living Labs trainings for facilitators and stakeholders enables shared understanding of tools and approaches. Several Living Labs collaborate with universities to embed training modules into higher education; this should be up-scaled, using for example MOOCs, digital, and online and onsite trainings. Here, trainings on ocean literacy and co-creation skills are also recommended to ensure informed and active stakeholder participation. ENOLL’s training initiatives (e.g., Living Lab methodologies, co-creation, and impact assessment) provide a strong model. Experiences of the EU-wide platforms of transnational Living Labs (like in the Mission Lighthouses) can provide inspiration and help upscale Living Labs to other parts of Europe.

Key recommendations for enabling use of Living Labs in the EU

AREA	RECOMMENDATIONS	PRACTICAL MEASURES
Policy Integration	Embed Living Labs in EU & national frameworks	Include in major policies (e.g., Horizon Europe, biodiversity, climate); use as delivery tools for Natura 2000 and restoration goals; create national “Living Lab Zones”.
Funding	Fund and incentivise the Living Labs	Dedicated funding streams, Public-Private Partnership incentives, mandatory use in EU projects, vouchers and procurement schemes for experimentation.
Knowledge and integrated platforms	Enable cross-sector, cross-border collaboration platforms	Use EU programmes (Interreg, LIFE, Horizon, Mission Ocean) to address shared regional challenges, Mission Lighthouses, etc.
Institutional governance & Standards	Set common rules and quality benchmarks	EU-wide guidelines for co-creation and impact; introduce certification (e.g., “EU Living Lab Certified”).
Process/design	Make co-creation mandatory	Apply Aarhus Convention principles; require stakeholder involvement for funding; appoint national coordinators; ensure sufficient time allocation for iterative experimentation and collective social learning; use gamification tools.
Training/Capacity Building	Invest in skills and training programmes in Living Labs	Technical and research capacity; training programmes, EU platforms (e.g., European Institute of Innovation and Technology, JRC), ENOLL, and support for Living Labs as innovation infrastructure, embed in the university courses and other training agencies.

Concluding remarks

Stakeholder mobilisation plays a vital important role in the upscaling of the innovations for coastal restoration. The EU regulatory and policy framework places increasing emphasis on the involvement of local stakeholders but does not provide a clear blueprint for how this should be implemented. The experience of ENOLL and use of Living Labs in various projects across Europe provide evidence on their added value for building innovative solutions together with people, and for upscaling them. However, in order to seize the full potential Living Labs provide, they need to be embedded as a core tool in EU and national policy frameworks by formally recognising Living Labs in major EU initiatives, requiring their use in programmes and by creating common EU-wide standards for co-creation, evaluation, and certification. To make this operational, “Living Lab Zones” should be established, with dedicated funding and incentives. Shared knowledge platforms/best practices/digital tools/games, trainings and capacity building would enable wider use of the Living Labs, so they become a real driver to transformative change for coastal ecosystem restoration in Europe.

This policy guidance is a product of the A-AAgora project.

Suggested citation style:

Mashkina, O., Bastide L., Jarry, C., Strosser, P. (2026). Strengthening stakeholder mobilisation to drive transformative change for coastal ecosystem restoration. A-AAgora Policy guidance 1 (short version). April 2026.

Contact info: o.mashkina@acteon-environment.eu ; p.strosser@acteon-environment.eu

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