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NN Labs Projects

Activities and Good Practices Report

From Planning to Action: NbS Summer School for Professionals and Academics

9-10-11 July 2025- Politecnico di Milano, Milan Italy

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Activities and Good Practices Report

From Planning to Action: NbS Summer School for Professionals and Academics

Introduction

This document presents a comprehensive overview of the activities held in Milan, including actionable learnings, the site visits details, talks, and lectures organized during the three-day NbS School held at the Politecnico di Milano, Milan, Italy between July 9–11, 2025.

→ ***This report is divided into three sections: 1) site visits which include technical and practical lessons from real NBS cases, 2) the summary and key lessons learned from the frontal lectures given during the Summer school of PoliMI, and 3) the workshops held during the last two days that included aspects of collaborative governance and financing mechanisms for future NbS cases as in the case of the summer school.***

→ ***This document serves as a ground basis for the rest of the next three reports on the Summary of governance and financial key takeaways, Dissemination report, and Recommendations for replication report.***

→ ***It is primarily intended for national or regional NbS HUBs, as well as research groups involved in NbS projects that may wish to replicate a similar training experience. The structure tested during the Milan NbS School and the lessons learned throughout the three days can serve as a valuable reference framework for future editions. By sharing insights, formats, and actionable takeaways, this report aims to support the design and implementation of comparable initiatives in different contexts.***

Good Practices Takeaways

The report can be read as a reference framework for designing future NbS training experiences. A key element that proved effective is the three-phase structure adopted during the Milan School: (1) site visits to explore real-world applications; (2) theoretical sessions to frame concepts and approaches; and (3) hands-on workshops to translate knowledge into action. This structure offers a balanced integration of learning, reflection, and practice. We also produced a template for dissemination, see report 7.

Lessons learned

Combining field experiences with academic and practical sessions encourages interaction among participants with diverse backgrounds and facilitates cross-sectoral dialogue. The format helps build a shared understanding of NbS implementation challenges and fosters collaboration between research, policy, and practice.

Unexpected challenges

A major challenge concerned the limited financial flexibility due to taxation and administrative constraints—sometimes involving double taxation between the funding and receiving countries. These bureaucratic and fiscal issues reduced the available resources and affected the overall management of the School.

What's next

The NbS Italy Hub intends to replicate a similar training format during the next national event. Future editions may consider delivering sessions in the national language (Italian) to reach a broader audience, particularly among local administrations and practitioners.

1. Phase 1: Sites visit and Case Studies

The site visits, organized by the Metropolitan City of Milan and Politecnico di Milano, were scheduled to coincide with the final day of the NbS Italy HUB National Conference (7–9 July 2025). This intentional overlap between the HUB conference and the start of the NbS School was designed to create a bridge between the two initiatives. The aim was to introduce School participants to the HUB's activities, foster networking opportunities, and encourage the exchange of perspectives across different communities of practice. Within this context, participants explored a series of nature-based interventions implemented in the Milan metropolitan area, each illustrating distinct technical, social, and governance challenges.

1.1. Greenwall in ATM bus deposit (CLEVER Cities Project)

The visits began at the **300 m² vertical green wall** built in 2022 on Milan's main bus depot, which has recently transitioned to electric buses. The project was developed through a consultative process, which included a survey with approximately 300 respondents and online workshops during COVID-19 restrictions. The wall quickly became a symbol of environmental transformation, with the local community embracing it as an added value to an otherwise "grey" infrastructure. Remarkably, only one case of vandalism was recorded, reflecting high social acceptance.

The wall faces several technical challenges. Unlike a conventional structure, a living wall must balance substrate weight, water retention, and plant resilience. Structural limitations of the 1950s building required lightweight solutions, while drought-resistant and pollutant-fixing plants were chosen for durability. The irrigation system applies frequently, small doses of water, supported by rainwater harvesting. However, maintenance remains costly, particularly due to plant replacement and the expense of precise irrigation controls.

Technical Lessons:

- Substrate and water retention are key challenges (living wall ≠ simple construction).
- Plant selection based on **drought resistance** and **pollutant fixation**.
- Watering: small, frequent doses + rainwater harvesting.
- Structural limitations (1950s wall cannot bear heavy load).
- Maintenance: costly, mainly due to plant replacement and precise irrigation systems.
- Vegetation survival rate stabilizing; coverage improving.
- Lower energy consumption: ~50% energy savings in summer and winter.
- Priority: fewer, bigger, more robust plants instead of many small ones.

Planning Challenges:

- Limited co-design: online consultations rather than full co-creation.
- Space pressure is linked to the conversion of the depot to electric buses.
- Initial focus on aesthetics vs. long-term resilience and maintenance.
- Lack of a monitoring framework for environmental and social impacts.
- Maintenance costs were underestimated during the planning phase.



Figure 1. Site visit to the CLEVER Cities green wall at the ATM bus deposit in Milan, Giambellino 121, visit led By PoliMI team. Project architects and ATM representatives explain the design process and technical features of the 300 m² vertical wall to NbS School participants and members of the NbS Italy Hub, illustrating how aesthetics, resilience, and long-term maintenance are balanced in practice.

1.2. Industrial Area Regeneration (SPUGNA Project)

The second stop showcased the transformation of a former industrial parking lot into a green and water-absorbing urban space. The intervention combined draining concrete surfaces with vegetated infiltration areas and phytoremediation techniques for stormwater management. Local street art was preserved, as walls could not be vegetated due to ownership and property rights constraints.

A noteworthy aspect was the involvement of private companies, who supported the regeneration of public spaces despite them not being directly part of their facilities. Their motivation stemmed from both corporate image considerations and Italy's regulatory framework, which ties climate risk insurance premiums to environmental risk reduction.

While the project is still very recent, challenges remain. The division of responsibility places construction under city management, but long-term maintenance under municipalities, requiring ongoing resources. Furthermore, no monitoring system has yet been established to measure ecological, social, or economic impacts, such as property value changes or temperature reduction. The project, however, represents an important step in reimagining industrial areas as contributors to urban resilience.

Technical Lessons:

- Permeable materials (draining concrete) allow water infiltration and slower runoff.
- Vegetated infiltration areas combined with phytoremediation improve water quality.
- Preserving existing cultural assets (street art) required creative spatial solutions.
- Presence of litter in planting beds shows need for waste management or awareness.

Planning Challenges:

- Public vs. private responsibilities (municipality maintains infrastructure).
- No monitoring yet of ecological or social impacts (e.g., property values, heat reduction).
- Short-term decision cycles of the private sector vs. long-term nature-based solutions.



Figure 2. Visit to the SPUGNA Project site in Milan's industrial district. Professor Eugenio Morello (Politecnico di Milano) illustrates the planning process, objectives, and trade-offs behind the regeneration of a former industrial parking lot into a green, water-absorbing space. The site visit highlighted the integration of permeable materials, vegetated areas, and phytoremediation techniques within an urban context shaped by both environmental and cultural considerations.

1.3. Municipality Tree-Planting Program (Forestami)

The third visit was hosted by the **Mayor of a participating municipality**, who proudly presented the local tree-planting initiative. In 2022, **1.5 hectares of land were planted with 3,000 trees and shrubs**, part of a larger program to increase natural capital across the Milan metropolitan area. The project was developed in collaboration with universities, SMEs, civil society, and public authorities, and was formalized through a **Memorandum of Understanding**. Funding was mobilized through a mix of private donations and public support.

A key moment in the municipality's decision-making was the choice between developing the site as a sports facility or preserving it as forest. The municipality chose the latter, underlining the importance of long-term environmental benefits. Planting began during a drought year, which required significant care during the establishment phase. Approximately 40 species were selected, tailored to the ecological context of the site.

The Mayor highlighted the importance of **long-term cooperation** for success, noting that forest ecosystems take years to mature. Schools and young people were engaged in planting activities, fostering emotional attachment to the new forest and reinforcing community ownership. This initiative demonstrates the potential of municipal leadership and civic participation in advancing metropolitan-scale green infrastructure

Technical Lessons:

- The drought year (2022) required intensive care for the young forest.
- Approximately ~40 species selected, tailored to site conditions

Planning Challenges:

- **Long-term cooperation** is essential – nature-based projects need time.
- **Youth engagement:** schools involved in planting to strengthen community attachment.



Figure 3. Visit to the Forestami municipal tree-planting site. Representatives from local associations and the Forestami program present the urban forest project to NbS School participants, illustrating the newly planted area and its young trees. The visit showcased how municipal leadership, community engagement, and long-term planning contribute to the creation of resilient urban green infrastructure.

1.4. Parking Lot Greening (Spugna- Città Metropolitana di Milano)

In the afternoon, the group visited a redesigned parking lot where green infrastructure was introduced to manage **stormwater runoff** from surrounding small industrial buildings. The intervention created vegetated zones adapted to different water regimes—plants in the central areas tolerate wet conditions, while those on the edges withstand dry spells.

Funding for the project combined municipal, EU, and regional resources, raising approximately €40 million. The starting point was a highly productive industrial zone with high runoff, creating downstream flood risks for residential areas. This cascade effect was central to justifying the investment, as protecting homes required upstream intervention.

Although the parking lot remains asphalted to accommodate heavy vehicles, infiltration and phytoremediation systems were integrated. The project illustrates how land-use changes in industrial zones can reduce vulnerability while maintaining economic activity.

Technical Lessons:

- Vegetation design adapted to contrasting water regimes (wet vs. dry zones).
- Infiltration and phytoremediation systems are effective without extra treatment.
- First-year irrigation is essential for plant establishment and survival.
- Recent heavy rainfall confirmed the system's ability to prevent flooding.
- Land-use changes in industrial areas can reduce risks while preserving activity.

Planning Challenges:

- Balancing asphalt needs heavy vehicles with ambitions for green cover.
- High upfront investment justified by downstream flood protection.
- Lack of shade and cooling in summer; potential to integrate taller trees.
- Introducing larger vegetation limited by maneuvering space for trucks.
- Long-term maintenance responsibilities require clear coordination.



Figure 4. Visit to the parking lot greening project in a Milan industrial area. NbS School participants observe the rain garden and listen to former Mayor Paolo Festa, who led the project. The site exemplifies how targeted green infrastructure interventions can manage stormwater, reduce flood risks, and enhance resilience in active industrial zones.

1.5 Rain Garden (Spugna- Città Metropolitana di Milano)

The final stop presented a newly constructed rain garden. Built on what was previously a fully sealed concrete surface with clay sublayers, the intervention aimed to restore permeability and optimize water infiltration. The design combined **70% sand, 15% soil, and 15% compost** to allow efficient drainage, while spontaneous vegetation and drought- and flood-resistant trees were planted, supported by an irrigation system. Erosion during the first year was controlled using coconut textile.

The rain garden also integrates underground infrastructure: excess water from extreme rainfall events (up to 100-year recurrence) is directed to the sewer system, as a parking structure lies beneath the site. Existing mature trees were preserved during construction.

Community perception was mixed. While residents appreciated the outcome, they expressed frustration with the construction process and temporary disturbances. Better communication could have helped mitigate these concerns, though co-design was deemed difficult due to fears related to mosquitoes and safety during excavation works.

The project demonstrates how sponge infrastructure can be integrated into dense urban contexts, balancing hydrological engineering with ecological functions, even under challenging starting conditions.

Technical Lessons:

- Soil mix: **70% sand, 15% soil, 15% compost.**
- Collects and infiltrates water; underlain by parking garage (overflow directed to sewer for extreme rainfall).
- **Vegetation:** mix of spontaneous plants, drought- and flood-resistant trees (with irrigation system).
- **Erosion control:** coconut textile used first year.

Planning Challenges:

- Mixed appreciation of the final outcome but criticized construction time and disruptions.
- Better communication could have reduced conflict.



Figure 5. Details of the Città Spugna rain garden. Close-up views highlight the diverse herbaceous species, the preserved mature plane trees, and the surrounding urban art. The site illustrates how hydrological design, vegetation diversity, and cultural elements can coexist to enhance permeability and resilience in a dense urban environment.

2. Phase 2: Speaker talks (10-11/07/2025)

—> Link to the drive folder of all the [presentations](#)

2.1 – Andrea Arcidiacono: Ecosystem services assessment for adaptive urban spatial planning. Insights from cases in Lombardy

Andrea Arcidiacono emphasized the importance of integrating ecosystem services (ES) assessment and mapping into spatial planning as a way to guide priorities in ecological transition. Cities are both drivers of climate change and highly vulnerable to its impacts, making soil protection and sustainable land use

fundamental levers in adapting to new challenges. He highlighted the potential of Nature-Based Solutions (NBS) and Green-Blue Infrastructure (GBI) as essential tools to link ecological knowledge with urban planning and to negotiate space use with private actors.

He presented three case studies from Lombardy at different planning scales:

The Lombardy Regional Landscape Plan developed a methodology to identify natural, geomorphologic, hydrographic, historical, and farming elements in order to design a regional GBI strategy. Multifunctionality and spatial quality were assessed through layered analyses, identifying areas for restoration and conservation and enhancing territorial connections.

The Urban Plan for Rescaldina evaluated soil quality and ecosystem services such as carbon sequestration, water yield, and erosion control. These assessments were translated into composite indicators, producing a spatial GBI plan and a localized catalogue of NBS tailored to agricultural, natural, and cultural values.

The Urban Plan for Varese focused on a fragmented landscape dominated by shrubs. ES such as habitat quality, runoff regulation, cooling, and erosion control were analyzed, resulting in vulnerability and priority maps. These supported both structural (mitigation) and strategic (adaptation) interventions, integrated into a comprehensive BGI.

Arcidiacono concluded by stressing the need to improve how spatial data is integrated into planning frameworks so that strategies become operational and actionable.



Figure 6. Professor Arcidiacono and Dr. Chiara Cortinovis during their lessons.

2.2 – Chiara Cortinovis: Harnessing Nature-Based Solutions in Urban Nature Plans

Chiara Cortinovis discussed the emergence of Urban Nature Plans (UNPs) as strategic frameworks to formalize cities' commitments to biodiversity and greening, in line with the EU Biodiversity Strategy 2030. She explained that while many cities already had sectoral plans (e.g., climate strategies, tree management, biodiversity atlases), UNPs act as an overarching integrative tool.

She outlined four key functions of UNPs:

- Coordinating strategies beyond thematic silos.
- Securing space for multifunctional NBS that meet cross-sectoral goals.
- Contributing to compliance with the Nature Restoration Law.
- Acting as a boundary object to facilitate cross-sectoral collaboration and co-creation.

Cortinovis compared the cases of Barcelona and Utrecht, showing how differences in morphology, scale, and existing assets influence the opportunities and benefits of UNPs. Regardless of context, she argued that wise co-design with stakeholders and careful assessment of ecosystem service trade-offs are crucial for maximizing impact.

2.3 – Bettina Wilk: NbS Comics and Task Force 5 – Education and Engagement

Bettina Wilk focused on the question: How do we get people on board? She underlined that NBS are not only technical solutions but also social innovations, requiring citizens' understanding and support. To this end, she introduced the innovative use of comics as a storytelling medium.

With over 500 million global readers monthly (and around 35% of Italians reading comics regularly), the format provides an accessible way to communicate complex ideas. Comics can convey the connections between science, policy, and everyday experience in engaging narratives that inspire behavioral change.

Wilk described an ongoing project that brings together three long-form comics summarizing insights from 21 EU research projects on NBS. The initiative was co-designed with academics and practitioners and resulted in a storytelling toolkit for education and community building. By embedding NBS stories in popular culture, the project aims to reshape how people relate to nature and urban resilience.

2.4 – Sean Bradley: NBS and the Decision Support System (DSS) Platform

Sean Bradley presented a Decision Support System (DSS) designed to guide practitioners through co-creation and co-governance processes in NBS projects. The platform, which works like a “doctor’s check-up,” does not make decisions for users but provides structured tools and interfaces tailored to different needs.

Key features include:

- A home section that reads like a book.
- A roadmap with visual steps.
- A graph interface mapping networks and links.
- A search function with tagging and note-sharing.

Users can generate custom reports, share materials with collaborators, and adapt the platform to different governance contexts. Bradley emphasized the

distinction between co-creation (short-term collaboration) and co-governance (long-term shared decision-making), noting that redistributing power is essential for the transition between the two.

The DSS tool allows stakeholders to model shifts in governance, such as when a “gatekeeper” role becomes a “mediator,” and provides flexibility in shaping network relationships. Tested mainly with municipalities familiar with co-design, the platform has potential to become a cornerstone of collaborative planning.

2.5 – Francesco Sica : Co-creative assessments of ecosystem services in NBS planning

Francesco Sica explored how decision-making in NBS projects can be enhanced through co-creative ecosystem services assessment. He described the CO3 model—comprising co-design, co-analysis, and co-creation—as a framework for inclusive planning.

Drawing on a case study from Saint Philippe (Réunion Island), he described how local needs were first identified through workshops, followed by participatory GIS consultations to evaluate scenarios. These scenarios were assessed using the InVEST toolkit and an Ecosystem Services capacity matrix, combining data on land use, biotic and abiotic factors. Indicators such as emblematic value, aesthetic value, and recreational potential helped stakeholders understand trade-offs and co-create shared priorities. Sica highlighted that the process is not only technical but also socially embedded, enabling local communities to shape assessments that directly reflect their perspectives.



Figure 7. Bettina Wilk, Sean Bradley and Francesco Sica during their frontal lessons to the school participants.

2.6 – Monica Altamirano de Jong : Financing a Regeneration Strategy: The Strategic and Economic Business Case

Monica Altamirano addressed the critical question of financing NBS, noting that while states face a 70–80% funding gap for sustainable water management, the private sector must also contribute, as it benefits directly from ecosystem services.

She proposed a two-phase framework for financing strategies:

- 1) Strategic Anchoring in the Global System:
 - Identify vicious circles (water supply, urbanization, finance) and find leverage points to shift dynamics.
 - Align solutions with societal needs and highlight co-benefits for funders.
- 2) Zooming into Risks and Services:
 - Prioritize 2–3 key ecosystem functions and identify beneficiaries. For example, farmers benefiting from water supply should help finance the system.
 - Define governance modes and balance funding through tariffs, taxes, and transfers.
 - Build financing and procurement strategies collaboratively with stakeholders to ensure credibility and risk management.
 - Altamirano emphasized that financing frameworks must rethink who pays, who benefits, and how resources flow. By understanding money

streams and aligning incentives, cities can create win-win situations where ecological restoration also generates economic value.

Monica Altamirano shifted in a second talk the focus to the design of **funding strategies and alternative revenue streams**. She emphasized that financing cannot rely solely on public funds: instead, we must look at how **different beneficiaries can create synergies to co-finance NBS**.

She noted that NBS interventions can take different forms:

- **Behavioral change** (e.g., awareness raising, demand management),
- **Institutional strengthening** (e.g., new governance models),
- **Technical measures** (e.g., infrastructures or services)



Figure 7. Monica Altamirano de Jong and the first working groups.

Depending on the chosen path, **responsibilities differ**. Municipalities can either:

1. **Produce and deliver solutions directly**, or
2. **Outsource to the private sector**, where NBS is provided as a service.

In the latter case, impact investors are particularly interested, as they tend to focus on **private-sector-led implementation**. Regardless of the delivery model, however, she stressed the importance of maintaining the **integrity of the overall plan**. Key guiding questions remain:

- Is it **affordable**?
- Is it **implementable**?
- Who is best placed to **deliver it**?

To evaluate whether an NBS project can attract investment, Altamirano outlined **key viability criteria**:

- Does it involve an **investment**?
- Does it create an **asset**, and what is its value?
- Can **revenues be generated**?
- Can the **productivity of an existing value chain** be enhanced?
- What is the **risk profile** of the intervention? Investors always demand clarity on how risks are assessed and mitigated. She noted that the **first investment cycle** is usually riskier, but as projects scale and experience accumulates, risks become more predictable.

Altamirano also distinguished between **economic benefits** (societal-scale, often linked to risk reduction and natural capital) and **financial returns** (real monetary flows). Cost-benefit analyses often show “theoretical money,” but investors will always ask: *Whose money is being saved?* For example, “if you invest €2 now to avoid €20 in damages later, who actually saves the €20?”

She outlined possible **revenue streams**:

- **Domestic resource mobilization** through taxes,
- **Polluter-pays mechanisms** such as tariffs,
- **Insurance models**, where reduced risk (e.g., a 25% reduction in insured losses) creates savings,

- **Citizen contributions**, as property values increase due to proximity to NBS.

In conclusion, she underlined that **NBS financing strategies require creativity and alignment**: understanding how money flows through the system, matching risks and benefits with the right stakeholders, and designing a governance structure that ensures both delivery and long-term maintenance.

2.7. Francesca Framba: *Technical Challenges in NBS Implementation*

Francesca Framba opened the session by reflecting on the role of the **Città Metropolitana** in guiding municipalities in strategic planning, particularly within the **SPUGNA Project** framework. She explained that the starting point for implementation was a diagnostic assessment of **urban heat islands and runoff risks**, directly aligning the project with **SDG 13 (Climate Action)** and indirectly with SDGs 6 (Clean Water), 3 (Health), 11 (Sustainable Cities), and 15 (Life on Land).

The project timeline illustrates the speed of its rollout: approval for funding in **April 2022**, completion of the final design in **November 2022**, and the implementation phase scheduled from **July 2023 to June 2026**. This accelerated process was positively received by society, but it also revealed important lessons.

Framba highlighted several **lessons learned**:

- Early challenges emerged around public tenders, where technical expertise was sometimes lacking. Municipalities needed contractors and partners who understood both the project's purpose and its technical requirements.
- Projects ranged from €100,000 to €1 million, but she noted that in some cases **larger, consolidated interventions might have been easier to manage** than multiple smaller ones.
- The decision to prioritize speed led to a **“to-do approach”** with limited co-design. While this allowed rapid implementation, insufficient citizen involvement sometimes generates resistance, as communities often

react negatively when they do not understand the objectives.

- Maintenance remains an unresolved issue. With **90 interventions** happening simultaneously, the City of Milan is still learning how to manage maintenance needs and costs, which were underestimated at the start.

She also underlined several **ongoing challenges**. From an administrative perspective, NBS projects lack **standardized procedures**, making them complex to manage. Designers often focus too narrowly on hydrological or technical elements, neglecting the social dimensions of public space. Framba stressed that **NBS cannot be reduced to “rain and heat solutions”**; they must also serve as inclusive urban commons that integrate biodiversity and everyday human use.

Finally, she warned against defaulting to grey infrastructure when uncertainties arise. Traditional grey solutions dominate because companies are familiar with them, but they are rarely fit for NBS contexts. The sector must invest in **new products and approaches tailored to nature-based design**, minimizing reliance on legacy grey infrastructure.

Her talk concluded with a call for **trans-disciplinarity**: NBS should be understood not just as technical fixes but as opportunities to combine hydrology, ecology, biodiversity, and community needs into resilient, multifunctional urban solutions.

2.8. Israa Mahmoud: *Co-creation and Collaborative Governance*

Israa Mahmoud opened her presentation by discussing the **difficulty of aligning high-level guidance with local urban planning frameworks**. She posed two key questions:

1. **Which cities have an Urban Nature Plan (UNP)?**

By analyzing EU databases, her team identified **635 functional urban areas** that integrate urban nature planning. However, these often operate at varying scales, and not all information is systematically available.

2. What makes a Nature Urban Plan “ambitious”?

Ambition must be defined in context: if citizens have limited knowledge of nature, or if cities lack space for green interventions, ambition must be measured differently.

She presented **Barcelona as a benchmark**, noting its innovative citizen engagement practices, such as using an **urban nature atlas** to show residents what projects exist and where. Mahmoud stressed the importance of **indicators**: from a list of 30–35, they identified **23 leading cities**, but comparability remains a challenge given difference in size, population, and governance (capital vs. non-capital cities).

She then asked: *What is co-governance?* Is it confined to intergovernmental cooperation, or does it also include **citizens and private stakeholders working with public authorities**? In practice, most cities already define **goals and targets**, but they lack effective **financing mechanisms**, limiting the real implementation of co-governance models.

2.9. Sean Bradley: Co-governance and Co-creation

Sean Bradley argued that **co-creation serves as the training ground for co-governance**. By involving citizens in participatory processes, they are better prepared to engage in systemic decision-making.

He emphasized the need to find a **middle ground** between top-down and bottom-up approaches:

- Top-down ensures authority and resources but risks excluding local voices.
- Bottom-up fosters inclusivity and innovation but can lack organization and implementation power.

Within the **CLEVER Cities project**, Bradley and colleagues identified **16 steps to establish co-governance**. He noted that NBS projects face **spatial, financial, and governance challenges**, and that co-creation is one way to address them—provided the shift to **inclusive decision-making** is made.

He raised critical questions about the **value of repeated co-design workshops**: if processes and inputs remain the same, do they really yield

different or better solutions? Interestingly, even when applying the same indicators, outcomes varied depending on the governance constellation. For example, in Milan, three Living Labs revealed different dynamics:

- One more top-down,
- One moderated by PoliMi,
- One with flat governance among institutions with equal power.

The London case study offered another perspective: here governance was highly **top-down**, as one housing association owned the entire area. Yet, academia facilitated the creation of a **multi-stakeholder platform of 14 actors** with reduced hierarchy, demonstrating how even rigid ownership structures can evolve towards co-governance.

Bradley concluded with an **exercise** for participants: to reflect on a stakeholder constellation from their own context and analyze its dynamics.

2.10. Francesco Sica: San Gregorio Case Study

Francesco Sica presented the **San Gregorio Living Lab**, an example of a **bottom-up process** initiated by citizens with an idea for urban improvement. With the support of academia and planning companies, the community developed the idea into a structured design.

The use of an **evidence-based approach**, including a cost–benefit analysis, was crucial. This analysis provided credibility and persuaded the **local government to invest in implementation**, demonstrating the effectiveness of combining community initiative with technical expertise.

2.11. Aude Zingraff-Hamed: Isar Case, Munich

Aude Zingraff-Hamed highlighted the **Isar River project in Munich** as a strong example of **polycentric governance**. Initially, governance was split:

- A **top-down approach**, focused on grey infrastructure (levee systems) for flood protection, backed with financial and institutional power.
- A **bottom-up movement**, advocating for ecological quality, public accessibility, and aesthetic improvements of the river.

These two forces were initially at odds but gradually converged. The bottom-up actors gained leverage through **electoral influence**, while the top-down actors recognized the broader benefits of a co-created solution. Ultimately, they forged a **co-governance and co-design model**, resulting in a **nature-based solution** that balanced flood protection with ecological and social values.

3. Phase 3 - Practical Workshops (11/07/2025)

The workshops on day 3 were divided into two scopes, one on co-governance and one on financing mechanisms for NbS projects.

3.1. DSS Workshop – Exercise on Co-Governance

Moderator/Sean Bradley, Groundwork, London - Urban Greening Expert Support/ Israa Mahmoud, DASTU, Politecnico di Milano – Academic Expert

Participants engaged in a hands-on exercise using the Decision Support System (DSS) platform, where they were asked to design their own “co-governance guiding book.” The aim was to explore how a top-down governance constellation could be gradually transformed into a co-governance model.

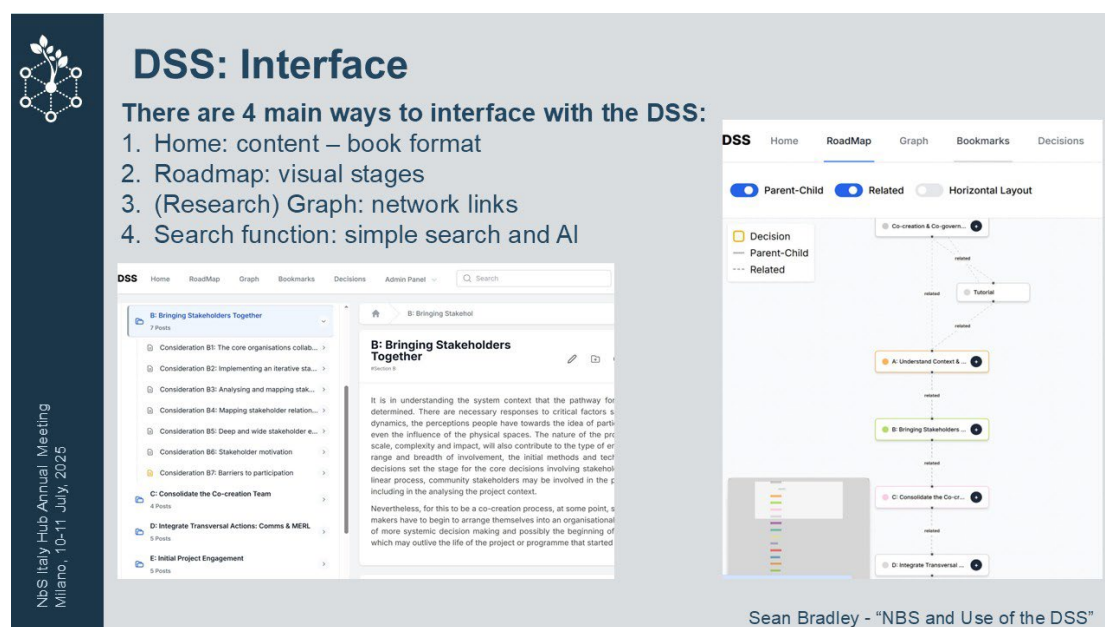


Figure 8: Decision Support System interface presentation from Bradley, 2025.

Fictive case developed:

During the workshop, participants produced two main governance constellations: one reflecting an initial top-down configuration, and another showing strategic adjustments towards more inclusive co-governance. Across the groups, a recurring theme emerged: the importance of identifying key stakeholders who can assume a mediator role to rebalance power and facilitate fair participation.

- **Example 1 – Central**

The City government holds most of the power. Participants proposed a transformation in which the city shifts from being the dominant authority to acting as a mediator. Through mechanisms such as a Planning City Contract, Turin could retain a central role but actively engage other stakeholders in decision-making.

- **Example 2 – Gatekeeper to Mediator**

In another constellation, the system was organized around a gatekeeper who controlled access to decision-making. The proposed change involved transforming this actor into a mediator, thereby enabling the collection of stakeholder ideas and securing fairer participation in governance.

- **Example 3 – Gradual Inclusion**

Some groups envisioned a progressive transformation. In this scenario, a rigid top-down system began to evolve by introducing new connectors, notably NGOs and citizens. While not yet a complete shift to co-governance, this represented an intermediate stage, recognizing that a sudden and radical change would be unrealistic in the short term.

- **Example 4 – Foundation**

The city initially employed a foundation to implement measures in a top-down manner. Participants proposed a revised constellation where the foundation no longer simply executes decisions but instead co-designs solutions with end-users, ensuring that implementation is grounded in shared ownership and participation.

3.2. Financing Workshop

Moderator/Monica Altamirano, Altamira- Financial management Expert

Participants worked in groups on systemic issues (air pollution, heat, flooding) to identify causes, vicious circles, and potential nature-based solutions (NBS).

Each group then presented financing mechanisms, governance models, and implementation challenges.



From Planning to Action: A Summer School on Urban NBS for Professionals and Academics
Financing a Regeneration Strategy: Instructions

Step	Activities	Learning objectives & outcome
Phase I: Zooming out Strategic and Economic Business case	Developing the Theory of Change Group Model Building Exercise	Graphical theory of change + narrative about the transformational character of the strategy/ investment plan Strategic fit = policy goals and funding sources Systemic view of Economic and Finance BC: Base for blended finance approaches
From Strategy to Investment Portfolio	Analysis of strategy: classification of measures and selection of project cluster	Understanding the characteristics of different plan elements or "transactions" Identification of groups of interventions that could become a viable "investment" proposal
From Economics to Finance	From a long list of economic benefits or impacts, to a hierarchy of functions Impact of interventions in Levels of Services experienced by concrete actors	Understanding the difference in the scale and granularity needed for economic versus financial analysis Hierarchy of functions and impacts in levels of service that can guide the choice of implementation arrangement: governance mode and funding sources
Phase II: Zooming In Financial, Commercial and Management Business Cases	Classifying services or goods provided by NbS as economic goods Identifying Funding & Revenue Sources	Understanding the difference funding versus financing Choice of implementation arrangement typology First sketch of "mosaic" project – revenue sources and value-capturing options

Hosted by:



Figure 9: The instructions for the regeneration strategy

The concluding session merged insights from the previous exercises. Each group selected an NbS case and presented a **composite financing and governance model** integrating stakeholder interests, revenue streams, and shared responsibilities. Each group reflected on potential risks (e.g. gentrification), identified cost–revenue mismatches, and proposed hybrid governance models to ensure long-term impact.

Case studies / groups work

In the workshop of financing, we used the Climate Action Plan of Milan, see table 1 below and the sites we visited as inspiration based on the case's typologies

Table 1: Sample of Milan Climate Action Plan 2030.

Theme	Measure	Details	Implementation Period	Priority Areas	Target / Quantity	Plan Reference
Urban Forestry	Planting of new urban trees under ForestaMI	Urban and peri-urban planting to reduce urban heat island effect. Includes shade for parking areas and schoolyards.	2021–2030	Schoolyards, streets, surface parking	220,000 new trees by 2030	Piano Aria Clima, p. 89
Climate-Resilient Schools	‘Milano School Oasis’ program for urban cooling	Includes tree planting, green walls/roofs, natural ventilation, open schoolyards, energy retrofits and PV.	2022–2030	Vulnerable schools in heat-prone areas	Multiple interventions in selected schools	Piano Aria Clima, p. 90
Permeability and Drainage	De-paving grey public areas to improve permeability	Use of nature-based solutions to enhance infiltration, reduce runoff and heat; tied to PGT and hydrological risk maps.	2021–2030	Paved squares, walkways, lots	Double current permeable surface	Piano Aria Clima, p. 93
Heat Island Mitigation in Parking	Shade all surface-level parking areas	Use trees, pergolas, PV panels, and/or reflective materials; transition to vertical structures encouraged.	2022–2050	All surface parking in heat-prone areas	Full shading by 2050	Piano Aria Clima, p. 91

Group 1 – Green Walls for Air Quality

- Problem analysis:
 - Causes: car traffic, air conditioning, industrial emissions.
 - Consequences: major health impacts (cancer, diabetes, premature deaths).
 - Vicious circle: urban heat → more air conditioning → more emissions → worsening heat and pollution.
- NBS solution: Large-scale implementation of green walls (target: 50% of urban facades).
- Benefits & services: Lower temperatures, improved air quality, energy savings, biodiversity support, insulation, pollination, water retention.
- Governance & financing:
 - Cannot be implemented by municipalities alone → requires collaboration with private property owners.
 - Funding:
 - Public sector (savings in health care).
 - Private owners (energy savings).
 - Monitoring: The costliest part; could be partly covered by in-kind contributions from property owners.

Group 2 – “SpongeBob Parking” (Flood Recovery Costs)

- Problem analysis:
 - Flood damages generate rising recovery costs, creating a vicious circle: less budget for prevention → higher damages → more recovery costs.
 - Leads to reduced investment in other sectors (e.g. schools), outmigration, and lower tax revenue.
- NBS solution: Transform parking lots into sponge spaces for stormwater retention while offering safe, multifunctional public areas.
- Benefits & services: Reduced flooding, family-friendly public spaces, business attractiveness, improved tax base, and positive economic loops.

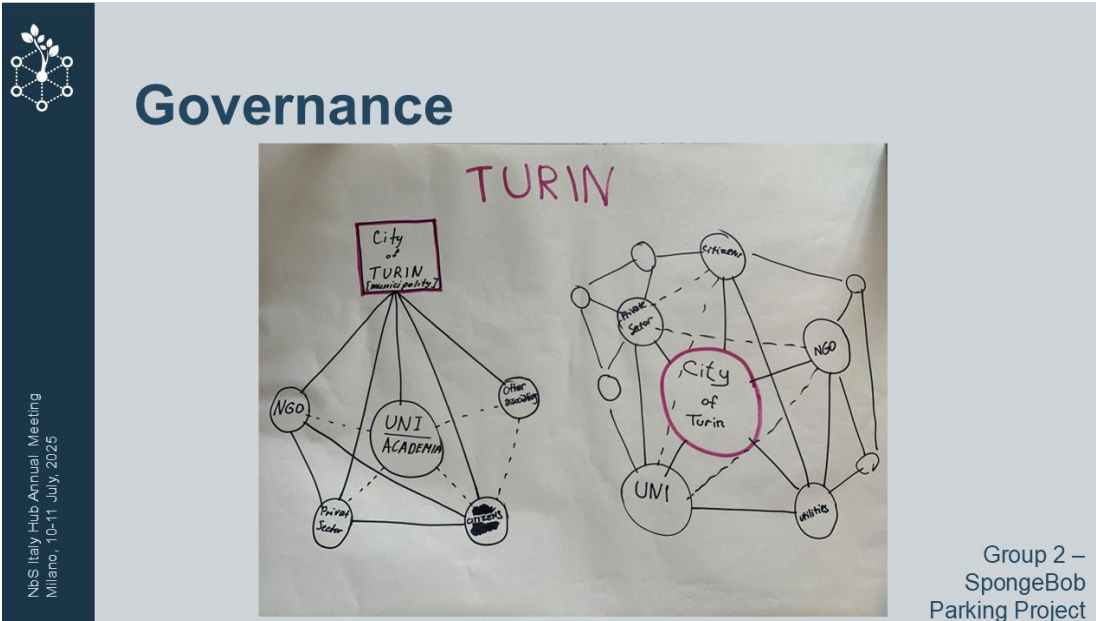


Figure 10. Group 2 governance output: the “SpongeBob” parking project

- Governance & financing:
 - Funding: Primarily public funds, supported by higher property taxes and reduced insurance premiums.
 - Governance evolution inspired by the Turin case: top-down authority shifts into a mediator role to enable collaboration.
 - Challenges:
 - Managing gentrification (as property values rise).
 - Resolving trade-offs between NBS options (e.g. trees vs. solar panels on parking lots).
 - Maintenance can be supported by tax revenues, though returns may lag behind initial investments.

Group 3 – Managing Flood Risk

- Problem analysis:
 - Increasing frequency and intensity of floods due to impermeable surfaces and climate change.
 - Consequences include property damage and increased social inequality.
- NBS solution: Measures such as rain management in parking lots and other surfaces.
- Benefits & services: Four categories of ecosystem services identified (cf. PPT), including reduced household flood risk (a direct source of financing).

- Governance & financing:
 - Household beneficiaries could contribute modestly (e.g., €300 each).
 - Climate insurance schemes could support a public/private funding mix.
 - A shift from top-down governance to collaborative models is necessary for willingness-to-pay.
 - Next steps: Hydrological modelling to determine required surface conversion and storage volumes.
 - Open question: Quantification of the added ecological value of measures.

Group 4 – Urban Oasis for Cooling

- Problem analysis:
 - Rising mortality due to heatwaves, with sharp peaks during extreme events.
- NBS solution: Creation of urban ponds as cooling oases.
- Benefits & services:
 - Heat reduction, biodiversity, reduced air conditioning demand.
 - Strong social cohesion effects: intergenerational encounters, neighborhood bonding, outdoor activities.
- Governance & financing:
 - Citizens as beneficiaries and maintainers, supported by neighborhood donations and local green taxes.
 - Public investment is required in poorer districts to avoid inequalities.
 - Property value increases can attract private investment but raise gentrification risks.
- Discussion points:
 - Disservices: mosquitoes, safety issues, waste.
 - Space trade-offs: Ponds are surface-intensive compared to vertical solutions like green walls.
 - Key advantage: Ponds bring people outdoors, reducing reliance on air conditioning and strengthening social resilience.

Group 5 – Streetscape and Metro Flooding

- Problem analysis:

- Flooding of Milan's metro system triggers a vicious circle: metro closures → more car traffic → higher emissions → climate change → more extreme events → further metro closures.
- Additional impacts: reduced city-center commerce.
- NBS solution: Rain gardens, street greening, and back-up infrastructure (e.g., elevated metro entrances).
- Benefits & services: Reliable metro use, reduced traffic accidents, less healthcare pressure, sewer relief, improved city-center activity.
- Governance & financing:
 - Beneficiaries: ATM (public transport company), citizens, state.
 - Corporate collaboration can support fair cost sharing.
 - ATM is well-placed to act as a mediator, given its dual role as operator and main beneficiary.
 - Main challenge: Limited space for greening and stakeholder willingness to invest in small, dispersed interventions.

CONCLUSION – Consolidated Summary

The NbS School “*From Planning to Action*” proved to be an important moment of learning and exchange among professionals, researchers, and representatives of local administrations engaged in the planning and implementation of NbS. This first experience in Italy, hosted by the Politecnico di Milano and organized alongside the national conference of the NbS Italy Hub, successfully combined the theoretical, operational, and strategic dimensions of NbS. This integrated approach highlighted how multi-stakeholder collaboration can translate into concrete and replicable practices.

The three-phase structure (site visits, frontal sessions, and practical workshops) proved particularly effective in fostering interdisciplinary dialogue and strengthening competencies. The site visits provided tangible examples of NbS design, management, and maintenance in urban contexts, showcasing both potential and technical or planning challenges. The lectures and seminars delivered by international experts helped frame the themes of co-creation, governance, and financing within a broader perspective, while the workshops transformed these concepts into hands-on exercises, promoting direct interaction among participants.

One of the key factors behind the initiative's success was the academic setting (POLIMI), which provided a high-level scientific and educational context. Moreover, the quality and diversity of the speakers significantly enriched the discussions, while the variety of participants, coming from different professional and disciplinary backgrounds, stimulated fruitful exchanges and the emergence of shared perspectives.

Nevertheless, the experience also revealed some challenges: in particular, administrative and fiscal rigidity limited the management and use of available resources, while the use of English, although ensuring the international openness of the initiative, represented a barrier to greater involvement of local technicians and municipal officers.

The NbS School experience underlined the value of establishing a stable and replicable format that remains adaptable to different territorial contexts. Future editions could focus on specific thematic areas, such as urban cooling, green infrastructure planning, or flood risk management, and promote stronger synergies between climate, biodiversity, and health strategies. Another promising avenue would be the introduction of educational and participatory tools, such as role-playing or board games on NbS planning, to enhance collaborative learning.

Looking ahead, the NbS Italy Hub intends to build on this experience by integrating the School's results into future events and strengthening cooperation with other European hubs. Among the priority actions are conducting a survey on the training needs of professionals in the field, establishing regional and provincial networks to engage smaller municipalities, and enhancing the health and well-being dimension as a key component of NbS design.

The Milan School demonstrated that a training approach grounded in real-world experiences, interdisciplinary dialogue, and institutional cooperation can significantly contribute to the diffusion of sustainable planning practices. The lessons learned now provide a solid foundation for the replication and further evolution of a training model that, starting from Italy, can strengthen the skills and connections of the European NbS community.

What Worked

- Hosting in Academic Institution (Polimi)
- High level of speakers with diverse topics

Proposals / New Ideas

- A new school on a specific topic (in the french Hub)
- Long-term planning / strategic vision on Green Infrastructure (GI)
- Board game on planning Nature-based Solutions (NbS)
- NbS school format base (in English), to be adapted at national level

Possible Solutions

- Synergies among environmental focus areas (e.g., climate & biodiversity strategies, financing, governance, etc.)
- Key tools to be transferred from research to practice
- Identification of common needs of practitioners
 - → Conduct a survey on needs

Gaps

- Low budget / bureaucracy
- Language barriers
- Lack of reliable tools for funding
- Target identification

Additional Points

- Acting at province / regional level (to reach small municipalities)
- Health and well-being as a key dimension
- Establish a fixed format that is replicable yet, flexible to adapt to different geographical contexts
- Collect feedback from participants (in our case, we opted for a soft feedback)



NetworkNature is a resource for the Nature-based Solutions (NbS) community, creating opportunities for local, regional and international cooperation to maximise the impact and spread of Nature-based Solutions. It maintains and adds to a diverse and science-based repository of evidence on NbS, strengthen partnerships and foster new relationships around a clear, strategic framework for action.



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NetworkNature Dissemination and Key Takeaways

From Planning to Action: NbS Summer School for Professionals and Academics

9-10-11 July 2025- Politecnico di Milano, Milan Italy

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Introduction

The present report summarises the dissemination activities undertaken in relation to the NN+ Summer School on Nature-based Solutions (NbS), held at Politecnico di Milano, Italy. The objective of these actions was to ensure the wide communication and valorisation of the Summer School's outcomes among diverse target audiences — from participants and practitioners to academic and non-academic communities.

Dissemination was conceived as an integral component of the Summer School, aiming not only to share information but also to build connections, stimulate knowledge exchange, and strengthen the NbS community across Europe and beyond, across discipline and career level. Activities were designed to reach different targeted groups:

- the participants, through preparatory and follow-up materials supporting capacity building and networking;
- the NbS community, via broad visibility actions on social media;
- the established practitioner hubs, through focused exchanges and sharing of good practices;
- the NbS academic community, by contributing to international NbS networks and events; and
- the non-NbS scientific community, by promoting interdisciplinary dialogue and recruitment across universities.

Each dissemination pathway was tailored to the specific interests and communication habits of its target group, ensuring relevance and long-term impact. Beyond visibility, the dissemination strategy sought to generate scientific, business, and societal benefits, fostering collaboration, professional development, and broader societal awareness of NbS as effective tools for sustainable and resilient development.

1. Summer School Participants - Junior Practitioners and academia

Dissemination activities:

Prior to and during the summer school, participants received structured information on the programmer's content, the case study sites, Milan City Plan and the documentation supporting the workshops on co-creation and co-financing. These materials provided a shared knowledge base and introduced the methodological frameworks to be used. The event also facilitated the creation of a network of early-career professionals and researchers, strengthening the junior generation of NbS practitioners.

Expected Impact:

Scientific impact:

- Strengthens interdisciplinary literacy by exposing participants to environmental, technical, and socio-economic dimensions of NbS.
- Provides data and experiential insights that feed into applied NbS research and teaching activities.

Business impact:

- Enhances participants' employability and readiness to engage in NbS-related projects with municipalities, SMEs, and consultancies.
- Creates a talent pool and contact network for future collaborations between academia and practice.

Societal impact:

- Fosters a community of motivated young professionals able to apply co-creation and co-financing principles in real contexts.
- Promotes inclusive, participatory approaches to nature-based planning and governance.

2. NbS Community

Dissemination activities:

A series of posts and visual materials were shared on social medias as LinkedIn and Instagram, targeting the broader NbS community. Content

included insights on the summer school, highlights from the fieldwork, and testimonials from participants (participants' own contribution to dissemination), thus contributing to ongoing visibility and engagement.

Expected Impact:

Scientific impact:

- Leverage community dynamic and engagement for actions.
- Facilitates exchanges between ongoing EU initiatives on NbS, improving collective learning.
- showcase sites and NbS pilot sites

Business impact:

- Reaches consultancies, start-ups, and design offices engaged in green and climate-resilient innovation.
- Creates opportunities for partnerships around training, pilot projects, and communication campaigns.

Societal impact:

- Raises public awareness of NbS as tangible and replicable solutions for sustainability.
- Increases accessibility of scientific content through plain language and visual storytelling.

3. Established national NbS Communities

Dissemination activities:

Specific communication was undertaken with the Italian NbS Hub, which actively participated in fieldwork, and with the French NbS Hub, identified as a potential host for the next summer school. Both hubs received the Good

Practices Report, summarizing the case study outcomes and methods used, and specific information through newsletter and mailing list.

Expected Impact:

Scientific impact:

- Provides validated, practice-based evidence that strengthens transnational learning among NbS implementers.
- Supports the development of harmonized approaches and shared methodological standards for NbS projects.

Business impact:

- Encourages cross-border collaboration among practitioners, consultancies, and local authorities engaged in NbS.
- Offers actionable guidance for professional implementation and replication of successful practices.

Societal impact:

- Reinforces a European community of practice connecting local experimentation with continental initiatives.
- Enhances the quality and legitimacy of NbS projects by integrating academic insights and field evidence.

4. NbS Academic Community

Dissemination activities:

Results and lessons from the summer school were presented at the NetworkNature Annual Event, contributing to the dialogue among research institutions, networks, and policymakers. The summer school team also led

the working group on upscaling the summer school model to other regions and disciplines.

Expected Impact:

Scientific impact:

- Promotes methodological advancement in NbS education, particularly on co-creation and governance aspects.
- Contributes to the integration of experiential learning and case-based teaching into the NbS research agenda.

Business impact:

- Strengthens partnerships between academic institutions and professional training providers.
- Opens opportunities for developing new educational products, joint degrees, or continuing-education modules on NbS.

Societal impact:

- Builds institutional capacity for sustainable innovation and transdisciplinary learning.
- Ensures the continuity of NbS education as a driver of long-term systemic change.

5. Non-NbS specific Scientific Community

Dissemination activities:

Dedicated communications were conducted within Politecnico di Milano, the University of Strasbourg, and the French National Institute for Water and Environment. Introducing the Summerschool, we leverage interest and awareness for NbS approach to disciplines not primarily engaged in the field.

Targeted recruitment actions were also carried out across several European universities to attract participants from diverse scientific backgrounds.

Expected Impact:

Scientific impact:

- Promotes cross-fertilisation between NbS research and other scientific domains (engineering, architecture, hydrology, social sciences).
- Expands the conceptual and methodological scope of NbS by integrating diverse disciplinary perspectives.

Business impact:

- Stimulates innovation by linking NbS with technology-driven fields such as infrastructure design, environmental modelling, and resource management.

Societal impact:

- Broadens awareness of NbS as a unifying concept across scientific disciplines and professional sectors.
- Engages a wider spectrum of scientific fields in the transition toward climate-resilient and nature-positive solutions.

Consolidated Summary - Key Messages

The dissemination activities of the 2025 NN+ Summer School on Nature-based Solutions successfully extended the impact of the event beyond its immediate participants, creating a dynamic network that connects research, practice, and policy. By engaging multiple audiences, namely, participants, the broader NbS community, national NbS hubs, academia, and non-NbS scientific fields, through tailored communication strategies, the initiative fostered interdisciplinary learning, strengthened professional collaboration, and enhanced societal awareness of NbS as practical tools for sustainable development. Collectively, these actions strengthened scientific exchange, professional collaboration, and societal awareness, consolidating a vibrant European NbS network and supporting the long-term integration of nature-based approaches into sustainable and resilient development.

The **NetworkNature+ Summer School** on Nature-based Solutions (NbS), held in Milan in July 2025, was designed to foster interdisciplinary learning,

professional development, and community building around NbS. Dissemination was a core strategy for scientific and non-scientific communities, targeting five key audiences:

1. **Summer School Participants:** Received structured materials and engaged in workshops to build capacity in co-creation and co-financing. This strengthened interdisciplinary literacy and created a network of early-career professionals.
2. **NbS Community:** Social media campaigns and participant testimonials enhanced visibility, encouraged engagement, and supported knowledge exchange across EU initiatives.
3. **National NbS Hubs:** Italian and French hubs received tailored communications and good practice reports, promoting harmonized methodologies and cross-border collaboration.
4. **NbS Academic Community:** Contributions to the NetworkNature+ Annual Event and working groups helped scale the summer school model and integrate experiential learning into NbS education.
5. **Non-NbS Scientific Community:** Outreach to universities and research institutions broadened awareness and interdisciplinary integration of NbS concepts.

Each dissemination stream was tailored to its audience, aiming to generate **scientific, business, and societal impact** through collaboration, visibility, and capacity building.

Next Steps

- **Upscaling the Summer School model** to other regions and disciplines.
- **Strengthening co-governance and co-financing frameworks** for NbS implementation.
- **Developing Decision-Support Systems (DSS)** to guide urban NbS strategies.
- **Fostering blended finance mechanisms** and clarifying roles of public and private actors.
- **Expanding interdisciplinary recruitment** to embed NbS across scientific domains.

Appendix

Example of dissemination content:

Key Take Aways

The intensive Summer School took place from 9–11 July 2025, entitled: 🏠 “From Planning to Action: A Summer School on Urban NbS for Professionals and Academics”. The Summer School 2025 was organized by: 🧑🏫 The school is coordinated by: Israa Mahmoud, Gregorio Sgrigna, Monica Altamirano-de Jong, and Aude Zingraff-Hamed- 🏛️ Politecnico di Milano, 🖋️ CNR-IRET, 💧 CNRS / LIVE-ENGEES, and 🌱 ALTAMIRA Regenerative Finance – 💡 Funded by: *Network Nature*- 🤝 In collaboration with: *NbS Italy Hub* and the *National Biodiversity Future Center*.

Originally imagined as a bootcamp for city practitioners, the event attracted a broader mix of participants, including **technical experts, early-career academics, and NbS entrepreneurs**, many already working with municipalities in different capacities. Far from diluting the experience, this **diversity strengthened the learning environment**, allowing for intensive peer exchange and less reliance on facilitators.

Key cross-cutting insights:

- Many groups identified **vicious circles** linking environmental pressures with social and financial costs.
- **Nature-based solutions** provide multiple co-benefits but require **new financing models** (public-private partnerships, insurance schemes, citizen contributions).
- Providing guidance for **collaboration** in urban nature-based solutions by building on TF6 work on co-creation and co-governance guidance.
- Providing support for **co-creation processes** at all levels. NBS provides better results when the actions are multiplied and upscaled horizontally.

- Most of the cities have goals and targets for nature-based solutions but lack a Decision-Support-System (DSS).
- Take stock from other projects experiences and **build with the DSS using the existing collaborative governance models.**
- Transition from **top-down governance** toward **co-governance** is essential for effective implementation and sustained willingness-to-pay.
- Risks such as **gentrification, disservices, and space constraints** must be explicitly managed in governance design
- **Theory of Change first:** Strong investment cases begin with strategic clarity. Participants learned to “zoom out” before zooming in, clarifying not only what needs funding, but why it matters and what change it enables.
- **Four structuring steps:** Mode of governance, funding strategy, financing strategy, and procurement must all align. This framing helped participants map who does what, how money flows, and who takes delivery responsibility.
- **Funding ≠ Financing:** Many struggled initially with this distinction, but exercises helped clarify it. Financing is about mobilizing capital upfront for implementation; funding is about who ultimately pays.
- **Blended finance works but needs orchestration:** Successful blending requires more than financial tools; it depends on coordination platforms, institutional champions, and shared accountability.
- **Private sector ≠ just funders:** They can be service providers, off-takers, or asset managers. Mechanisms like carbon credits or land value capture can enable participation without privatizing public services.

Italian

Punti chiave

La Summer School intensiva si è tenuta dal 9 all'11 luglio 2025, intitolata:

🎓 "Dalla pianificazione all'azione: una Summer School sulle NbS urbane per professionisti e accademici". La Summer School 2025 è stata organizzata come segue:

👤 La scuola è coordinata da: Israa Mahmoud, Gregorio Sgrigna, Mónica Altamirano-de Jong e Aude Zingraff-Hamed - 🏛️ Politecnico di Milano, 🖋️ CNR-IRET, 💧 CNRS / LIVE-ENGEES e 🌱 ALTAMIRA Regenerative Finance - 💡 Finanziata da: Network Nature - 🤝 In collaborazione con: NBS Italy Hub e National Biodiversity Future Center.

Originariamente concepito come un bootcamp per operatori comunali, l'evento ha attirato un mix più ampio di partecipanti, tra cui esperti tecnici, accademici agli inizi della carriera e imprenditori NbS, molti dei quali già collaborano con le amministrazioni comunali in diverse mansioni. Lungi dal diluire l'esperienza, questa diversità ha rafforzato l'ambiente di apprendimento, consentendo un intenso scambio tra pari e una minore dipendenza dai facilitatori.

Intuizioni trasversali chiave:

- Molti gruppi hanno individuato **circoli viziosi** che collegano le pressioni ambientali ai costi sociali e finanziari.
- Le soluzioni basate sulla natura (**NbS**) offrono molteplici benefici collaterali, ma richiedono nuovi modelli di finanziamento (partenariati pubblico-privato, sistemi assicurativi, contributi dei cittadini).
- Fornire **linee guida** per la collaborazione nelle soluzioni urbane basate sulla natura, basandosi sul lavoro svolto dalla Task Force 6 sulla co-creazione e la co-governance.
- Fornire **supporto** ai processi di co-creazione a tutti i livelli. Le NBS forniscono risultati migliori quando le azioni vengono moltiplicate e ampliate orizzontalmente.
- La maggior parte delle città ha obiettivi e traguardi per le soluzioni basate sulla natura, ma non dispone di un **sistema di supporto alle decisioni** (DSS).
- Far tesoro delle **esperienze** di altri progetti e costruire con il DSS utilizzando i modelli di governance collaborativa esistenti.

- La **transizione** dalla governance **top-down** alla **co-governance** è essenziale per un'implementazione efficace e una disponibilità a pagare sostenibile.
- Rischi come **gentrificazione**, **disservizi** e **vincoli** di spazio devono essere gestiti esplicitamente nella progettazione della governance.
- La **teoria del cambiamento** come primo approccio: i casi di investimento efficaci partono dalla chiarezza strategica. I partecipanti hanno imparato ad "allontanarsi" prima di avvicinarsi, chiarendo non solo cosa necessita di finanziamenti, ma anche perché è importante e quale cambiamento consente.
- **Quattro fasi** di strutturazione: modalità di governance, strategia di finanziamento, strategia di finanziamento e approvvigionamento devono essere allineati. Questa inquadratura ha aiutato i partecipanti a mappare chi fa cosa, come fluisce il denaro e chi si assume la responsabilità dell'erogazione.
- **Sovvenzione ≠ Sostegno finanziario**: inizialmente molti hanno avuto difficoltà con questa distinzione, ma gli esercizi hanno contribuito a chiarirla. Il finanziamento riguarda la mobilitazione anticipata del capitale per l'implementazione; il finanziamento riguarda chi paga in ultima analisi.
- La **finanza mista** funziona, ma necessita di orchestrazione: il successo di una combinazione richiede più di semplici strumenti finanziari; dipende da piattaforme di coordinamento, promotori istituzionali e responsabilità condivisa.
- **Settore privato ≠ solo finanziatori**: possono essere fornitori di servizi, acquirenti o gestori patrimoniali. Meccanismi come i crediti di carbonio o la cattura del valore del territorio possono consentire la partecipazione senza privatizzare i servizi pubblici.

French

Points clés

L'Université d'été s'est tenue **9 au 11 juillet 2025**. Elle portait sur :
🏠 « *From Planning to Action: A Summer School on Urban NbS for Professionals and Academics* ».

Organisation

&

Coordination

👤 Coordonnée par : Israa Mahmoud, Gregorio Sgrigna, Mónica Altamirano-de Jong et Aude Zingraff-Hamed; 🏛️ Organisée par : Politecnico di Milano, 🧪 CNR-IRET, 💧 CNRS / LIVE-ENGEES et 🌱 ALTAMIRA Regenerative Finance; 💡 Financement : NetworkNature; 🤝 En collaboration avec : NbS Italy Hub et le National Biodiversity Future Center

Concept

&

Participants

Initialement conçue comme un atelier destiné aux praticiens urbanistes, l'université d'été a attiré un public varié : experts techniques, jeunes chercheurs et entrepreneurs en solutions fondées sur la nature — dont beaucoup travaillent déjà avec les municipalités. Loin de diluer l'expérience, cette diversité a enrichi l'environnement d'apprentissage, favorisant des échanges intensifs entre pairs et réduisant la dépendance vis-à-vis des facilitateurs.

Principaux enseignements transversaux :

- De nombreux groupes ont identifié des cercles vicieux reliant les pressions environnementales aux coûts sociaux et financiers.
- Les solutions fondées sur la nature offrent de multiples co-bénéfices mais nécessitent un panel modèles de financement (partenariats public-privé, dispositifs d'assurance, contributions citoyennes).
- Nécessité d'orientations pour la transversalité des solutions fondées sur la nature en milieu urbain pouvant s'appuyer sur les travaux du TF6 sur la co-création et la co-gouvernance.
- Apporter un soutien aux processus de co-création à tous les niveaux. Les SfN donnent de meilleurs résultats lorsque les actions sont démultipliées et

étendues.

- La plupart des villes disposent d'objectifs et de cibles pour les Solutions fondées sur la Nature mais manquent d'un système d'aide à la décision (DSS).
- Capitaliser sur l'expérience d'autres projets et construire un DSS en s'appuyant sur les modèles existants de gouvernance collaborative.
- La transition d'une gouvernance descendante (top-down) vers une co-gouvernance est essentielle pour une mise en œuvre efficace d'investissement durable.
- Les risques tels que la gentrification, les désservices et les contraintes spatiales doivent être explicitement intégrés dans la conception de la gouvernance.
- **Théorie du changement d'abord** : Les solides dossiers d'investissement commencent par une clarté stratégique. Les participants ont appris à « dézoomer » avant de « zoomer », en clarifiant non seulement ce qui doit être financé, mais aussi pourquoi cela compte et quel changement cela permet.
- **Quatre étapes structurantes** : Mode de gouvernance, stratégie de financement, stratégie de financement par capitaux, et passation des marchés doivent tous être alignés. Ce cadrage a aidé les participants à cartographier qui fait quoi, comment circule l'argent et qui assume la responsabilité de la mise en œuvre.
- **Financement ≠ Investissement** : Beaucoup ont eu du mal au départ à distinguer les deux, mais les exercices ont permis de clarifier.
- **La finance mixte fonctionne mais nécessite une orchestration** : Une combinaison réussie demande plus que des outils financiers ; elle repose sur des plateformes de coordination, des champions institutionnels et une responsabilité partagée.
- **Le secteur privé ≠ simples bailleurs** : Ils peuvent être prestataires de services, acheteurs ou gestionnaires d'actifs. Des mécanismes comme les crédits carbone ou la captation de la valeur foncière peuvent permettre leur participation sans privatiser les services publics.

German

Erkenntnisse

Die intensive Summer School 🎓 „From Planning to Action: A Summer School on Urban NbS for Professionals and Academics“ findet vom 9.–11. Juli 2025 statt.

Die Summer School 2025 wurde organisiert von:

👤 Koordination: Israa Mahmoud, Gregorio Sgrigna, Mónica Altamirano-de Jong und Aude Zingraff-Hamed; 🏛️ Organisierende Institutionen: Politecnico di Milano, 🧪 CNR-IRET, 💧 CNRS / LIVE-ENGEEES und 🌱 ALTAMIRA Regenerative Finance; 💡 Finanzierung: Network Nature; 🤝 In Zusammenarbeit mit: NbS Italy Hub und National Biodiversity Future Center

Ursprünglich als Bootcamp für städtische Praktikerinnen konzipiert, zog die Veranstaltung ein breiteres Teilnehmerinnen-Spektrum an, darunter technische Expertinnen, Nachwuchswissenschaftlerinnen und NbS-Unternehmerinnen, viele bereits arbeiten mit Kommunen und Städten zusammen. Diese Vielfalt stärkte das Lernumfeld, ermöglichte intensiven Peer-Austausch und reduzierte die Abhängigkeit von Moderatorinnen.

Übergreifende Erkenntnisse

- Viele Gruppen identifizierten Teufelskreise, die Umweltbelastungen mit sozialen und finanziellen Kosten verknüpfen.
- Naturbasierte Lösungen (NbS) bieten zahlreiche Co-Benefits, erfordern aber neue Finanzierungsmodelle (öffentlich-private Partnerschaften, Versicherungssysteme, Bürger*innenbeiträge).

- Leitlinien für Zusammenarbeit: Aufbauend auf den Arbeiten von TF6 zu Co-Creation und Co-Governance Unterstützung für urbane NbS.
- Unterstützung von Co-Creation-Prozessen auf allen Ebenen: NbS erzielen bessere Ergebnisse, wenn Aktionen vervielfacht und horizontal skaliert werden.
- Die meisten Städte haben Ziele für NbS, fehlen jedoch ein Decision-Support-System (DSS).
- Erfahrungen aus anderen Projekten nutzen und DSS unter Verwendung bestehender Modelle kollaborativer Governance aufbauen.
- Übergang von Top-Down-Governance zu Co-Governance ist entscheidend für wirksame Umsetzung und nachhaltige Zahlungsbereitschaft.
- Risiken wie Gentrifizierung, negative Nebeneffekte und Platzbeschränkungen müssen explizit in der Governance berücksichtigt werden.
- Theory of Change zuerst: Starke Investitionsentscheidungen beginnen mit strategischer Klarheit. Teilnehmer*innen lernten, zunächst „herauszuzoomen“, um nicht nur zu klären, was finanziert werden muss, sondern auch warum und welchen Wandel es ermöglicht.
- Vier strukturierende Schritte: Governance-Modus, Finanzierungsstrategie, Kapitalbereitstellungsstrategie und Beschaffung müssen aufeinander abgestimmt sein. Dieses Rahmenwerk half, Verantwortlichkeiten und Geldflüsse klar zuzuordnen.
- Funding ≠ Financing: Viele hatten anfangs Schwierigkeiten mit der Unterscheidung. Finanzierung bedeutet Kapitalbereitstellung für die

Umsetzung, Funding, wer letztlich zahlt.

- Blended Finance funktioniert, benötigt aber Orchestrierung:
Erfolgreiche Kombination erfordert mehr als finanzielle Instrumente;
Koordinationsplattformen, institutionelle Champions und geteilte
Verantwortung sind entscheidend.
- Privatsektor ≠ nur Geldgeber: Er kann Dienstleister, Abnehmer oder
Asset-Manager sein. Mechanismen wie Kohlenstoffgutschriften oder
Landwertabschöpfung ermöglichen Teilnahme ohne Privatisierung
öffentlicher Dienstleistungen.

Portuguese

Pontos-chave

A Summer School intensiva teve lugar de 9 a 11 de julho de 2025, com o título:

🎓 “Do planeamento à ação: uma Summer School sobre NbS urbanas para profissionais e académicos”. A Summer School 2025 foi organizada da seguinte forma:

👤 A escola é coordenada por: Israa Mahmoud, Gregorio Sgrigna, Mónica Altamirano-de Jong e Aude Zingraff-Hamed – 🏛️ Politecnico di Milano, 🧪 CNR-IRET, 💧 CNRS / LIVE-ENGEES e 🌱 ALTAMIRA Regenerative Finance – 💡 Financiada por: Network Nature – 🤝 Em colaboração com: NbS Italy Hub e National Biodiversity Future Center. 🏠

Originalmente concebido como um *bootcamp* para técnicos municipais, o evento atraiu um leque mais amplo de participantes, incluindo peritos técnicos, académicos em início de carreira e empreendedores de NbS, muitos dos quais já colaboram com administrações municipais em diferentes funções. Longe de diluir a experiência, esta diversidade reforçou o ambiente de aprendizagem, permitindo uma intensa troca entre pares e uma menor dependência dos facilitadores.

Principais ideias transversais:

- Muitos grupos identificaram **círculos viciosos** que ligam as pressões ambientais aos custos sociais e financeiros.
- As Soluções Baseadas na Natureza (**NbS**) oferecem múltiplos benefícios colaterais, mas exigem novos modelos de financiamento (parcerias público-privadas, sistemas de seguro, contribuições dos cidadãos).
- Fornecer **orientações** para a colaboração em NbS urbanas, com base no trabalho desenvolvido pela Task Force 6 sobre co-criação e co-governança.
- **Apoiar os processos** de co-criação a todos os níveis. As NbS geram melhores resultados quando as ações são multiplicadas e ampliadas horizontalmente.

- A maioria das cidades tem metas e objetivos para NbS, mas carece de um **Sistema de Apoio à Decisão (DSS)**.
- **Valorizar a experiência** de outros projetos e construir o DSS utilizando modelos existentes de governação colaborativa.
- A **transição** da governação *top-down* para a co-governação é essencial para uma implementação eficaz e uma disposição sustentável para pagar.
- Riscos como **gentrificação**, **falhas** nos serviços e **restrições** de espaço devem ser explicitamente tratados no desenho da governação.
- A **Teoria da Mudança** como primeira abordagem: casos de investimento eficazes começam pela clareza estratégica. Os participantes aprenderam a “afastar-se” antes de se aproximar, esclarecendo não só o que precisa de financiamento, mas também porque é importante e que mudança permite.
- **Quatro fases** de estruturação: modelos de governação, estratégia de financiamento, estratégia de financiamento e de aquisição devem estar alinhados. Esta abordagem ajudou os participantes a mapear quem faz o quê, como circula o dinheiro e quem assume a responsabilidade pela execução.
- **Subvenção ≠ Apoio financeiro**: muitos tiveram inicialmente dificuldade com esta distinção, mas os exercícios ajudaram a clarificá-la. *Funding* refere-se à mobilização antecipada de capital para a implementação; *financing* refere-se a quem paga em última instância.
- **Finanças mistas funcionam, mas requerem orquestração**: o sucesso de uma combinação exige mais do que simples instrumentos financeiros; depende de plataformas de coordenação, promotores institucionais e responsabilidade partilhada.
- **Setor privado ≠ apenas financiadores**: podem ser prestadores de serviços, compradores ou gestores de ativos. Mecanismos como créditos de carbono ou captura de valor do solo podem permitir a sua participação sem privatizar os serviços públicos.

Spanish

La Escuela de Verano intensiva, que se celebró del 9 al 11 de julio de 2025, tuvo como título:

🎓 “De la planificación a la acción: una escuela de verano sobre Soluciones Basadas en la Naturaleza Urbana para profesionales y académicos”.

La Escuela de Verano 2025 fue organizada por:

👤 Coordinación: Israa Mahmoud, Gregorio Sgrigna, Mónica Altamirano-de Jong y Aude Zingraff-Hamed – 🏛️ Politécnico de Milán, 🖋️ CNR-IRET, 💧 CNRS / LIVE-ENGEES, y 🌱 ALTAMIRA Regenerative Finance –

💡 Financiado por: Network Nature – 🤝 En colaboración con: NbS Italy Hub y el National Biodiversity Future Center.

Originalmente concebido como un bootcamp para profesionales municipales, el evento atrajo a una mezcla más amplia de participantes, incluidos expertos técnicos, académicos en etapa inicial y emprendedores de SbN, muchos de ellos ya trabajando con municipios en diferentes capacidades. Lejos de diluir la experiencia, esta diversidad fortaleció el entorno de aprendizaje, permitiendo un intercambio intensivo entre pares y reduciendo la dependencia de los facilitadores.

Principales aprendizajes transversales:

- Muchos grupos identificaron círculos viciosos que vinculan las presiones ambientales con los costos e impactos sociales, económicos y financieros.
- Las soluciones basadas en la naturaleza (SbN) ofrecen múltiples co-beneficios, pero requieren nuevos modelos de financiación (Asociaciones Público-Privadas, esquemas de seguros, contribuciones ciudadanas).
- Se brindó apoyo y orientación para la colaboración en la implementación de SbN urbanas, basándose en el trabajo del TF6 sobre co-creación y co-gobernanza.

- Se brindó apoyo a los procesos de co-creación en todos los niveles. Las SbN ofrecen mejores resultados cuando las acciones se multiplican y se escalan horizontalmente.
- La mayoría de las ciudades tienen metas y objetivos para las SbN, pero carecen de un Sistema de Apoyo a la toma de Decisiones (DSS).
- Los participantes aprendieron de las experiencias de otros proyectos y del proceso de construir el DSS usando los modelos existentes de gobernanza colaborativa.
- La transición de la gobernanza de arriba hacia abajo hacia la cogobernanza es esencial para una implementación eficaz y una disposición sostenida de los beneficiarios a contribuir financieramente con la manutención de las SbN en su comunidad.
- Riesgos como la gentrificación, los deservicios y las limitaciones de espacio deben gestionarse explícitamente en el diseño de la gobernanza.
- **Teoría del Cambio primero:** Los casos de inversión sólidos comienzan con claridad estratégica. Los participantes aprendieron a “desenfocarse” o “zoom out” antes de concentrarse solamente en su proyecto específico, construyendo una narrativa más convincente que va más allá de las necesidades de financiamiento, sino explicando por qué importa y qué cambio de paradigma esta inversión haría posible.
- **Cuatro pasos estructurales:** El modo de gobernanza, la estrategia de fondeo, la estrategia de financiación y la de contratación deben estar alineados. Este marco ayudó a los participantes a mapear quién hace qué, cómo fluyen los recursos financieros y quién asume la responsabilidad de la entrega del servicio y garantiza el desempeño o nivel de servicio requerido.
- **Fondeo ≠ financiación:** Muchos inicialmente lucharon con esta distinción, pero los ejercicios ayudaron a aclararla. La financiación se refiere a movilizar capital por adelantado para la implementación; las fuentes de fondeo se refieren a quién paga en última instancia.
- **Las finanzas combinadas funcionan, pero necesitan orquestación:** La combinación exitosa requiere más que herramientas financieras; depende de plataformas de coordinación, campeones institucionales y responsabilidad compartida.

- **El sector privado ≠ solo financiadores:** Pueden ser proveedores de servicios, compradores o gestores de activos de infraestructura natural o SbN. Mecanismos como créditos de carbono o captura de valor del suelo pueden habilitar la participación del sector privado sin necesariamente resultar en la privatización de los servicios públicos.

Dutch

De intensieve Summer School van 9–11 juli 2025, getiteld:

🎓 “Van planning naar actie: een Summer School over stedelijke NbS voor professionals en academici”.

De Summer School 2025 werd georganiseerd door:

👤 Coördinatie: Israa Mahmoud, Gregorio Sgrigna, Mónica Altamirano-de Jong en Aude Zingraff-Hamed – 🏛️ Politecnico di Milano, 🖋️ CNR-IRET,

💧 CNRS / LIVE-ENGEES en 🌱 ALTAMIRA Regenerative Finance–

💡 Gefinancierd door: Network Nature – 🤝 In samenwerking met: NbS Italy Hub en het National Biodiversity Future Center.

Oorspronkelijk bedacht als een bootcamp voor gemeentelijke professionals, het evenement trok een bredere mix van deelnemers aan, waaronder technische experts, jonge academici en NbS-ondernemers, van wie velen al in verschillende hoedanigheden met gemeenten samenwerken. In plaats van de ervaring te verwateren, versterkte deze diversiteit de leeromgeving, waardoor intensieve uitwisseling tussen peers mogelijk werd en de afhankelijkheid van begeleiders verminderde.

Belangrijkste overkoepelende inzichten:

- Veel groepen identificeerden vicieuze cirkels die milieudruk verbinden met sociale en financiële kosten.
- Natuurgebaseerde oplossingen (NbS) bieden meerdere co-voordelen, maar vereisen nieuwe financieringsmodellen (Publiek-Private Samenwerkingen, verzekeringsregelingen, bijdragen van burgers).
- Richtlijnen geven voor samenwerking in stedelijke NbS door voort te bouwen op het TF6-werk over co-creatie en co-governance.
- Ondersteuning bieden voor co-creatieprocessen op alle niveaus. NbS leveren betere resultaten op wanneer acties worden vermenigvuldigd en horizontaal opgeschaald.
- De meeste steden hebben doelen en streefwaarden voor NbS, maar missen een Decision-Support-System (DSS).

- Leren van ervaringen uit andere projecten en het DSS opbouwen met gebruik van bestaande modellen voor collaboratief bestuur.
- De overgang van top-down bestuur naar co-governance is essentieel voor effectieve implementatie en een blijvende bereidheid van burgers om te betalen.
- Risico's zoals gentrificatie, negatieve neveneffecten en ruimtebeperkingen moeten expliciet worden beheerd in het ontwerp van het bestuur.
- **Theory of Change eerst:** Sterke investeringscases beginnen met strategische helderheid. De deelnemers leerden om eerst “uit te zoomen” voordat ze inzoomen, en zo niet alleen te verduidelijken wat financiering nodig heeft, maar ook waarom het belangrijk is en welke verandering en nieuwe paradigma's het mogelijk maakt.
- **Vier structurerende stappen:** Bestuursvorm, financieringsstrategie, financiële strategie en aanbesteding moeten allemaal op elkaar zijn afgestemd. Dit kader hielp de deelnemers in kaart te brengen wie wat doet, hoe geldstromen lopen en wie verantwoordelijk is voor de uitvoering.
- **Funding ≠ Financing:** Velen worstelden aanvankelijk met dit onderscheid, maar oefeningen hielpen het te verduidelijken. Financiering gaat over het mobiliseren van kapitaal vooraf voor de uitvoering; funding gaat over wie uiteindelijk betaalt.
- **Blended finance werkt maar vereist orkestratie:** Succesvolle mengvormen vereisen meer dan financiële instrumenten; ze zijn afhankelijk van coördinatieplatforms, institutionele trekkers en gedeelde verantwoordelijkheid.
- **De private sector ≠ alleen financiers:** Zij kunnen dienstverleners, afnemers of vermogensbeheerders zijn. Mechanismen zoals koolstofkredieten of grondwaardecaptatie kunnen deelname mogelijk maken zonder openbare diensten te privatiseren.



NetworkNature is a resource for the Nature-based Solutions (NbS) community, creating opportunities for local, regional and international cooperation to maximise the impact and spread of Nature-based Solutions. It maintains and adds to a diverse and science-based repository of evidence on NbS, strengthen partnerships and foster new relationships around a clear, strategic framework for action.



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NetworkNature Governance and Funding Strategies

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Summary of governance and funding strategies Report from NbS Summer school

This report presents a summary of the collaborative governance practices elaborated during the NbS Summer school From Planning to Action for practitioners and academics, held at Politecnico di Milano, 9-11 July 2025. The report is aimed at decision-makers and officials interested in governance and finance of NbS domains, in particular local and regional governments authorities.

In this part we reflect on two main aspects given at the summer school in phase 2 on **collaborative governance** and phase 3 on **financing aspects** of how to design and implement nature-based solutions in urban areas. This report is a summary of key takeaways from the workshops given by the staff during the lectures and case studies identified during the summer school. They are based on the case studies results presented of the group's work, takeaways and good practices developed by the instructors and staff of the NbS summer school.

Collaborative governance key takeaways:

This part is a reflection from the developed case studies presented in the good practices report and in which groups presented the co-governance mechanisms results at the end of summer school. Participants were divided in five groups and in each group a set of governance practices were elaborated using the DSS in the workshop 2 moderated by Sean Bradey (GroundWork, London) and Israa Mahmoud (PoliMi). Snapshots of the participants takeaways were in the [Groups work](#) presentations at this link and below some examples:

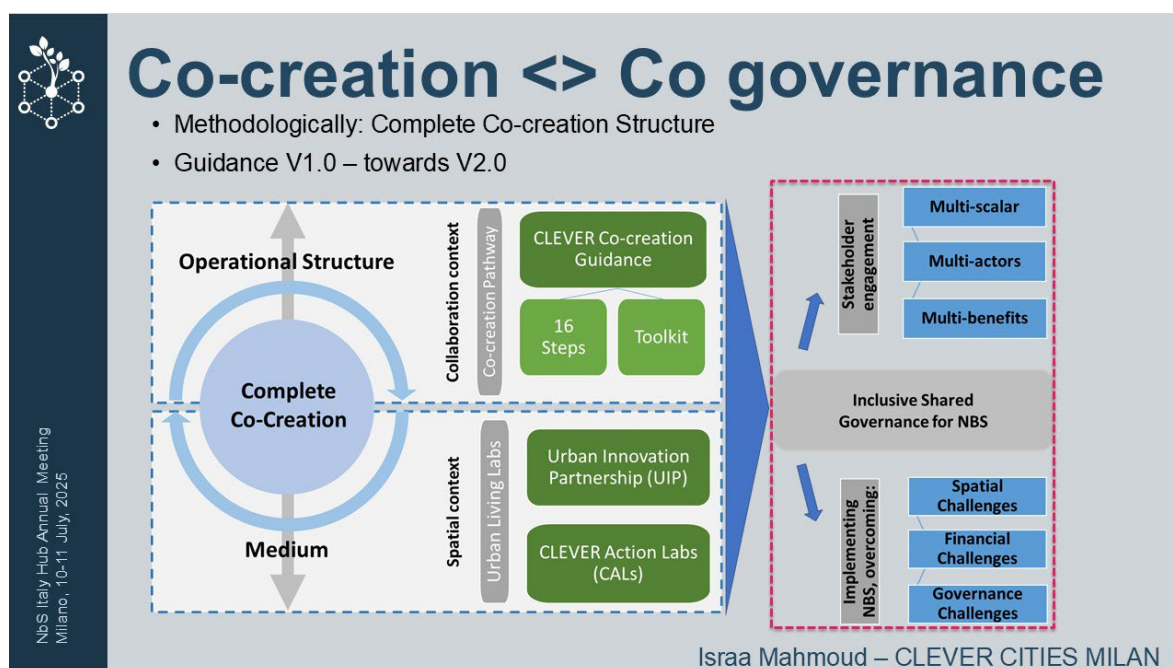


Figure 1: Co-Creation structure → based on CLEVER Cities guidance (Mahmoud, 2024)

1- Providing guidance for collaboration in urban nature-based solutions

Cities have been provided with guidance for implementing urban nature plans (UNP) which are difficult to implement without having proper knowledge. This has been at the forefront of research by the European Commission (Robuchon et al., 2024; Viti et al., 2024). By aligning high-level guidance with local urban planning frameworks, collaboration and implementation of local authorities with citizens involved.

2- Providing better understanding for What is collaborative governance?

Several institutions deliver collaborative or shared governance mechanisms with their own standards. Meanwhile, governance is shared at the level of the public institutions or is that with private and citizen with the local authorities (Mahmoud & Morello, 2021; Malekpour et al., 2021). To pursue a collaborative governance approach, cities should be encouraged to overcome spatial, financial and power challenges through a shift to inclusive decision-making.

3- Providing support for co-creation processes at all levels.

Co-creation is the practice ground for co-governance at all levels of institutions. It facilitates the understanding between stakeholders to make the citizen ready to have

systemic decision making. Specifically reflecting on the nature-based solutions processes, co-creation enables finding the middle ground between top-down and bottom-up decision-making (Bradley & Mahmoud, 2024; Mahmoud et al., 2024). There is a good thing about top-down, is that it invests in financial resources. However, the bottom-up approach is typically good, because it prioritizes citizens' needs but can be disorganized and missing the financial and decision power for implementation (Mahmoud et al., 2023).

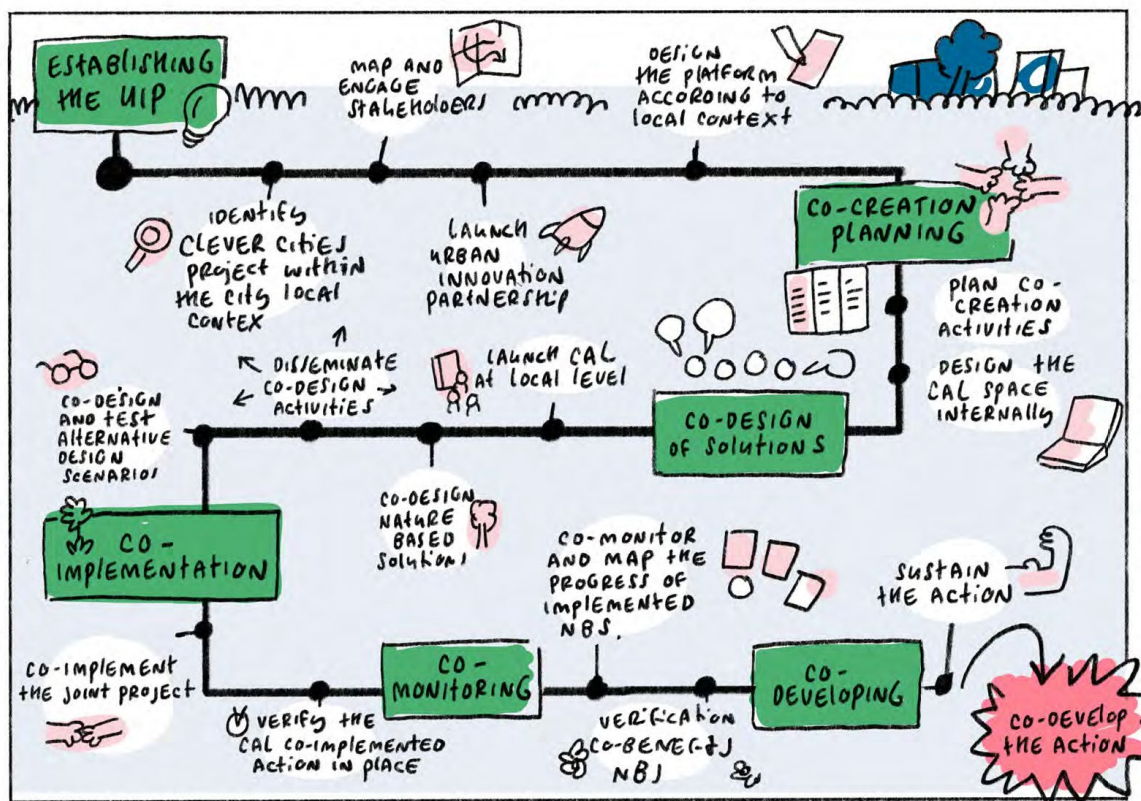


Figure 2: Co-Creation process pathway developed by CLEVER Cities project.

4- Most of the cities have goals and targets for nature-based solutions but lack a Decision-Support-System (DSS).

By prioritizing Nature-based solutions (NbS) in the urban Nature plans (UNP) of diverse European cities, several hindrances have been benchmarked, specifically on the decisions made by local authorities to be supported by citizens and institutions involved in the implementation process (Mahmoud et al., 2025). By using the DSS, different co-creation pathways can enhance cities' selection for structured and facilitated co-governance processes.

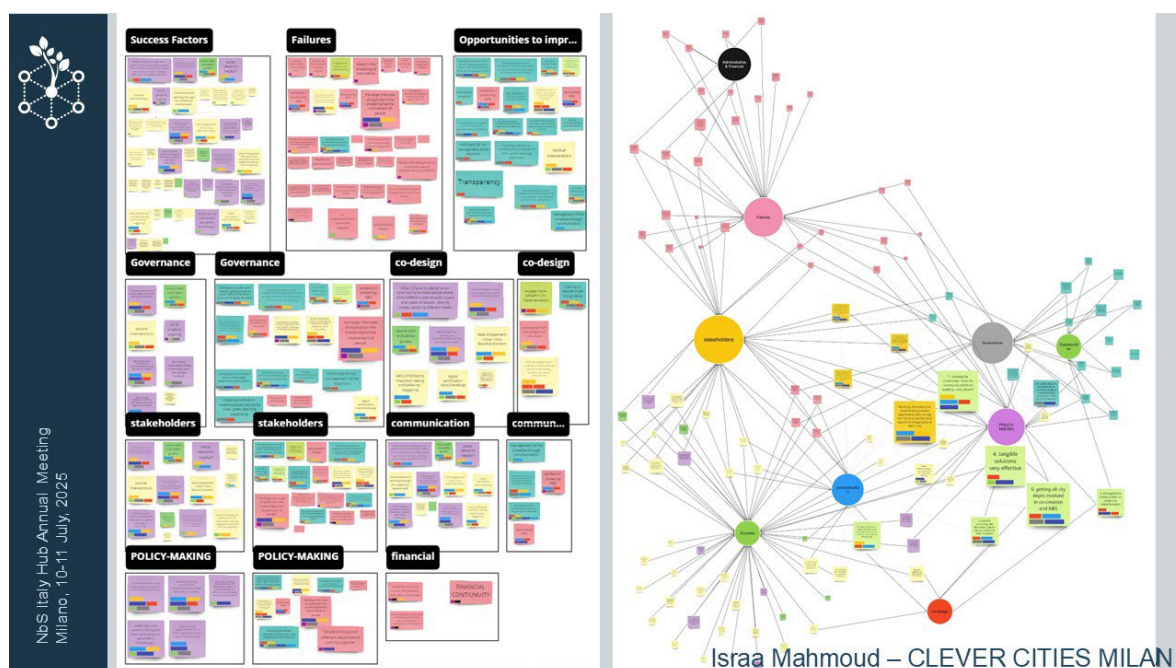


Figure 3: Prioritizing Co-governance activities in different cities co-creation process using the DSS, results from CLEVER Cities project results (Mahmoud, *et al* 2024).

Financing mechanisms key takeaways:

The key takeaways presented here are based on both the theoretical and methodological framework introduced to the participants — the Financing Framework for Water Security — and on the results and discussions that emerged during the group presentations. These presentations applied the methodology to specific Nature-based Solutions (NbS) projects within the context of Milan's Climate and Greening Program (CAP).

1- Phase I: Zooming out. A strong Theory of Change is the base of a strong investment case

Students learned that effective project preparation begins with a compelling Theory of Change, which clarifies how proposed interventions generate systemic transformation—e.g., shifting from reactive infrastructure to proactive climate adaptation. That is why the first phase of the process asks teams to zoom out from the specific NbS measure they are proposing and understand the bigger picture of socio-ecological and economic challenges and opportunities the region or place they are working on has. This strategic clarity forms the backbone of the Five Business

measures could improve risk profiles and cash flows of projects—key elements for future bankability.

3- Phase II: Zooming in. Designing a fit-for-purpose financing and implementation arrangement requires four structuring steps

A core insight from Phase II of the FFWS methodology was the importance of designing tailored arrangements through four key steps:

- Mode of governance,
- Funding strategy,
- Financing strategy, and
- Procurement strategy.

These steps helped students translate strategy into action by aligning services, revenue sources, and institutional roles. This framing helped make sense of which actor should do what (public, private, community), how value would be generated and captured (funding), how capital would be mobilized upfront (financing), and how services would be delivered (procurement).

4- Mode of governance: Implementation and financial arrangements must be tailored to the type of economic good

The typology of economic goods (public, private, club, or common pool) was central in selecting suitable implementation and financing arrangements. Students learned that the same asset (e.g., NbS like an urban wetland) could deliver multiple services with different economic characteristics, requiring mixed financing strategies and diverse governance mechanisms—from public procurement to private environmental stewardship models or environmental markets.

5- Differentiating between funding and financing is critical

Workshops emphasized the need to distinguish between funding (who ultimately pays) and financing (how capital is mobilized up front). Several student groups struggled at first with this distinction but gained clarity through exercises mapping revenue streams and identifying appropriate financing instruments, such as concessional loans, green bonds, and performance-based contracts.

6- The private sector can play multiple roles beyond financing

Engaging the private sector early—as *service providers, off-takers, or asset managers*—can help shape investable solutions (Altamirano, 2021). Several proposals included mechanisms like land value capture, carbon credits, or fee-for-service arrangements to crowd in private participation without fully privatizing public services.

Conclusion: Advancing Urban NbS through Collaborative Governance and Strategic Financing

The NbS Summer School held in Milan (July 2025) provided a fertile ground for exploring the intersection of collaborative governance and financing strategies essential for implementing Nature-based Solutions (NbS) in urban environments. Through a series of workshops and case studies, participants engaged in co-creation exercises and applied structured methodologies to real-world challenges, yielding insights that are both practical and transformative.

On the governance front, the importance of aligning high-level guidance with local urban planning frameworks emerged as a critical enabler for effective NbS implementation (Robuchon et al., 2024; Viti et al., 2024). Collaborative governance was framed not merely as a participatory ideal but as a necessary shift toward inclusive decision-making that bridges institutional, financial, and spatial divides (Mahmoud & Morello, 2021; Malekpour et al., 2021). Co-creation was highlighted as a foundational practice, facilitating mutual understanding among stakeholders and balancing top-down resource allocation with bottom-up community needs (Bradley & Mahmoud, 2024; Mahmoud et al., 2024). The use of Decision-Support Systems (DSS) was identified as a key tool to structure and prioritize co-governance activities, especially in cities lacking formal mechanisms for NbS planning (Mahmoud et al., 2025).

In parallel, the financing strategies explored during the summer school emphasized the need for a robust Theory of Change to underpin investment cases. The Five Business Cases framework—Strategic, Economic, Commercial, Financial, and Management—was instrumental in helping participants articulate value propositions and design phased investment pipelines (Altamirano, 2019; Altamirano et al., 2021). Reorganizing scattered NbS measures into hybrid infrastructure clusters proved effective in enhancing bankability and systemic impact. Moreover, the structuring of governance, funding, financing, and procurement strategies was shown to be

essential for translating plans into actionable projects. A nuanced understanding of the economic nature of NbS assets—whether public, private, or common pool—enabled tailored financial arrangements and governance models. Crucially, the distinction between funding (who pays) and financing (how capital is mobilized) was clarified, and the role of the private sector was expanded beyond mere financiers to include service providers and asset managers (Altamirano, 2021).

In conclusion, the summer school underscored that successful urban NbS implementation hinges on integrated approaches that combine collaborative governance with strategic financing. Cities must invest in DSS tools, foster co-creation pathways, and apply structured investment frameworks to attract diverse funding sources. By tailoring governance and financial arrangements to the multifaceted nature of NbS assets and engaging the private sector through innovative mechanisms, urban areas can move from planning to impactful action.

Consolidated Summary - Key Messages

This report distills insights from the **NbS Summer School** held in Milan (July 2025), focusing on two core themes: **collaborative governance** and **financing strategies** for Nature-based Solutions (NbS) in urban contexts.

Collaborative Governance Takeaways

- **Guidance for Urban Nature Plans (UNPs):** Cities need tailored support to align high-level NbS strategies with local planning frameworks.
- **Understanding Collaborative Governance:** Effective NbS implementation requires inclusive decision-making involving public institutions, private actors, and citizens.
- **Support for Co-Creation:** Co-creation fosters shared understanding and bridges top-down financial capacity with bottom-up community needs.
- **Decision-Support Systems (DSS):** Most cities lack structured DSS tools to guide co-governance and prioritize NbS actions effectively.

Financing Mechanisms Takeaways

- **Theory of Change as Foundation:** Strategic clarity is essential for building strong investment cases using the Five Business Cases framework (Strategic, Economic, Commercial, Financial, Management).
- **Hybrid Infrastructure Clusters:** Grouping NbS with gray and non-structural measures improves bankability and systemic impact.
- **Four Structuring Steps:** Governance mode, funding strategy, financing strategy, and procurement must align to ensure effective implementation.
- **Economic Good Typology:** NbS assets often deliver multiple services, requiring mixed financing and governance models.
- **Funding vs. Financing:** Clear distinction is needed—funding is about who pays, financing is about mobilizing capital upfront.
- **Private Sector Roles:** Beyond funding, private actors can be service providers, off-takers, or asset managers, enabled through mechanisms like carbon credits or land value capture.

Next Steps

- **Integrate DSS tools** into city planning to support structured co-governance.
- **Promote co-creation pathways** that balance citizen engagement with institutional capacity.
- **Apply the Five Business Cases framework** to future NbS projects for strategic investment planning.
- **Develop hybrid project clusters** to enhance financial viability and attract diverse funding sources.
- **Tailor governance and financing arrangements** to the economic nature of NbS assets.
- **Engage private sector early** through innovative roles and blended finance mechanisms.

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Replication Recommendations

From Planning to Action: NbS Summer School for Professionals and Academics

9-10-11 July 2025 - Politecnico di Milano, Milan- Italy

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Recommendations for replication in future training

From Planning to Action: NbS Summer School for Professionals and Academics

1. Organization

The central theme of the summer school organized was NbS for climate adaptation from Planning to action under the lens of the governance structures and financing opportunities. The school targeted the NbS Italy Hub as the primary user experiences, but the participation is not limited to any specific type of officials, managers and technicians of public administrations, local authorities, professionals and young researchers.

→ this Document serves as a guide for a replication planning guide for future NbS summer (or winter) schools. Some parts of this report include recommendations and guidelines before implementing and some TO-DOs lists for the logistics. Our target audience are mainly the regional and national NBS HUBs to replicate the events.

1.1. What to think about before planning?

Organizing a summer school involves strategic planning, detailed logistics, clear communication, and resource mobilization. Early definition of themes, objectives, target audience, logistics, and outcomes is crucial.

What worked well → lessons learned

- Plan Ahead of time, Enough time to recruit participants, grant access to readings and data to work with, prepare for logistical aspects.
- Involve the right speakers, not the usual suspects of Academics
- Collaborate with larger stakeholders types and include Public Administration with difference experiences
- Collaboration with the hubs (Countries or regional hubs), bringing on your local stakeholders from public administration and practitioners to the event whether as speakers, participants or just attendees.
- Remark: The language needs to align with the targeted team.

Unexpected Challenges→ what to avoid

- lack of financing on time for ensuring a timely payment of services anticipated for the organizational aspects
- Logistics changes at real-time due to weather or possible changes

The event can target both a) NBS experts that know about NBS and are willing to implement them but are struggling with the planning and financing, and b) NBS non-expert that may not even know about NbS.

Table 1: Summary of the possible interested NBS experts and Non-Experts to be involved based on the school objectives, outputs and duration of their engagement

	NBS expert	NBS non-expert
Objectives	empower governmental institution, SME and NGO for NBS implementation	increase governmental institution, SME and NGO awareness for NBS and their practicalities
Expected outputs	Certificates Networking	Certificates Handbook

Main activities	Observe on-the-ground cases Exchange with implementers Reflective capacity building workshops	Discover NBS on the ground Exchange with implementers Getting to know concepts and results
Engagement	Willing to invest time and eventually money	Low engagement in time. Free attendance mandatory
Duration	3 days (or more)	<2 days

1.2. How much personal resources?

A small but dedicated team of 4–6 people can manage most tasks: Planning, selection, Communication, Moderation, Reporting. The team should be clearly coordinated and all aspects of logistics, travels, planning and budgeting planned ahead with complete transparency.

Time commitment: At least 120-140 hours*1-3 or 4 persons = on average 4PM stretched over 4-3 months need to be invested.

Communication: Consider dedicating a specific mailbox in the main affiliated/hosting institution to follow up the communication with the participants in case of large numbers such as the case of Politecnico di Milano- all communication was hosted through greeningcities@polimi.it

1.3. Logistics Check List

- **Venue and Accommodation:** Pick a place that is easy to access with public transportation and with affordable and nearby hostels or eco-lodges).
- **Room:** Dependent of the participant number targeted and the main type of activities (lectures vs. workshops), consider a more flexible room layout
- **Food:** Catered meals with vegetarian/vegan/gluten free/lactose free options. Avoid plastic and single packaging.
- **Transport:** Depending on the localization of the site, organize bike/bus. Prefer public transport or low CO2 emission transportation.
- **Printed Materials:** Name tags, program booklets, digital materials, workshop/lecture material, goodies.

- **Health and Safety:** Emergency contacts, first aid, air conditioning and insurance.

2. Communication and Recruitment

2.1 – Speakers

- Identify experts in Nature-Based Solutions from academia, government, and NGOs. Our speakers were selected according to reputation in the field and alignment with the summer school theme. **Remark:** speaker availability, available budget and language barrier can limit the choice of the speakers.
- Invite speakers 4-6 months in advance with clear slots and topics to be covered.
- Provide logistical support (travel, accommodation, honorarium if possible).
- Secure diversity in geography, gender, and disciplinary background.

2.2 – Participants

- According to the targeted audience, select appropriate communication channels and materials (e.g. flyers, program, teaser, etc.). We used a flyer in social networks, e.g., LinkedIn and Twitter channels.
- Announce the call 3–4 months before the event.
- **Consider a drop-off** from the selected participants due to travel constraints or last minute change of plans (especially with practitioners and public administration since they need permits or specific authorizations).
- **Selection criteria:** balanced mix of academics and practitioners (50/50), diversity of disciplines, participation from different institutions without overrepresentation, balanced geographical representation, promotion of gender equality, and a mix of junior and senior profiles to foster knowledge exchange. In our case at PoliMi, we had 115 applications.
- **Provide scholarships** or fee waivers, if possible, to ensure social and feasible inclusivity.

3. Financing the NbS school implementation

Before running a summer school experience, plan ahead your financing resources and their possible expenditure means. As per usual any events, in order to avoid unexpected challenges for financial aspects, consider the following:

→ *consider the Taxing and the VATs amounts to be deduced*

→ *recall the contract conditions with your stakeholders and elaborate the terms of submissions to avoid misinterpretations*

Table 2: a sample of expenses of the summer school with approximative amounts (consider variables amounts according to geographical locations).

Expense Item	Details	Cost (€)
Lunch	43 participants × 2 days × €19 + VAT	2,450.00
Coffee breaks	43 participants × 4 breaks × €7 + VAT	1,400.00
Transportation	2 buses × 42 seats (84 total)	1,100.00
Materials	Stationery, booklet, certificates printing, pens, lanyards	65.00
Guests	1 invited speakers/guests from UK	915.00
Subtotal		5,865.00
VAT		435.00
Total		6,365.00

Key budget lines include:

- Catering (lunches and coffee breaks – approx. €3,850 + VAT, total €4,565)
- Transportation (bus rental – €1,100-1,200)
- Materials (stationery, booklet, certificates, pens, lanyards – €65-70)
- Guest expenses (12 invited speakers – €915-1000)
- Venue rental (in kind from Politecnico di Milano or hosting institution)
- Communication (website, flyers, graphic design – supported by the Hub's graphic team- in kind printed at Politecnico di Milano)

- Certificates to be distributed at the end are considered very useful to document the participation for attendees (consider printing cost- in kind from Politecnico di Milano).

Financing Sources:

- University support or In-kind contribution: This applies particularly for room, material and coordinators/lecturers/moderators' salary.
- Grants (e.g., NetworkNature, Regional, University)
- Sponsoring: NGOs and foundations, SME
- Registration fees

4. Site Selection

What is an NBS? **Avoiding greenwashing** is essential when choosing a Nature-Based Solutions case study site for a visit, especially in a teaching context like a summer school. Does it contribute to ecosystem restoration or protection in a measurable way? Does it address both environmental and social challenges (e.g., flood risk + community wellbeing)?

The selection of sites, as experienced during the Milan summer school, proved to be very effective. The sites represented a broad spectrum of contexts and situations: from highly urbanized areas, such as a green wall installed along a busy bus depot street, to semi-rural areas, such as the newly planted forest of Forestami in collaboration with a small municipality in the Milan hinterland. This diversity allowed participants to reflect on both opportunities and challenges in planning and implementation. Issues of usability, regeneration, and the perception of spaces by local communities emerged clearly, together with critical aspects related to design and realization phases (e.g., urban rain gardens located inside residential blocks in peripheral areas).

Future site selection should therefore be guided by criteria that include diversity of applications, degree of social engagement, and the possibility to critically observe not only "showcase" projects but also cases where improvements are still needed. Moreover, the involvement of local administrations is essential, as they provide contextual guidance and ensure continuity beyond the training event.

Criteria to align with the workshop:

- Relevance to NBS and the chosen theme
- Interdisciplinary content (ecology, urbanism, social sciences, policy)
- Hands-on experiences (field visits, case studies, co-design workshops)
- Representation of both successful cases and ongoing challenges
- Active involvement of local administrations and stakeholders

5. Suggestion for Agenda

Two possible formats are suggested for future NbS Schools: a **2-day version** and a **3-day version**. The 2-day format is a more condensed version, yet it still ensures both practical and applied components, combining site visits with a focused workshop. The 3-day format corresponds to the model already tested in Milan, which proved to be highly effective with an excellent cost–benefit balance and is therefore recommended for replication when time and resources allow.

→ A possible 2-day format for a future NbS School could be structured as follows:

Day 1 – Field visits and practical exchange

- Morning and afternoon dedicated to site visits (2–3 locations), with on-the-ground discussions on project planning, management, and community involvement
- Reflection sessions after each visit to consolidate lessons learned.

Day 2 – Conceptual inputs and applied practice

- **Morning:** Theoretical lectures and conceptual inputs (e.g., governance, financing, monitoring of NbS).
- **Afternoon:** Short and focused workshop with practical application of a tool (e.g., Decision Support System or another NbS planning/assessment tool).
- Closing plenary for wrap-up, feedback, and delivery of certificates.

This compact format allows participants to combine first-hand experience in the field with conceptual understanding and hands-on practice, while ensuring knowledge transfer and engagement within only two days.

Consolidated Summary

The *From Planning to Action: Nature-based Solutions (NbS) Summer School*, held at Politecnico di Milano in July 2025, brought together over 40 professionals, academics, and public officials to explore how to bridge the gap between NbS planning and implementation. Organized under the NetworkNature framework, the event focused on the governance and financing of NbS, offering participants a hands-on experience through site visits, peer exchange, and applied workshops. The initiative served as a learning laboratory for replication—showing how regional and national hubs can organize similar schools to strengthen capacity and foster collaboration across sectors.

One of the strongest takeaways was the importance of early planning and design of an inclusive program. The team recommends starting preparations at least **four to six months in advance**, allowing time to define themes, recruit speakers and participants, and secure financing. A small yet coordinated team—ideally four to six people—can manage most tasks when roles are clearly divided and communication is streamlined. Announcing the call for participants **three to four months before** the event proved effective, with the Milan edition receiving **115 applications** from across disciplines and countries. Ensuring gender and geographical balance, and providing fee waivers or scholarships where possible, helped make the school both diverse and inclusive.

Financing and logistics were also key success factors. The Milan experience demonstrated that a well-run NbS school can be delivered with a modest budget (around €6,000, depending on context), especially when universities and local partners provide in-kind support such as venues, materials, or staff time. Combining multiple funding sources—grants, sponsorships, and small registration fees—helps ensure both quality and accessibility.

Finally, the design of the program itself matters. The Milan format combined field visits to diverse NbS sites—from green walls in dense urban areas to new peri-urban forests—with interactive sessions on governance and financing tools. This blend of *seeing, learning key concepts and methods, and doing* made the experience deeply practical and grounded. For future editions, the organizers recommend more time for dissemination, resource mobilization, and structured certificate ceremonies to celebrate participants' achievements. Together, these lessons offer a concrete roadmap for other hubs aiming to translate NbS knowledge into real-world action.

A 3-day format is suggested as a replication of the NbS School (Milan 2025).



Figure 1: Staff, Participants and their final certificates of participation on the last day

Considerations for future events with the desired impacts

- *More dissemination posts and information through newsletters*
- *More time for financing resources and selection of candidates*
- *Consider the certificates distribution as a logistic ceremony depending on your number of participants*

Below is a sample of the time plan adopted in the Politecnico di Milano summer school.

EduCafé, Politecnico di Milano, Building 2- Leonardo Campus	Morning Session	Thursday 10-Jul-25		Title	Invited Lecturer	Affiliation
		9:00	9:30	Welcome coffee and networking		
		9:30	10:00	Introduction the summer school: From Planning to Action: A SummerSchool on Urban NbS for Professionals and Academics	Israa Mahmoud /LABSIMURB Gregorio Sgrigna Aude Zingraff-Hamed Monica Altamirano	DASTU, Politecnico di Milano CNR-IRET CNRS/ENGEE ALTAMIRA & NetworkNature
		10:15	10:45	Ecosystem services assessment for adaptive urban spatial planning. Insight from cases in Lombardy'.	Andrea Arcidiacono / LABPTE Andrea Benedini / LABPTE	DASTU, Politecnico di Milano
		10:45	11:00	Harnessing NBS in urban nature plans	Chiara Cortinovis/ PLANES	DICAM, University of Trento
		11:00	11:15	Graphic storytelling for nature-based solutions	Bettina Wilk	The Nature of Cities
		11:15	11:30	Coffee break and networking between participants		
		11:30	12:00	NBS and use of the DSS platform (Decision Support System)	Sean Bradley	Ground work, London.
		12:00	12:30	Co-creative assessments of ES in NbS planning	Francesco Sica EVALPRO	DiaP, La Sapienza, Rome
		12:30	13:00	Q&A with all participants	All Speakers and discussants	
	Afternoon Session	13:00	14:00	Lunch Break		
		Thursday 10-Jul-25		NBS and project development phases	responsible	Affiliation
				Financing a Regeneration Strategy. Phase 1: The Strategic and Economic Business Case	Mónica A. Altamirano de Jong	ALTAMIRA & NetworkNature
		14:00	14:30	Introduction to the Financing Framework for Water Security method for project preparation	Mónica A. Altamirano de Jong	ALTAMIRA & NetworkNature
		14:30	15:30	Developing the Theory of Change (Group Model Building Exercise)		
		15:30	16:00	Selection of projec clusters and classification of measures		
		16:00	16:30	Agreeing on a hierarchy of functions and levels of service		
				Groups formation and sub topics selection		
		Aperitivo or self-paid dinner				
		Friday 11-Jul-25		NBS and project development phases	responsible	Affiliation
	Morning Session	9:00	9:30	Welcome coffee and networking		
				Financing a Regeneration Strategy. Phase 2: The Financial, Commercial and Management Business Cases	Mónica A. Altamirano de Jong	ALTAMIRA & NetworkNature
		9:30	10:30	Designing a funding strategy - identification of alternative revenue streams		
		10:30	10:45	Technical Challenges in NBS implementation	Francesca Framba	Città Metropolitana di Milano
		10:45	11:00	Coffee break and networking between participants		
				Phase 3: Collaborative governance and citizens engagement in NBS design	Israa Mahmoud /LABSIMURB	DASTU, Politecnico di Milano
		11:00	11:30	Choice of collaborative governance model using the DSS and co-creation with citizens in multiple contexts: examples from London, Milan and Rome.	Israa Mahmoud /LABSIMURB Sean Bradley Francesco Sica / EVALPRO Aude Zingraff-Hamed	DASTU, Politecnico di Milano Ground work, London La Sapienza, Roma CNRS/ENGEE
		11:30	13:00	Group work	All Participants	
		13:00	14:00	Lunch Break		
		14:00	15:30	Group work revisions	Israa Mahmoud /LABSIMURB Gregorio Sgrigna Aude Zingraff-Hamed Monica Altamirano	DASTU, Politecnico di Milano CNR-IRET CNRS/ENGEE ALTAMIRA & NetworkNature
	Afternoon Session	15:30	16:00	Groups presentations	All Participants	
		16:00	17:00	Round table discussion and final feedback on groups work and projects	Eugenio Morello/ LabSimUrb	DASTU, Politecnico di Milano



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