



Policy and finance innovation for nature-based solutions

The European Commission is investing considerably in nature-based solutions to position Europe as a leader for 'innovation with nature'. While ambition is growing, implementation remains problematic.

Lack of expertise and knowledge, limited evidence on effectiveness and co-benefits, stakeholder conflicts, and grey measure path dependency represent formidable obstacles to the adoption and implementation of nature-based solutions (NBS). To address these areas, research done under the European Union's Horizon 2020 PHUSICOS Innovation Action Project has four recommendations to promote innovation in the NBS sector.

- **Update European Member State policies and promote mandatory policy instruments.** This includes the enforcement of legally binding targets, and the simplification of NBS approval procedures. Further measures could include fostering policy synergies, for instance, by linking NBS policies to wellbeing and preventative health care policies.
- **Mobilize public and private finance.** This can be achieved by unlocking public and private funding to enable NBS investments, merging complementary funding streams into single programs that prioritize NBS, and promoting innovative financing mechanisms, such as payment for ecosystem services. Further actions could include divesting from nature-negative projects.
- **Improve evidence on effectiveness.** Increased monitoring to track short- and long-term impacts, stronger evidence on the effectiveness of NBS compared to grey solutions, and co-benefits evaluation are key recommended actions. Other actions include the development of formal standards, such as insurance regulations and improved tools to compare NBS, hybrid, and conventional solutions.
- **Build capacity.** Capacity in this field can be expanded and strengthened through the creation of NBS project preparation facilities, accelerator and mentoring programs, user-friendly benefit and co-benefit catalogues for the private sector, and the creation of communities of practice for NBS contractors with the public, academia, and civil society.

Making the case for nature-based solutions

For nature-based solution (NBS) implementation to become more widespread and effective, it is essential to transform governance structures and to create appropriate legal, institutional, political, and financial conditions. While ambition at the international level is growing, policy development at national and regional levels, as well as NBS upscaling at the local level are often problematic. Current policies, regulations and path dependency from grey solutions often create substantial hurdles. Agencies and communities regularly find funds for NBS insufficient or financing processes difficult to navigate or access. Also, the distribution of funding for green and grey measures is still very unequal. Likewise, private sector expertise to design and build NBS lags in many regions. Specialized NBS companies and business skills are rare. Finally, technical challenges, information deficits, and uncertainties related to NBS effectiveness can also represent formidable obstacles, together with a lack of quantitative measurable targets for NBS deployment and quality.

During the PHUSICOS project, over 70 stakeholders were involved in deliberations through interviews, web meetings, e-consultations, and workshops. They set out to address questions including what changes are needed to catalyze NBS implementation; what role the private and public sector play, and how they can collaborate; as well as how innovation can be promoted. Based on the results of this stakeholder engagement, the research team provides four recommendations accompanied by suggested innovations.

Update EU Member State policies and promote mandatory policy instruments

To date, despite many EU policy initiatives acknowledging the significance of NBS and having the potential to enable their implementation, these often remain voluntary with no legal obligations to comply. This leads to fragmented NBS adoption and limits the opportunities for implementation. Mandatory policy instruments, for example, making NBS compulsory elements of landscape planning, making the evaluation of NBS options a requirement of infrastructure projects, or streamlining simplified NBS approval procedures through, for example,

the introduction of self-certification schemes, could be further promoted.

Another example is the protection of a proportion of land for forest cover in EU Member States, as proposed in the EU Restoration Law. Furthermore, there is potential to build policy synergies, for instance, by linking NBS policies to wellbeing and preventative health care policies or to green infrastructure, transport, and mobility policies. Cross-sectoral integration of NBS and related concepts is also key to generating concrete implementation actions. A policy instrument example could be the co-development of joint biodiversity and climate plans at regional or national level. In parallel, trade-offs cannot be overlooked. They may occur, for example, when seeking biodiversity conservation and urban development goals, such as promoting NBS and providing opportunities for new development, housing, or parking.

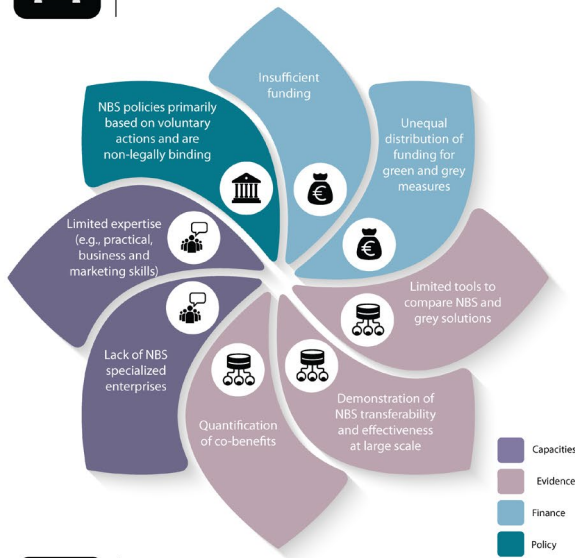
Mobilize public and private finance

Insufficient funding, unbalanced distribution of funding for green and grey measures, and investments in nature-negative projects are barriers to the success of NBS. Path dependencies on so-called grey measures and “green washing” further add to the problem, hindering NBS implementation and indirectly affecting public and private finance decisions. Moreover, the identification of bankable projects presents a formidable challenge to private financing. Public authorities can simplify access to funding by increasing coordination and promoting synergies across different funding instruments. Innovative funding mechanisms (e.g., payment for ecosystem services) can help address significant costs that may be involved in the implementation of certain solutions such as land acquisition. Divesting from nature-negative projects is also a key priority, together with the promotion of co-financing options and public-private partnerships, which includes subsidies and tax rebates for NBS investment.

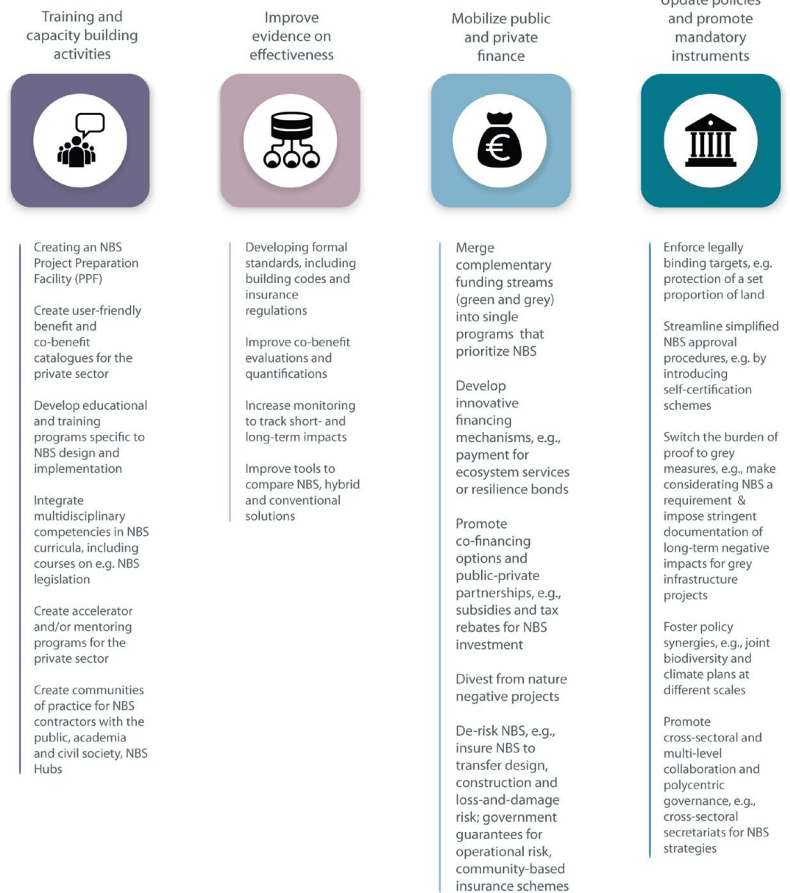
Another critical issue is de-risking NBS. Despite their manifold benefits, there are potential risks associated with the design, construction, and operation of NBS that require a careful approach. Insurance and reinsurance schemes applied to NBS could play a significant role in spreading risks by covering, among



Problems and challenges identified by participants



Innovations identified by participants



Potential synergies and trade-offs

- Complementary with NBS knowledge hubs and communities of practice
- Complementary with the development of mandatory policy instruments (i.e. standards included in regulation)
- Complementary with switching the burden of proof of grey measures
- Complementary with the development of standards and accumulation of operational experience and monitoring data, each useful for estimating risks
- "One size fits all" approach reduces variation in implementation contexts/ potential for experimentation
- Trade-offs between biodiversity conservation and new urban development

Figure 1. Summary of problems and challenges, innovations, and potential synergies and trade-offs identified by participants.

others, risks of delays and budget overruns, as well as liability over their performance. Other risk-reduction alternatives include the participation of governments in the role of insurers or reinsurers to absorb a portion of the risks, as well as the possibility of introducing community-based insurance schemes or mechanisms.

Improve evidence on effectiveness

The demonstration of NBS transferability, the lack of formal standards, the uncertainty in effectiveness evaluation, and the quantification of co-benefits are gaps that need to be addressed to upscale NBS. By outlining a set of evidence-based criteria, standards can assist in ensuring the quality, safety, and efficiency of interventions while supporting their long-term sustainability and minimizing the possibilities of unwanted social and environmental impacts. In some cases, given the contextual sensitivity of NBS, tailored standards for specific types of solutions may be called for. Furthermore, the multifunctionality of NBS could be better embedded in the assessment of risk reduction options.

Build capacity

Small and medium enterprises play a critical role as they are often responsible for various stages of NBS implementation. However, many of them encounter challenges ranging from a lack of NBS knowledge and basic business and marketing skills, to a lack of practical experience in implementing NBS. Overall, there is a lack of specialized enterprises.

The creation of an NBS project preparation facility at the local and/or national scale, along with a user-friendly benefit and co-benefit catalogue for the private sector are options to support the development of the private sector. As a complementary approach, accelerator programs could offer start-ups great growth and learning opportunities through intensive funding and mentoring for a brief period. Backed by past experiences, training courses and seminars can also benefit contractors. Moreover, such tools can equally serve to effectively disseminate existing or emerging guidelines and to promote best practices.

We hope that these recommendations and suggested innovations will contribute to fostering debate and supporting the uptake of NBS as key options in fighting climate change, biodiversity loss, and in reducing disaster risk.

About this research and the PHUSICOS project

This work formed part of the PHUSICOS Innovation Action project funded by the EU Horizon 2020 research and innovation program (Grant agreement No. 776681; <https://phusicos.eu/>). PHUSICOS demonstrates how nature-based solutions provide robust, sustainable, and cost-effective measures for reducing the risk of extreme weather events in rural mountain landscapes. This policy brief highlights the results of PHUSICOS Work Package 5, which specifically addresses governance innovation.

The Policy Brief reflects the authors' views and not those of the PHUSICOS partners or the European Community.



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