







# PRACTICAL AWARENESS GUIDE

CONVINCING POLICY- MAKERS TO SUPPORT NATURE-BASED SOLUTIONS



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## INTRODUCTION

## Introduction

This Guide has been developed under the NbS4Local (Adopting Nature-Based Solutions to Improve the Climate Resilience of Local Governments) project. Supported by the INTERREG EUROPE Programme, NbS4Local aims to enable local and regional public authorities to prioritise and support NbS in crucial areas such as water management, urban greening, forestry, and land use. By systematically incorporating NbS into local and regional policy instruments, partners attempt to ensure that these sustainable, eco-conscious approaches become an integral part of wider frameworks in the long run.

As communities and regions seek greener, more resilient, and liveable spaces, NbS are gaining increasing prominence on the political agenda. The experiences with climate-related events such as floods and heatwaves have heightened both public and political support for these solutions. The implementation of NbS relies on participatory approaches and the collaboration of various stakeholders. This collaborative process further strengthens public ownership and awareness, further amplifying pressure on decision-makers to prioritize such interventions.

However, change is slow, and challenges remain. Comprehensive evidence on NbS' actual (co-) benefits, their long-term efficiency, economic viability or costeffectiveness is still limited and can hinder efforts to justify investment in NbS over traditional approaches. Institutional and regulatory frameworks often reinforce a reliance on grey infrastructure, creating a "path dependency" that limits opportunities for NbS.

Political commitment is essential to overcoming the challenges facing NbS. Decision-makers are responsible for integrating NbS into policy frameworks, allocating resources, and addressing institutional barriers that hinder implementation. While public engagement plays a key role in fostering support for NbS, scaling them up requires policy actions that prioritize long-term environmental and societal benefits. Without sustained political efforts, the potential of NbS to contribute effectively to addressing climate and societal challenges will remain limited.

The aim of the present document is therefore to provide advice and recommendations for persuading local and regional policymakers—such as city leaders, policy owners, or other public-sector decision-makers to prioritize and engage with NbS solutions in their decision-making processes.

The material is developed by <u>BURST</u> (Bright Urban Solutions Team), the Advisory partner of the NbS4Local project.



# **1, A COMMITTED LEADER - HALFWAY TO SUCCESS**

## **A Commited Leader**

The promotion and implementation of Nature-based Solutions depends significantly on the commitment and of decision-makers. While awareness external and regulations provide essential incentives frameworks, the personal engagement of leaderssuch as mayors, council members, or policymakerscan be pivotal. Their decisions shape the governance structures and resource allocations that either enable or hinder the adoption of NbS.

Nonetheless, governance is characterized by competing priorities, limited budgets, and the need to balance short-term demands with long-term goals. The allocation of funding for NbS is a critical barrier. Many decision-makers lack an understanding of the monetary and societal value of NbS, including their long-term costeffectiveness and co-benefits, such as improved biodiversity or public health. Besides, political systems, particularly at the local level, often operate within entrenched norms and practices that can be resistant to change. Existing regulations, such as procurement processes or urban development codes, may not support the flexible and integrated approaches needed for NbS. These challenges can create a rigid environment where innovation, including NbS, is difficult to introduce and can lead to prioritization of conventional infrastructure over NbS.

While aligning political objectives, economic conditions, and environmental priorities, decision-makers must perceive NbS not only as solutions to immediate challenges but also as opportunities to demonstrate leadership and achieve policy goals. For those in power, this may mean integrating NbS into existing agendas, while opposition figures may use them to highlight gaps in current governance.

Advocating for NbS requires adapting strategies to the specific political and institutional context. Support may be sought for individual projects or for broader policy changes that integrate NbS into governance frameworks. The scale of interventions can vary widely —from neighborhood-level projects to city-wide initiatives or regional strategies—requiring tailored approaches to engage relevant stakeholders.



## **1, A COMMITTED LEADER - HALFWAY TO SUCCESS**

The diversity of decision-making contexts also extends to the target audience. Advocacy efforts may focus on individual leaders, municipal councils, or higher-level entities such as managing authorities of regional development programs. The platforms and formats for engagement must be equally flexible, ranging from technical workshops to public campaigns or stakeholder consultations. Timeframes for influencing decisions can vary significantly, depending on political cycles, budget processes, and the urgency of the challenges being addressed. Despite the complexity variability of contexts, certain and key recommendations can be identified to support policy improvement and effectively engage decision-makers. These recommendations are outlined in the following chapter.





# 2.1 Identify and understand your target audience

The foundation of any successful effort lies in identifying your target audience. Are you addressing a city leader, a regional council, or a particular department? Understanding who holds the power to make decisions is critical, as those in key positions often have the authority to initiate new projects and policies.

Achieving transformative, long-term change may require alignment with priorities and strategies at a higher level, such as national or regional policymaking. Furthermore, in addition to focusing on top-tier decision-makers, you may also engage their advisors, departmental staff, and other influential figures who play a pivotal role behind the scenes. These individuals often have the insights and networks necessary to facilitate the adoption of Nature-Based Solutions. Additionally, garnering the support of others can make it easier to convince decision-makers, as ideas backed by a broader consensus often appear safer and more reasonable.

## 2.2 Understand the context

While an individual decision-maker might personally support our goals, they often have to compromise to balance other important political priorities. It's important to remember that their choices aren't just driven by values or emotions. These decisions are shaped by strategic directions, political alliances, budget limits, potential concerns, or preconceived notions about NbS, and the stories dominating the media at the time. By addressing motivations and potential hesitations, you can position your message to resonate with their needs and context.





## 2.3 Define clear goals

Before presenting a proposal, it's crucial to establish a clear goal. What do you want to achieve? Whether it's securing approval for an NbS project, integrating nature-based approaches into urban planning, or prioritizing green infrastructure in policy frameworks, defining your objective gives your message direction.

Consider what you want decision-makers to take away from your pitch. What should they remember after your meeting or presentation? A focused, well-structured goal will not only help you communicate more effectively but also make it easier for stakeholders to engage with and support your proposal.

Once you have a clear goal, understanding the broader context—such as political priorities, funding cycles, and stakeholder interests—will further refine your approach and increase your chances of success.

# 2.4 Selling your proposal: making NbS practical, scalable, and relevant

With a well-defined goal in place, the next step is convincing decision-makers that your proposal is feasible, scalable, and aligned with broader priorities.

#### Make It Real: Process, Timelines, and Scalability:

Decision-makers need clarity on how long an NbS project will take, how it will be implemented, and how it can grow over time. Outline the timeline for results whether in one year or over several years—and highlight its potential to expand or adapt to different contexts. Showing scalability strengthens your case and makes NbS a more attractive, long-term investment.

#### Showcase the Broader Impact of NbS

Beyond environmental benefits, NbS solutions contribute to public health, economic resilience, and cultural value. Demonstrating how an NbS project can tackle multiple challenges—such as improving air quality, enhancing flood protection, or reducing urban heat waves—makes it more compelling for decisionmakers focused on cross-sectoral benefits.





#### **Integrating NbS into Cross-Cutting Policies**

Aligning NbS with existing policy frameworks increases its chances of adoption. Position your proposal within key areas like climate change adaptation, sustainability, and public health, emphasizing how NbS supports broader policy goals. Additionally, ensure policies don't just acknowledge NbS but also set measurable targets and provide financial and regulatory support to make implementation achievable.

By clearly presenting your goal as a scalable, impactful, and cross-cutting solution, you enhance the likelihood of securing political and financial backing for NbS initiatives.

# 2.5 Delivering the right information at the right time

Effective communication requires not only presenting the right amount of information but also delivering it at the right moment. Decision-makers are often pressed for time, so your message must be clear, concise, and well-timed to maximize impact.

#### Providing the Right Amount of Information

Tailor your communication to the decision-maker's level of expertise—assume they are knowledgeable but not specialists. Avoid unnecessary complexity, and focus on keeping ideas simple and actionable. Clearly state:

- Why you are reaching out What problem does your proposal address?
- Why it matters How does it align with current priorities?
- What action you want them to take Be direct about the next steps.

To keep your message effective:

- **Prioritize key points** Start with the most important information, then expand if needed.
- Avoid information overload A few well-chosen statistics, made relatable through comparisons, are more impactful than overwhelming data.
- Use supporting materials Annexes, infographics, or additional slides can provide deeper insights without cluttering your main message.

#### **Timing Your Proposal for Maximum Impact**

A crisis can either be the worst or the best time to introduce your idea, depending on the circumstances. Generally, avoid engaging decision-makers during moments of acute crisis, as they will be focused on immediate damage control, and casting blame or emphasizing failures can be counterproductive. Instead, use quieter periods to build a strong case, gathering compelling stories and data that illustrate the socio-economic impacts of current challenges and policy gaps. These narratives make your argument more relatable, while localized solutions—like NbS demonstrate practical and immediate relevance.



However, certain crises can create openings for change. If an event directly highlights the problem NbS can solve —such as extreme heatwaves underscoring the need for urban greening or floods demonstrating the importance of sustainable water management decision-makers may be more receptive. These moments provide an opportunity to:

- Highlight the failures of existing systems.
- Position NbS as a practical, forward-thinking solution that addresses both immediate concerns and long-term resilience.

By aligning your message with decision-makers' priorities and the broader political climate, you increase the likelihood of gaining support for NbS initiatives.

# 2.6 Use a clear and accessible terminology

The terms "Nature-Based Solutions" and "green infrastructure" are widely used among experts or academics, but their meaning may be unclear or misleading to those outside these circles. For example, "nature-based solutions" might be mistaken for something related to organic farming or alternative medicine, while "green infrastructure" could be confused with renewable energy systems. Acronyms and overly technical jargon can further obscure the message, making it harder to engage broader audiences.

Instead of focusing on what NbS are, emphasize what they do. Decision-makers need to understand how investing in NbS directly benefits their communities, such as by reducing heatwaves, better water management, improving air quality, or creating more liveable neighborhoods. While some policymakers may take an interest in the wildlife or technical details associated with NbS, it's the tangible, relatable impacts on residents' quality of life that often make the strongest case when competing for funding against other essential public services.

Adapting to the decision-makers' language can also enhance the effectiveness of your message. Reflect the terminology they use in campaign materials or political speeches, as this language has already been tailored to resonate with their constituents. Incorporating their phrasing into your proposal can help embed your ideas into their narratives and priorities.





# 2.7 Clear actions: defining who, when, and how much

A strong proposal includes a clear and actionable plan. Once the decision-maker reviews your brief, what do you want them to do? Should they schedule a meeting to discuss your proposal further? Or perhaps assign someone in their team to take the next steps? State your expectations clearly to eliminate confusion and create momentum.

Break down the implementation process into practical, easy-to-follow steps. Clearly outline who will be responsible, when key actions will take place, and how much the project will cost. Nature-Based Solutions often involve collaboration across multiple departments and stakeholders. Identify the partners you'll need whether government agencies, nonprofit organizations, or private sector actors—and show how they will contribute to the success of the initiative.





Financial clarity is equally important. Decision-makers need a realistic understanding of the costs involved, as well as potential long-term savings and co-benefits. Provide detailed estimates where possible, and if exact figures aren't available, offer a sense of scale. Highlight proven cost-efficiency by drawing on similar NbS implementations in other locations. Demonstrate both direct values and co-benefits NbS can bring, such as reducing flood damages, improving public health, or fostering economic growth through green jobs.

Finally, support the decision-maker in promoting your proposal by equipping them with persuasive tools like compelling data, visuals, and examples of successful NbS projects. By providing a well-structured, actionable roadmap that combines clear financial planning, strong partnerships, and tangible benefits, you increase the likelihood of your proposal being prioritized and implemented.



# 2.8 Back up your ideas with real-world examples

Decision-makers are more likely to support your proposal if they see it has worked successfully elsewhere. Providing examples from other regions or countries—preferably multiple cases—helps build confidence in your idea. Whether it's urban greening projects reducing heatwaves or flood management strategies enhancing resilience, real-life success stories add weight to your arguments. Demonstrating that Nature-Based Solutions are already delivering results makes the proposal feel more achievable and less risky.

If possible, involve public officials or experts who have firsthand experience with NbS projects. A testimonial from someone who has led or supported similar efforts can significantly increase credibility. Better yet, connect that person with the decision-maker you're targeting peer-to-peer endorsements are often highly persuasive.

Consider tools like city visits, knowledge-sharing platforms, or interregional partnerships to give decision-makers a chance to learn directly from these successful examples.





# 2.9 Anticipate and address resistance

Resistance and risk perception are natural parts of the decision-making process, especially when public funds and long-term investments are involved. To gain decision-makers' trust and support, it's essential to anticipate objections, address concerns proactively, and present your NbS proposal as both viable and beneficial.

One of the most common concerns is cost. If budget constraints are a barrier, be prepared to highlight the financial impact of inaction. Point out hidden expenses, such as the ongoing costs of maintaining ineffective systems or the economic and ecological consequences of unresolved challenges—like post-flood reconstruction or re-greening dried-out areas after heatwaves. Proposing phased implementation, pilot projects, or alternative funding options can help mitigate financial concerns.

Beyond cost, decision-makers may worry about feasibility, potential disruptions, or public acceptance. Acknowledge these risks transparently rather than presenting your proposal as flawless. Could green infrastructure interfere with existing urban planning? Might there be maintenance challenges? By addressing these questions upfront and outlining strategies to manage them, you build credibility and demonstrate that you've thoroughly considered potential obstacles.

To further strengthen your case, clearly define how the success of NbS will be measured—whether through cost savings, environmental benefits, or community well-being. Providing decision-makers with a roadmap for evaluation makes your proposal more concrete and actionable. By proactively tackling resistance and demonstrating risk management, you increase the likelihood of securing support and commitment.

# 2.10 Be ready for different scenarios

Decision-makers' time is often limited, so it's essential to prepare for various scenarios, from brief interactions to in-depth discussions. Always have a Plan B and tailor your approach to the situation at hand.

For quick encounters, like meeting someone in a hallway, have a concise "elevator pitch" ready. In under three minutes, convey the key points of your proposal, why it matters, and what action you're asking for. Focus on delivering the most critical information they need to take the next step.



If the conversation extends or you're given additional time, build on your initial message by diving into essential details. Have a summary slide or talking points ready with your main arguments, expected outcomes, and a clear call to action. For more formal settings with ample time, prepare a comprehensive and adaptable presentation. Start with the big picture and then drill down into specifics, ensuring you stay responsive to the flow of the meeting.

Make sure your presentation is visually appealing and professional. Use clear visuals, data, and graphics that enhance your message, as our brains process images far faster than text. For written materials, keep them concise and focused. Busy decision-makers are more likely to read and respond to a document that's short and to the point—aim for five to six minutes of reading time or approximately 700 words for an article or brief.

Practice is key. The more important the speech or the presentation is, the more you should rehearse to feel confident and prepared. Be ready to adapt—skip or expand sections depending on the audience's attention and engagement.

By being adaptable, clear, and visually engaging, you can ensure your message lands effectively, no matter the context or time available.





# 3.1 Convincing carefully: hybrid solutions to adjust perspectives

A key barrier to the adoption of Nature-based Solutions is deeply ingrained decision-making habits that prioritize conventional, grey infrastructure. Hybrid solutions can be good tools for shifting perspectives on NbS and breaking the reluctance in adopting alternative approaches.

Rather than presenting NbS as a full replacement for grey infrastructure, hybrid solutions allow them to be framed as complementary and integrated approaches that enhance resilience.

A crucial message in overcoming skepticism is that NbS is not a rigid "either-or" alternative but works best when combined with grey infrastructure. For example:

- Flood protection and water purification in urban areas often cannot rely on NbS alone but benefit from green-grey solutions.
- Sustainable Urban Drainage Systems (SUDs) integrate natural and engineered components to reduce flood risks, minimize pollution, and provide co-benefits like biodiversity enhancement and improved air quality.

By framing NbS as a practical, adaptable solution, rather than an ideological shift, stakeholders can better appreciate its role in urban planning and climate resilience.

# 3.2. Convincing in a nutshell: the elevator speech

Decision-makers often have limited time, making it crucial to deliver a compelling message quickly. Persuasion starts with effective communication that resonates with the audience and highlights NbS values and benefits succinctly.

An effective way to quickly capture a decision-maker's attention is through an elevator speech—a short, persuasive pitch designed to convey the essence of an idea in the span of an elevator ride.

A well-crafted elevator speech should be clear, engaging, and results-driven, following these key steps:

 Start with the problem – Address a local challenge, such as urban flooding or extreme heat, ensuring it aligns with the decision-maker's priorities.



- Introduce NbS as the solution Explain how green infrastructure, urban forests, or sustainable drainage can effectively tackle the issue.
- **Use a strong hook** A compelling statistic, costsaving example, or real-world success story makes the pitch more persuasive.
- End with a clear call to action Encourage the next step, such as scheduling a follow-up meeting, reviewing a proposal, or visiting an NbS project.

A well-prepared and confidently delivered elevator speech increases the chances of securing interest and commitment, making it a valuable tool for promoting NbS adoption.

## 3.3. Convincing with impact

One of the most effective ways to convince politicians to embrace Nature-Based Solutions (NbS) is by clearly listing their diverse impacts and benefits, demonstrating how these interventions can address multiple challenges. Having a well-prepared list of these benefits readily available when approaching decision-makers can be a powerful tool in making a compelling case for NbS.

Indeed, Nature-based solutions offer a diverse array of strategies tailored to specific environmental and urban challenges. While there's no one-size-fits-all approach, understanding the general areas where NbS can be applied helps in illustrating their potential benefits to decision-makers.

The following examples, sourced from the <u>Evaluating</u> the impact of nature-based solutions handbook and <u>The British Academy</u>, showcase key sectors with corresponding NbS examples and respective benefits:

#### **Urban Water Management**

- Green Roofs and Walls: Installing vegetation on rooftops and building facades helps absorb rainfall, reducing surface runoff and mitigating flood risks.
- Permeable Surfaces: Utilizing materials that allow water infiltration, such as permeable pavements, decreases stormwater runoff and enhances groundwater recharge.

#### **Biodiversity Conservation**

- Urban Green Corridors: Establishing interconnected green spaces facilitates wildlife movement and supports biodiversity within urban settings.
- Community Gardens: Creating shared garden spaces promotes native plant species, providing habitats for pollinators and other wildlife.

#### **Forestry and Carbon Sequestration**

- Afforestation and Reforestation: Planting trees in deforested or degraded areas enhances carbon capture, contributing to climate change mitigation.
- Agroforestry: Integrating trees into agricultural landscapes improves soil health, increases biodiversity, and sequesters carbon.

#### **Coastal Protection**

- Mangrove Restoration: Rehabilitating mangrove forests shields coastal areas from storm surges and erosion while providing vital habitats for marine life.
- Dune Stabilization: Planting native vegetation on sand dunes helps maintain their structure, offering natural barriers against coastal erosion.



#### Air Quality Improvement

- Urban Tree Planting: Strategically planting trees in cities enhances air quality by absorbing pollutants and providing shade, which also helps in reducing urban heat island effects.
- Green Buffers: Establishing vegetative barriers along roads and industrial areas can filter airborne pollutants, improving air quality for nearby residents.

These examples illustrate the versatility of NbS in addressing various environmental challenges. By tailoring solutions to specific local contexts, decisionmakers can effectively leverage NbS to promote sustainable urban development and resilience.



# 3.4. Connections: platforms and events for knowledge exchange

Networking and visibility are essential for mainstreaming NbS into policy agendas. Participating in climate-focused platforms, conferences, and events provides opportunities to share knowledge, showcase successes, and advocate for wider adoption.

Global and Regional Climate Events—such as climate summits, urban sustainability conferences, and resilience forums ( such as <u>European Urban Resilience</u> <u>Forum</u> ) —bring together policymakers, researchers, and industry experts. These events are ideal for exchanging insights, forming partnerships, and promoting the economic, social, and environmental benefits of NbS.

The Role of Climate and NbS Platforms—Networks such as EU-funded climate action groups, municipal resilience alliances, and knowledge-sharing hubs (such as <u>Climate-ADAPT</u>, <u>NetworkNature</u>) offer ongoing support for decision-makers. Using these platforms helps city leaders stay informed about funding opportunities, new NbS research, and policy innovations.



## 3.5. Hands-on exposure

Practical, hands-on learning can inspire action and reinforce your case when convincing a decision maker. Besides, such exposure is essential for successful implementation. Various interactive tools help exploring NbS applications:

Workshops and Masterclasses provide structured learning environments where city leaders, planners, and technical experts can explore NbS implementation strategies. These sessions can cover key aspects such as policy integration, funding mechanisms, and stakeholder engagement. By participating, decisionmakers gain insights into overcoming barriers, scaling NbS initiatives, and ensuring long-term success.

Pilot Projects can act as testing grounds, allowing cities to trial NbS solutions on a small scale before full implementation. These projects provide tangible proof of concept, helping to refine approaches, measure impact, and increase confidence in NbS. They also offer an opportunity to collect real-world data that can be used to support future policy decisions.

City Visits and Peer Learning enable municipal leaders to see successful NbS projects firsthand. Smaller cities, often facing financial and capacity constraints, can especially benefit from learning how pioneer cities have implemented NbS. This exchange of experiences fosters innovation, inspires action, and strengthens cross-city collaboration.

## 3.6. Case studies

Case studies are powerful tools for persuading decisionmakers to adopt Nature-Based Solutions. Studying a wide range of real-world examples demonstrate tangible benefits, cost-effectiveness, and long-term impacts, making NbS more compelling and easier to justify.

When advocating for NbS, referring to well-documented case studies can strengthen your argument. Knowledge platforms like <u>Oppla</u> and <u>NetworkNature</u> provide extensive repositories of case studies, offering valuable resources to support your proposals.

However, when describing a case study, it's important to focus only on the key aspects and lessons learned. Equally important is avoiding out-of-scope examples and instead selecting the most relevant case studies tailored to your specific context. The following are just a few examples of NbS case study formats that can be helpful when presenting to decision-makers. Many more are available, and searchable repositories of good practices can assist you in sorting cases based on factors most relevant to your local situation, such as urban density, climate conditions, governance structures, and financial constraints. This approach ensures that the example is impactful and resonates with your audience.



### Amsterdam (Netherlands):

In 2010, Amsterdam's Department of Physical Planning introduced the 'Structural Vision: Amsterdam 2040' strategy, aiming to transform the city into a creative and diverse urban environment. This long-term plan emphasizes the development of an integrated public transport system, high-quality urban planning, and significant investments in recreational green spaces, water management, and renewable energy sources. A key component of this vision is the 'Agenda Groen 2015-2018' (Green Agenda), which incorporates Nature-Based Solutions to enhance urban resilience and environmental quality.

#### Key Initiatives:

- **Urban Greening:** Over 150,000 m<sup>2</sup> of green roofs were installed by 2018, with more in development. Projects like Amsterdam Rainproof integrate greening into urban infrastructure to mitigate climate impacts.
- **Green Neighborhoods:** Small parks, urban farms, and tree planting programs increase accessibility to green spaces, improving both community well-being and urban biodiversity.
- Flood Resilience: The Delta Programme ensures long-term flood protection and freshwater supply through spatial planning and Nature-Based Solutions.

#### **Lessons Learned:**

• Co-financing strategies helped turn a €20 million investment into over €55 million in funding for greening projects.

• Nature-based strategies in water management and climate adaptation serve as models for other cities seeking integrated, sustainable solutions.

#### **Conclusions:**

Amsterdam's use of Nature-Based Solutions has successfully integrated green infrastructure, water management, and climate adaptation into urban planning. The city's co-financing model enabled over €55 million in investments, significantly expanding green spaces and flood resilience measures. These initiatives have improved biodiversity, climate resilience, and urban livability, making Amsterdam a strong example of effective NbS implementation in a densely populated city.







### Berlin (<u>Germany</u>):

Berlin, known for its extensive green and blue spaces, has integrated Nature-Based Solutions into urban planning to enhance biodiversity, climate resilience, and community well-being. With approximately 40% of the city covered by green areas and waterways, Berlin's strategy focuses on retrofitting urban spaces, greening infrastructure, and repurposing underutilized land. These efforts aim to improve microclimates, manage stormwater, and create accessible recreational spaces, particularly in densely populated and socially challenged areas.

#### **Key Initiatives:**

 Urban Greening (BENE Program): Focused on areas with social challenges, this program subsidizes improvements to existing green spaces, aiming to enhance recreational areas, microclimate, and sustainable water management.

- Green Moabit: This initiative in the Moabit district sets quantitative targets for greening rooftops, facades, streets, and courtyards, and transforming impervious surfaces into green areas. It also proposes subsurface solutions for rainwater harvesting to adapt the densely urbanized area to climate change.
- Transforming Vacant Urban Areas: Berlin has repurposed large, centrally located vacant areas, such as Gleisdreieck and the former Tempelhof Airport, into multifunctional green spaces. These areas cater to diverse recreational needs, including nature areas, sports facilities, playgrounds, and urban gardening.

#### **Lessons Learned:**

Bottom-up citizens' initiatives have been instrumental in creating significant green infrastructure, influencing public policies. Public policies have, to some extent, integrated these grassroots activities, exemplified by the leasehold contract for the Prinzessinnengarten.

#### **Conclusions:**

Berlin's NbS initiatives have enhanced urban resilience, biodiversity, and recreational spaces, particularly in socially disadvantaged areas. Programs like Green Moabit and the BENE initiative have improved stormwater management and urban microclimates, while the transformation of vacant spaces like Tempelhof has increased public access to green areas. Citizen-driven projects have influenced policy and longterm urban planning, demonstrating the impact of collaborative governance in sustainable city development.



### Milan (<u>Italy</u>):

Milan has embraced Nature-Based Solutions as a core component of its urban redevelopment strategy, aiming to achieve environmental targets, promote social development, and enhance public welfare. The city's strategic environmental plan, known as the Carta of Milan, identifies green infrastructure as a pivotal element in this endeavor. On a regional scale, the Lombardy Region manages ecological connectivity and ecosystem creation through the Rete Ecologica Regionale Plan, ensuring continuity between the Alps, the Po Valley, and urban areas.

#### **Key Initiatives:**

- Bosco Verticale (Vertical Forest): Designed by Stefano Boeri, this innovative project exemplifies sustainable urbanization by integrating vegetation into high-rise architecture, contributing to biodiversity and air quality improvement.
- Urban Gardening: Milan promotes community involvement in managing urban green spaces, fostering social cohesion and environmental stewardship.
- Green Rays and Green Belts: These initiatives connect various green areas through pedestrian and cycling paths, enhancing accessibility and promoting sustainable transportation.
- Parco Agricolo Sud: Serving as a significant component of the Green Belt, this area involves local communities in managing the rural landscape on the city's outskirts, utilizing NbS to maintain ecological balance.



#### **Lessons Learned:**

- In 2015, Milan boasted over 23.5 km<sup>2</sup> of public green spaces, equating to 17.31 m<sup>2</sup> per inhabitant, including 633 recreational spots and 348 areas designated for dogs.
- The Cento Passi Forest, spanning 17 hectares, represents a unique initiative where land confiscated from the Mafia was repurposed for public use.
- The success of the Bosco Verticale has inspired similar projects globally, such as the Nanjing Vertical Forest in China, demonstrating the scalability of integrating NbS into urban architecture.
- Research by Mariani et al. (2016) indicates that optimizing park structures can enhance their cooling effects, contributing to urban climate regulation.



#### Conclusion

Milan's comprehensive adoption of Nature-Based Solutions underscores the city's commitment to sustainable urban development. Through innovative projects like the Bosco Verticale and community-driven initiatives such as urban gardening, Milan has successfully integrated ecological considerations into its urban fabric. The city's strategic planning and regional collaborations have resulted in significant expansions of green spaces, improved ecological connectivity, and enhanced public engagement in environmental stewardship. Milan's experience serves as a valuable model for other cities aiming to implement NbS to achieve environmental sustainability and social wellbeing.

# 3.7. Governance Tools for NbS Implementation

#### **City Lab**

A City Lab is an urban innovation space where municipalities, researchers, and communities codevelop and test solutions for urban challenges such as sustainability, climate resilience, and smart infrastructure. Acting as living laboratories, City Labs allow cities to experiment with policies and projects in real-world conditions before scaling them up.

As a co-governance tool, City Labs enable inclusive decision-making and ensure that urban solutions are adapted to local needs, align with regulatory frameworks, and integrate community perspectives.

By testing projects on a small scale, City Labs help reduce risks, refine approaches, and increase public acceptance.

The <u>Blue Green City Lab</u> in Sweden evaluates sustainable urban solutions by testing and analyzing various green infrastructure projects. Ongoing evaluations include green walls on multistorey car parks, trees planted in different substrates, and planting boxes with water reservoirs. These initiatives aim to enhance urban environments by improving air quality, increasing biodiversity, and managing stormwater.

By providing a structured space for innovation, City Labs bridge the gap between policy, research, and real-world application, accelerating the adoption of greener, more resilient urban solutions.

#### **Participatory Budgets**

Participatory budgeting gives citizens a direct role in deciding how public funds are spent, making it a valuable tool for supporting urban greenery, climate adaptation, and NbS projects. By involving the community, it raises awareness, fosters local engagement, and can even attract private investment for NbS initiatives.



When advocating for participatory budgeting in NbS, highlighting its key benefits can be an effective way to convince decision-makers of its value:

- Unlocking additional funding Structured participatory budgets can encourage private investment by demonstrating community buy-in.
- Building public support Involving residents early increases acceptance and fosters a sense of ownership over NbS projects. When people contribute to decision-making, they are more likely to support and maintain these solutions long-term.
- Enhancing budget transparency Citizens gain a clearer understanding of financial constraints and how resources are allocated.
- Generating new ideas and leveraging local knowledge – Citizens often have direct experience with local environmental issues that NbS can solve while being tailored to their community's needs. Their insights can complement expert recommendations, making projects more relevant and impactful.

Examples include <u>Lisbon's</u> participatory budget, which funds projects like tree planting for heat reduction, water capture systems, and cycling infrastructure.

# 3.8 Digital Tools for NbS Advocacy and Implementation

Digital tools are essential for enhancing the ability to communicate, analyze, and implement Nature-Based Solutions. They provide practical, user-friendly platforms to model, simulate, and visualize urban interventions, making complex data and concepts more accessible. For professionals working to advocate for NbS, these tools can help engage stakeholders, support decision-making, and track progress in real-time. By leveraging digital solutions, you can make a stronger case for NbS and effectively demonstrate their potential impact to decision-makers.





#### **ICT Solutions**

The rapid advancement of Information and Communication Technologies (ICT) has transformed urban planning, governance, and sustainability. With greater accessibility and connectivity, digital tools empower communities and decision-makers to tackle environmental challenges. Beyond technological solutions, they drive behavior change by raising awareness and improving knowledge-sharing on issues like water management and climate resilience.

Integrated into smart governance, ICT enhances resource management, progress tracking, and public engagement. Tools like geospatial mapping and data analytics help cities assess environmental pressures and optimize NbS, while digital platforms foster community involvement in decision-making

#### **Gamification and Serious Games**

Gamification and serious games are powerful tools for education, engagement, and behavioral change, transforming complex challenges into interactive learning experiences. By integrating game mechanics, decision-making scenarios, and immersive storytelling, these approaches make difficult concepts more accessible and engaging. They help users experiment with solutions, assess real-world consequences, and develop strategies in a way that fosters both learning and motivation.

Serious games, in particular, are designed primarily for learning rather than entertainment. They have been widely adopted in urban planning, environmental governance, and climate adaptation, offering a structured yet flexible way to explore sustainable solutions. These games can also help navigate politically sensitive issues by providing a risk-free space to test and discuss policy decisions before they are implemented.

By incorporating gamification and serious games into workshops, training programs, and public engagement efforts, decision-makers, city planners, and communities can better understand Nature-based Solutions and other environmental strategies. Through realistic simulations of urban challenges—such as flood management, resource allocation, or climate resilience planning—participants are encouraged to think proactively and strategically, leading to more informed and sustainable policymaking.

Examples include:

- DIGITAL-WATER.city <u>Game</u>: This interactive simulation helps users understand the complex connections between water availability, carbon emissions, energy use, and food productivity. Players take on the role of decision-makers, exploring the impacts of different policies on water reuse, sustainability, and urban resilience. Developed and tested in Milan, the game supports informed
- IMPREX <u>Game</u>: This game focuses on managing flood risks, improving awareness, and guiding behavioral change in response to hydrological extremes. It allows players to explore risk mitigation strategies in a realistic yet interactive setting, ensuring that participants gain practical insights into flood preparedness.



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