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From ideas to action

**INTERLACE impulses for successfully
implementing NbS in cities**



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Executive summary

The increasing complexity of urban challenges such as climate change, biodiversity loss, and socio-economic inequalities necessitates innovative solutions. Cities worldwide try to integrate nature-based solutions (NbS) into urban planning to mitigate these issues effectively. The INTERLACE project addresses this issue by promoting NbS to restore urban ecosystems and enhance urban resilience.

The INTERLACE project, funded by the European Union's Horizon 2020 research and innovation programme, collaborates with six partner cities—CBIMA (Costa Rica), Chemnitz (Germany), Envigado (Colombia), Granollers (Spain), Krakow Metropolis (Poland), and Portoviejo (Ecuador). The motivation behind this collaboration is to leverage NbS to address specific urban challenges within these cities, ranging from climate adaptation to biodiversity conservation and social equity.

The research focused on several key questions:

- How can NbS be effectively integrated into urban planning to address local environmental and social challenges?
- What are the most effective methods for engaging local stakeholders in the development and implementation of NbS?
- How can cities tailor NbS to their specific contexts while ensuring sustainability and inclusivity?
- What are the lessons learned from the partner cities that can be applied to other urban areas?

The research and development of seven city impulse papers (IPs) across the six partner cities revealed critical insights:

- 1. Context-specific NbS:** Each city developed NbS tailored to its unique challenges. For example, Chemnitz focused on green infrastructure, while Envigado emphasized biodiversity conservation through the Local System of Protected Areas.
- 2. Stakeholder engagement:** Successful NbS implementation requires robust stakeholder engagement. In Portoviejo, community involvement in designing green spaces proved essential for long-term sustainability.
- 3. Policy integration:** Integrating NbS into existing policy frameworks enhances their effectiveness. Granollers' approach to urban stormwater management through Sustainable Urban Drainage Systems (SUDS) demonstrates how NbS can be aligned with municipal planning processes.
- 4. Knowledge sharing and capacity building:** The IPs facilitated knowledge exchange and capacity building among local authorities (e.g., in CBIMA), enhancing their ability to implement NbS effectively.
- 5. Collaborative development:** The collaborative process in developing the IPs, involving various stakeholders such as local authorities, civil society organizations, and community members, ensured that the recommendations were practical and actionable (e.g. in Krakow Metropolis).

To address the urban challenges identified, the following recommendations are advocated:

- 1. Adopt a collaborative approach:** Cities should continue to engage multiple stakeholders in the design and implementation of NbS. This fosters ownership and ensures that solutions are tailored to local needs.
- 2. Integrate NbS into policy frameworks:** Cities should embed NbS into their urban planning and policy frameworks, ensuring that they are supported by regulations and long-term planning strategies.
- 3. Promote citizen participation:** Encourage active citizen participation in NbS projects to enhance community resilience and social equity.
- 4. Leverage technology and data:** Utilize tools such as vulnerability mapping and financial search engines to optimize the implementation of NbS and ensure efficient resource allocation.
- 5. Expand knowledge sharing platforms:** Develop platforms for continuous knowledge exchange among cities, allowing for the dissemination of best practices and innovations in NbS.

The city impulse papers provide a strategic framework for integrating NbS into urban governance. By focusing on equity, inclusion, and sustainability, the IPs offer a roadmap for cities to enhance their resilience and address complex urban challenges. The successful implementation of NbS in the six partner cities highlights the importance of context-specific solutions, stakeholder engagement, and policy integration. These findings can serve as a model for other cities aiming to implement NbS as part of their urban development strategies.

1. Introduction

City impulse papers (IPs) are a strategic tool aimed at promoting city and city network governance for restorative nature-based solutions (NbS).¹ They highlight leverage points where city administrations can strengthen the mainstreaming of NbS in their policy frameworks, promote research or action, build capacity, or show how citizen participation can be used as a powerful tool to implement projects while creating ownership and community support. For example, the IPs can focus on inspiring action and promoting behavioural change among citizens and landowners to develop NbS, or providing decision-makers with critical information to adopt NbS. IPs are a tool for promoting equity, inclusion and sustainability through restorative NbS. In doing so, the IPs provide a clear and coherent framework for action that addresses the specific challenges of each city and encourages citizen participation and multi-stakeholder collaboration.

This report presents a summary of seven impulse papers, which were developed using the insights and experiences of the six partner cities of the INTERLACE project over the course of the project: CBIMA (Costa Rica), Chemnitz (Germany), Envigado (Colombia), Granollers (Spain), Krakow Metropolis (Poland), Portoviejo (Ecuador). Each city developed one IP, but Chemnitz developed two to meet the needs of two different target groups. The context in which these IPs were developed varies from city to city, responding to the need to find innovative and sustainable solutions to the complex urban problems specific to each local context. For this reason, the impulse papers were first developed in the local language in an agile process with local stakeholders². For Granollers, the IP was developed in both Catalan and Spanish. The IPs were then translated into English and summarised for this report. Key themes include human health and well-being, access to green spaces, green justice, biodiversity protection, climate change adaptation and mitigation, environmental education, citizen engagement and co-governance, and financing. Nevertheless, they all share a collaborative development process and the aim of driving positive change by providing a set of recommendations for improving local policy coherence in urban ecosystem restoration and green space planning. In particular, the collaborative development process involved various stakeholders, including local authorities, civil society organisations, experts and other members of the local community. This served to integrate different perspectives and knowledge into the development process and to ensure the usability of the IPs and the recommendations they contain. This report contains a brief overview of the seven impulse papers (Chapter 2), a short summary of each of the seven impulse papers presented per city (Chapters 3-8) and a selection of short conclusions (Chapter 9).

¹ The full versions of the IPs are available online: [Impulse Paper: CBIMA | INTERLACE \(interlace-project.eu\)](#), [Impulse Paper: Chemnitz | INTERLACE \(interlace-project.eu\)](#), [Impulse Paper: Envigado | INTERLACE \(interlace-project.eu\)](#), [Impulse Paper: Granollers | INTERLACE \(interlace-project.eu\)](#), [Impulse Paper: Krakow Metropolis | INTERLACE \(interlace-project.eu\)](#), [Impulse Paper: Portoviejo | INTERLACE \(interlace-project.eu\)](#).

² See Mortelmans, D., Callebaut, J., Salmon, N., and Jacobs, S. (2021). Draft guidance document about the INTERLACE agile workflow implementation and the agile workflow meeting strategy. Interim report. Deliverable 1.1. INTERLACE Project. Available in English and Spanish: [Draft guidance document about the INTERLACE agile workflow implementation and the agile workflow meeting strategy \(D1.1\) | INTERLACE \(interlace-project.eu\)](#).

2. Overview of impulse papers

The INTERLACE project produced seven impulse papers. One for each of the project's partner cities, with Chemnitz developing two. As outlined, these differ in form and focus to meet the specific needs of each city and to maximise impact in the local context. These IPs were produced in the local languages and ranged in length from two to 27 pages, with different formats, e.g. some more like a leaflet, others more like a comprehensive report. Table 1 provides an overview of the seven IPs, including information on the target audience, objective, means of dissemination and format.

In order to provide comparability and increase the usefulness of the IPs beyond the target cities, this report includes a short summary of each IP in English. The following chapters are therefore dedicated to each of the seven impulse papers. Each chapter includes a box summarising the objective of the IP, followed by a short summary and a brief introduction to the context of the city and the actions undertaken. Building on this, each of the NbS is presented separately, leading to the formulation of recommendations and lessons learned that are useful for other cities beyond INTERLACE.³

Each site has its own context and NbS, so each IP is tailored to the local context.

Table 1: Overview of the seven INTERLACE impulse papers

City	Target audience	Objective	Forms of dissemination	Format
CBIMA	Municipal Authorities	To serve as a theoretical and practical guide to facilitate the generation of projects and support good practices that should be applied for the restoration and rehabilitation of urban territories, through the use of NbS in the cities	Development of workshops with authorities in each municipality Presentation of the IP at conferences, workshops, seminars and webinars. Socialisation of the IP with networks, associations, working groups (local authorities, professionals) in order to disseminate the work carried out by INTERLACE.	Digital document Printed short version
Chemnitz	Decision makers and municipal authorities Land or space owners	Raise awareness, influence policy, inspire action, promote behaviour change and build capacity for sustainable urban development	Presentations at committee meetings Advertisement in official gazette	Digital document

³ Please note that a transversal impulse paper will be published soon. It will outline how the experiences of the six INTERLACE cities can inspire other cities around the world.

From ideas to action: INTERLACE city impulse papers (D2.4)

Envigado	Decision makers and technical officials from other municipalities in the region and in Colombia	To be a reference document for decision-makers and leaders of intermediate cities around the world facing the fundamental challenge of effectively integrating biodiversity into decision-making.	INTERLACE Hub Envigado website INTERLACE city networks. Organise interactive workshops, panel discussions or virtual events to present the findings of the briefs and facilitate discussion among stakeholders.	Digital document
Granollers	Granollers City Council staff, including politicians, management team and technical personnel.	To capitalise on the knowledge and strategies developed during the H2020 INTERLACE project in order to consolidate, both technically and politically, the implementation of NbS in the municipality of Granollers.	Have planned various dissemination activities with authorities, citizens, experts and working groups for the second half of 2024.	Digital document Informative infographics for Citizens
Krakow Metropolis	Decision-makers in Municipalities who are part of Krakow Metropolis Other municipalities in Poland	To provide a search engine to increase the uptake of NbS by increasing the availability of funding for this type of investment.	http://metropolia.idea-solution.pl/wyszukiwarka-srodkow-zewnetrznych-na-projekty-dotyczace-blekitno-zielonej-infrastruktury	Digital
Portoviejo	General Public	Involving citizens in the development of NbS		Digital document Printed document Educational materials and resources based on the paper, and multi-media content, to support teaching and learning activities

3. CBIMA

Strategies to advance towards a biodiverse green space

Target audience:

Local authorities

Objective:

To facilitate the generation of projects and support good practices for the restoration and rehabilitation of urban areas using NbS in cities.

Forms of dissemination:

Workshops with authorities per municipality, presentation of the IP at conferences, seminars, etc., socialization of the IP with networks, working groups, etc.

Format:

Digital, printed short version

3.1 Summary

The CBIMA IP – entitled 'Strategies to advance towards a biodiverse green space' – is both a theoretical and a practical guide. It has been designed to facilitate the development of projects and support best practices for ecological restoration and rehabilitation in urban areas. It aims to equip decision-makers with the necessary tools to effectively implement NbS in the city. By providing detailed guidance and actionable insights, this IP aims to enhance the capacity of urban planners, local authorities and other stakeholders to promote sustainable urban development through the strategic application of NbS. The IP presents examples of NbS developed at CBIMA, along with key elements for their implementation, i.e. the CBIMA mini forest, the urban ecological restoration in La Sabanita, and environmental education through nature-inspired murals. In addition, the IP includes tools for identifying optimal locations for NbS development within the city and outlines an evaluation framework for these solutions. It also introduces the CBIMA Citizen Biological Monitoring Network, which aims to address and adapt to the impacts of climate change.

CBIMA's IP aims to drive significant positive change by educating and empowering decision-makers, showcasing successful examples, promoting community involvement and integrating NbS into sustainable urban planning. This comprehensive approach ensures that cities are better equipped to implement effective and impactful NbS.

3.2 Introduction

The María Aguilar Interurban Biological Corridor (original: Corredor Biológico Interurbano María Aguilar, abbreviated as CBIMA) in the Greater Metropolitan Area of Costa Rica covers an area of 38.53 km² and includes five cantons: La Unión, Montes de Oca, Curridabat, San José and Alajuelita, with a population of around 400,000. Recognised in 2017 by Executive Decree No. 40043-MINAE, CBIMA is the result of multi-stakeholder efforts initiated in the 1990s to restore urban ecosystems.

The challenges in this area include the degradation of ecosystems due to agriculture and urban development, causing a loss of biodiversity and a reduction in the quality of life. Socio-economic

disparities create a 'green injustice', with unequal access to quality green spaces and environmental pressures. Key environmental problems include disconnection from the biosphere, poor environmental education and inefficient management of green spaces.

The CBIMA corridor provides connectivity between landscapes and habitats, facilitating species migration and biodiversity conservation. Managed by a multi-stakeholder local committee, it aims to improve environmental conditions and urban resilience through comprehensive projects.

Key components of the project include promoting citizen participation, co-producing governance tools and instruments, and facilitating knowledge exchange to support ecosystem restoration using NbS.

3.3 Nature-based solutions developed in CBIMA

CBIMA's mini forest

Creating a naturally consolidated forest is a process that requires time and favourable environmental conditions. Factors such as soil quality and the human factor pose challenges for planting, maintaining and consolidating urban forests. The Miyawaki method, developed in Japan by botanist Akira Miyawaki, offers a rapid strategy for creating dense, biodiverse mini forests, particularly in urban areas where land is fragmented.

Forests could help city dwellers reconnect with nature, and their creation requires community involvement from the earliest stages of the process. Suggested steps for creating these forests include:

- Selection of native species: Using species adapted to the local climate and soil for better survival and growth.
- Soil analysis and preparation: Improving soil structure and fertility for successful reforestation.
- Dense planting: Plant 3-5 seedlings per square metre to encourage competition and vigorous growth.
- Multistrada planting: Mimics natural forest structure to increase biodiversity.

Urban ecological restoration in La Sabanita, Alajuelita

This example of ecological restoration has transformed a degraded urban area into a biodiverse green space that promotes physical activity, recreation and social interaction. Through the collaborative efforts of a group of actors including the Municipality of Alajuelita, the United Nations Development Programme (UNDP) with two projects, namely the Productive Landscapes (implemented in the period 2018-2022) and the Transition to an Urban Green Economy (2022-2027), the Association for the Specific Development of La Guápil, supported by private businesses, has managed to transform La Sabanita from a space littered with solid waste, with few trees, no shade and covered by bushes of giant grass (an invasive species), into a green space that contributes to the well-being of the community. To improve governance processes, a participatory approach was adopted, fostering open communication among stakeholders through various platforms, including meetings, workshops and informal gatherings. The community has been actively involved in all phases of the project, from design and construction to maintenance, ensuring that their input is integrated at every stage for a more inclusive and sustainable outcome.

The transformation is the result of a variety of activities, including litter picking campaigns, community engagement activities, reforestation, planting gardens, placing urban furniture, promoting other uses of the space such as arts and culture, building safe and inclusive access roads, walking paths, an urban garden, rain harvesting and planting green walls, and more.

One of the success factors of the initiative is the participatory design with the neighbours, so that the area responds to their needs and allows them to take ownership of the space:

1. Community inclusion
2. Active listening
3. Context analysis
4. Participatory design
5. Flexibility and adaptability
6. Universal accessibility
7. Environmental sustainability
8. Safety and comfort
9. Education and ownership

3.4 NbS development: Where to implement them in the city?

The development of NbS in urban areas is essential to make cities sustainable, resilient and liveable, benefiting the health and quality of life of their inhabitants. The INTERLACE project developed an Assessment Framework (AF) to identify optimal NbS sites based on vulnerability analysis, contributing to efficient resource use, public governance, transparency, innovation and risk minimisation.

The AF prioritises areas for NbS by assessing vulnerability, defined as a combination of exposure (e.g. high temperatures) and sensitivity (e.g. heat sensitivity of older adults). Expert workshops identified variables and weights for the vulnerability assessment, including factors such as cultural opportunities, pollution, water pollution, heat, flooding, habitat fragmentation, environmental degradation and awareness.

Spatial data layers were created and integrated into a geographic information system and R programming software to map municipal vulnerability. An application was developed to visualise the combined vulnerability of the CBIMA basin, categorising vulnerability from very low to very high. The application is available at: <https://mva.users.earthengine.app/view/vunecbima>

3.5 Citizen Science: a tool that generates information for decision-making

Citizen science generates scientific data on issues such as water quality, species and their habitats. Up-to-date information enables informed territorial decision-making, promotes citizen participation and is a tool for environmental education and awareness-raising. The Citizen Network for Biological Monitoring CBIMA addresses climate change through citizen science and offers several benefits, namely:

- Environmental policy support provides objective data for municipal policies.
- Open access data: data is free and accessible.

- Spatial planning: Helps with land use, resource management and climate adaptation.
- Environmental education: Improves public understanding of local issues.
- Community participation: Involving communities in citizen science activities through education and awareness campaigns, partnership with other stakeholders in the area, and sharing of results, among other strategies.

Achievements include the establishment of a basis for decision making, participatory governance and the promotion of social cohesion. Recommendations for similar programmes emphasise clear objectives, expert participation, phased implementation, digital tools, involvement of local committees and standardised protocols.

Informed decisions on the development of NbS, such as reforestation and the creation of urban parks, should be based on validated scientific information to ensure cost-effectiveness, transparency and to safeguard their impact on ecosystems and the livelihoods of urban dwellers. Reliable citizen science data has improved urban ecological restoration efforts.

3.6 Considerations and lessons learnt

Finally, the IP makes some recommendations for the development of NbS as a tool to address environmental challenges:

Collaborative efforts: Establish a sustainable link between public authorities, civil society and different stakeholders through inter-sectoral and inter-institutional work to develop sustainable proposals.

Community participation: Involving the population in the definition, design and implementation of NbS proposals. Participation is key to achieving sustainability of NbS. For example, CBIMA's mini-bosque, where the community planted and maintains the forest.

Municipal awareness: Educate municipal officials about NbS as a strategy to improve the urban environment. The strong involvement of the local government is necessary to include NbS as a strategy to improve the living conditions of the territories.

Policy framework: Develop a sound policy framework to support the implementation of NbS by public and private actors. In the case of CBIMA, the implementation of NbS is based on a strong environmental policy framework that promotes the conservation of ecosystems and the need to improve the well-being of the inhabitants.

Community leadership: Identifying and training community leaders to promote NbS development within communities. For example, the strong participation of a community-based organisation in the Urban Ecological Restoration in La Sabanita, Alajuelita, was a key element in the development of the initiative.

Participatory design: Ensuring proposals meet community needs through participatory design. The Urban Ecological Restoration in La Sabanita, Alajuelita began with a series of workshops and meetings with the community to understand their use of the space, their needs and their vision for the area. The transformed space is the result of a collaborative effort between the stakeholders involved

Results-based approach: Focus on achieving visible and measurable results to effectively address environmental challenges. People need to see the product of their work to stay inspired and engaged.

4. Chemnitz

Resilient and future-proof Chemnitz through NbS

Target audience:

Decision makers and municipal authorities, land or space owners

Objective:

To raise awareness, influence policy, stimulate action, promote behaviour change and build capacity for sustainable urban development.

Forms of dissemination:

Presentations at committee meetings, Advertisement in official gazette

Format:

Digital document

4.1 Summary

Chemnitz has developed two impulse papers: one for private property owners and one for local authorities:

- **Property Owners: Commercial, public and private property owners:** presents a comprehensive list of NbS tailored to different property sizes, budgets and building types. It includes links to additional resources, enabling owners to select and implement the most appropriate solutions for their specific needs.
- **Municipal Authorities:** designed to raise awareness, influence policy, inspire action, promote behaviour change and build capacity for sustainable urban development. It showcases the city's work using NbS during the INTERLACE project, including the restoration of the Kappeler Bach and the revitalisation of Bürgerpark Gablenz in Chemnitz. It also presents other key initiatives such as the Climap, a tool for climate adaptation in development plans, the MACH'S GRÜNER campaign to raise awareness of urban nature and NbS, and the City Plan for Heat Days, which provides information on climate adaptation measures in Chemnitz. The IP contains valuable resources for policy makers and city administrators.

Impact and use

By providing targeted guidance, showcasing successful examples, offering practical tools and resources, promoting sustainable urban development, and encouraging community engagement and behavioural change, these impulse papers can bring about significant positive change. This comprehensive approach ensures that cities are better equipped to implement effective and impactful NbS. By integrating NbS into urban planning and governance frameworks, cities can enhance environmental sustainability, build resilience to climate change and improve the overall quality of life for their residents.

4.2 Introduction

Nature-based solutions should be increasingly considered and implemented in plans and projects because they are cost-effective, provide environmental, social and economic benefits and help build resilience to climate change. NbS bring more and diverse ecosystems and natural processes into cities and landscapes through locally adapted, resource-efficient and systemic interventions. They contribute to biodiversity and the provision of a range of ecosystem services such as climate regulation, water retention and wildlife habitat.

4.3 NbS in practice: Renaturation of Kappelbach and revitalization of Bürgerpark Gablenz in Chemnitz

One example of NbS in Chemnitz is the renaturation of the Kappelbach and Pleißenbach streams. The watercourses were completely or partially freed from their artificial, straightened riverbeds. The banks were naturally shaped and retention areas and meanders were created. In addition, access to the watercourse was made easier for the local population.

The revitalisation of Bürgerpark Gablenz was also designed to provide recreation for the people of the area, while protecting nature. A "Bürgerpark" is a park designed especially for citizens. The creation of social elements, the renaturation of meadows and trees and the creation of water features have transformed the park into a real natural oasis in Chemnitz. From the beginning and throughout the process, citizens have been involved in the development of this park.

4.4 INTERLACE project: Chemnitz benefits from international exchange on NbS

During the INTERLACE project period (2021-2024), various products and tools have been developed in different activation fields to promote and support the implementation of NbS in cities - three of them specifically for Chemnitz:

- The instrument for climate adaptation in development plans enables the city to directly control the development of NbS in a targeted manner by planning the development of new buildings with NbS on the one hand, and providing recommendations for action for investors and developers on the other.
- Since 2023, the "MACH'S GRÜNER" campaign has been raising public awareness in Chemnitz about urban nature and NbS.
- The city plan for heat days provides low-threshold information about climate adaptation measures in Chemnitz and where they can be found in the city.

4.5 The INTERLACE project has led to further positive effects for the city of Chemnitz:

- An additional position in the city planning office was fully funded by the project for the duration of the project.
- The project acted as a catalyst for current and future action.
- New project knowledge was acquired and transferred to the city administration and city events.
- Encouraged access to and development of new city and knowledge networks.
- A positive image of the city of Chemnitz was strengthened nationally and internationally through exchanges, project meetings and the organisation of an international conference.
- Participation in the project increased the attractiveness of the city administration for skilled workers.

4.6 Help with planning and implementation of NbS in the city

INTERLACE promotes NbS by providing various information products. The most important INTERLACE products for policy makers and city administrations are:

- Recommendations for action / provisions for climate adaptation in development plans (German): climate adaptation measures in development plans for investors and developers
- City plan for heat days: online map to find places to cool down on hot days
- Team Stadtnatur (German): interdepartmental working group on urban nature (scientific/public/internal)
- Assessment Framework for NbS (English): tool for decision support for the implementation of NbS in the city
- Minecraft (German): environmental education offer for the playful development of NbS for pupils in the city
- Climate Rally (German): app-based tour for students, young adults and families on sustainable urban planning
- Massive Open Online Course (MOOC) (English): free online course for administrative staff on NbS
- Overview of policy tools with practical examples that enable restorative NbS (English)
- Participatory processes for restoring urban ecosystems (English)
- Urban Governance Atlas (English): collection of more than 250 good governance options for NbS

5. Envigado

Target audience:

Decision makers and technical officials from other municipalities in the region and in Colombia

Objective:

Provide a comprehensive vision for decision-makers to meet the challenge of balancing sustainable development and biodiversity conservation

Forms of dissemination:

INTERLACE Hub and city networks, website of Envigado, interactive workshops, panel discussions or virtual events

Format:

Digital document

5.1 Summary

The Envigado IP provides a comprehensive overview of the city's primary strategies, which have been strengthened and refined through the INTERLACE project. It aims to inspire and guide other cities and their decision-makers – including mayors, secretaries of state, territorial directors, autonomous corporations and private companies – in promoting NbS as an effective strategy to address the challenges of sustainable development and climate change adaptation.

The IP describes four key strategies currently being developed by the municipality: Biodiversity conservation strategy – Local System of Protected Areas of Envigado – SILAPE Urban Protected Areas (La Heliadora Environmental Linear Park, El Triánón Wetland and Cerro Tutelar), strengthening social appropriation of the Ayurá water corridor, and renaturalization programme: Envigado Florece, are each examples of NbS.

For each strategy, the benefits and lessons learnt are outlined, highlighting achievements in the conservation and enhancement of Envigado's natural environment. By detailing these strategies, the IP not only highlights successful examples of NbS, but also provides practical insights and guidance that can be adapted and implemented by other municipalities, promoting sustainable urban development and resilience to climate change.

5.2 Introduction

The NbS implemented in Envigado are essential for the conservation, protection and sustainable management of its natural resources. These strategies focus on:

- Preserving Envigado's Local System of Protected Areas (SILAPE), which covers 40% of the territory.
- Improving people's quality of life through the management of urban protected areas that contribute to the well-being of the community, providing green spaces for mental and physical health.

- Promote the proper management and valuation of water resources through environmental education processes, restoration and recovery of the municipality's water bodies, which are crucial in the context of climate change.
- Increasing the green infrastructure through the "Envigado Florece", a participatory process aimed at transforming the territory through its renaturation (conversion from hard to soft soils, creation and enrichment of urban gardens, creation of new green spaces, education and awareness campaigns, among other strategies).

These NbS are being implemented in response to population growth, which is exerting significant urbanization pressure on protected areas and urban ecosystems, making it one of the main challenges facing the municipality. Recognizing the importance of providing housing for the growing population without compromising green areas and the ecosystem services they provide, the municipality is integrating NbS to address rapid urban growth, biodiversity loss and climate change, ensuring the sustainable development and resilience of Envigado.

5.3 Actions carried out in favour of biodiversity conservation in Envigado

Biodiversity conservation strategy progress (Local System of Protected Areas of Envigado – SILAPE)

The municipality of Envigado created its Local System of Protected Areas (SILAPE) to prevent disasters, adapt to climate change, conserve biodiversity and ecosystem services, and maintain regional forest connectivity and functionality. This initiative supports, identifies and promotes local and regional strategic areas for biodiversity conservation that are critical to the community's ecological structure. As part of the INTERLACE project, a SILAPE management plan has been strengthened to provide an effective management framework for these areas and to serve as the technical basis for the Land Use Plan 2025 (POT). The plan includes a diagnosis of current conditions, zoning proposals and guidelines for resource use and permitted activities to ensure effective conservation and biodiversity protection for the next twelve years.

Benefits of this NbS

This NbS, which consists of a mosaic of protected areas primarily for nature conservation but also allowing for other uses, addresses several societal challenges. These include: environmental degradation and loss of biodiversity; protection of habitats for native and migratory species, conservation of ecosystems typical of the Colombian Andes; climate change mitigation and adaptation; food security; and economic and social development.

Considerations and lessons learnt

Protected areas should be integrated into land-use planning regulations and protected by municipal agreements that incorporate the concept of SILAPE (Local System of Protected Areas). These protected areas should be designed not only at the local level, but also through regional synergies that promote ecological corridors for the mobility of large mammals and the conservation of their habitats. It is very important to have technical studies carried out in coordination with universities and validated by bodies such as the Humboldt Institute and the Regional Autonomous Corporations (CAR), as these studies provide a solid basis for the formulation and modification of land-use plans.

The SILAPE management plan guarantees the protection of the biodiversity and ecological structure of Envigado and will be a key tool in providing a solid and effective management framework for the administration of these areas. This plan is important because it will serve as the technical basis for the next Land Use Plan (POT), which will establish clear and strong guidelines for effective conservation.

5.4 Urban protected areas (Parque Lineal Ambiental La Heliadora, Humedal El Trianón and Cerro Tutelar)

The urban area of Envigado has protected areas including the Urban Wetland Protected Area (UPA) El Trianón – La Heliadora which covers approximately 23 hectares and includes the Urban Recreation Area La Heliadora – El Trianón. This type of area corresponds to an area where the landscape and strategic ecosystems, despite changes in their structure and composition, maintain their function and have a significant potential for recovery.

Benefits of this NbS

The protected areas in Envigado serve as urban NbS that address the challenges of climate change mitigation, adaptation, and health and well-being. They promote reconnection with nature and community ownership of the natural environment through education and citizen participation. These areas combat environmental degradation and biodiversity loss, benefiting urban wildlife. They also provide ecosystem services that mitigate the negative impacts of densely populated urban areas.

Considerations and lessons learnt

The development of urban protected areas depends heavily on the active involvement of stakeholders and citizens. This motivates local governments to manage areas that are vital to the quality of life of urban residents. Involving different stakeholders in environmental decision-making is challenging and requires mechanisms to encourage dynamic participation, such as interactive socialisation fairs, territorial exploration days, field trips and continuous interaction between the community and government.

Ensuring the continuity of urban protected areas is challenging, especially with changes in local government. To address this, it is recommended that these strategies be integrated into municipal plans such as the Municipal Environmental Management System (SIGAM), biodiversity plans and protected area plans. This integration ensures at least twelve years of continuous management, which is crucial for demonstrating results as ecosystem impacts evolve over time.

5.5 Strengthening social ownership of the Ayurá water corridor

The Ayurá River in Envigado stands out for its importance as a natural, cultural and symbolic resource. Envigado considers the stream not only as a structuring axis of the territory due to its natural characteristics, but also as part of its historical and cultural value. This water body is crucial, as its basin covers about 50% of Envigado's territory.

Recognising the urgent need to revalue the Ayurá River and restore its natural, cultural and symbolic importance, the Municipality of Envigado proposed to the INTERLACE project to work on improving the water corridor and strengthening social ownership. As part of this project, various technical activities have been carried out, involving governance and public relations processes, such as:

- **Adoption of the Mesa de la Yurá:** A water management round table has been set up, with the participation of representatives of the municipal government and members of the community, to promote and develop actions that consolidate the recognition of the Ayurá stream as a component of natural and cultural importance, with ecosystemic heritage and high value for the municipality. This instrument unites the efforts and makes use of the expertise of its members to approach the Ayurá stream from different perspectives, carrying out environmental education activities, promoting artistic and cultural activities in schools located near the stream.
- **Guardians of the Ayurá:** This is an environmental education strategy that has been implemented since 2022, involving the educational community in environmental education processes in a practical way. It involves six educational institutions near the Ayurá stream. Through workshops on cartography, hydrology, visits to protected areas and activities in the stream, students develop a deep understanding of the importance of water resources.
- **Environmental booklet "Ayurá in Stories and Drawings":** The booklet presents myths and legends written by 30 fifth-grade students who created micro-stories highlighting the natural features of the stream and its cultural, historical and symbolic significance. The best stories were published in an environmental booklet and distributed to communities in the area.
- **Art for appropriation:** Art was used as an innovative strategy of territorial appropriation. Local artists highlighted the beauty and importance of the wildlife and biodiversity of Envigado through murals. As part of the INTERLACE project, a 100 square metre mural was artistically intervened, representing the historical and natural importance of the ravine.
- **Minecraft:** Developing workshops using the Minecraft video game for students to learn about, plan and design NbS to manage the area in a sustainable way in harmony with the water resource.
- **"My River, My City and Me" contest:** A drawing competition for children and young people. They competed with drawings that reflected the natural and cultural features of the Ayurá River.
- **Biotours:** Territorial tours focused on highlighting, socialising and raising awareness of Envigado's natural ecosystems, biodiversity, wildlife and water resources.

Benefits of this NbS

This NbS is primarily concerned with improving human health and well-being while addressing environmental degradation and biodiversity loss. The benefits associated with these actions include the promotion of sustainable ecosystem management, the social appropriation of biodiversity knowledge and the strengthening of the cultural and symbolic link between the population and its natural environment, facilitating the restoration and protection of the water corridor in the long term. Promoting a culture of nature conservation among children living in the urban area of the municipality can have an impact on greater care for the natural environment.

Considerations and lessons learnt

It is important to involve the public and private sectors as well as the community in environmental issues. This participation generates comprehensive actions with different approaches and visions that enrich the outcome.

5.6 Renaturalisation programme: Envigado Florece

The municipality of Envigado has been developing the Envigado Florece programme for more than 25 years. This programme can be considered an urban NbS that aims to reduce the heat island effect, improve urban biodiversity, ecological connectivity, public ornamentation and contribute to the general well-being of the city's inhabitants.

The programme involves the community in planting gardens in public and private areas to improve soil permeability, reduce surface run-off and reduce the risk of flooding. In addition, these gardens act as carbon sinks, helping to mitigate the effects of climate change by absorbing CO₂.

The INTERLACE project helped to design a monitoring strategy for the Envigado Florece programme, as despite several years of implementation there was no strategy to quantify its impact. This monitoring will be carried out by measuring observable and quantifiable indicators to evaluate the progress and impact of the Envigado Florece programme.

The heat distribution in four neighbourhoods in Envigado was analysed, in order to identify hot spots for monitoring and planning future urban NbS interventions. Based on this data, it will be possible to prioritise locations to implement the monitoring of the effectiveness of the interventions of the Envigado Florece programme, specifically the change from hard to soft flooring and the creation of urban gardens.

Benefits of this NbS

This NbS addresses the challenge of climate change adaptation in Envigado. It also addresses human health and well-being, as well as environmental degradation and loss of biodiversity, particularly loss of ecological connectivity and low plant diversity to attract native urban fauna.

Considerations and lessons learnt

Through the implementation of the monitoring strategy designed, the three approaches addressed by the programme, framed by biodiversity, community ownership and thermal comfort, will allow the municipality of Envigado to provide solid data on the benefits of renaturalization in the urban area. This approach is fundamental, as data is crucial to demonstrate the effectiveness of the NbS.

5.7 Final considerations and other lessons learned

- It is essential for a municipality to work with local and regional actors to implement NbS such as protected areas and water corridors.
- Regional collaboration is crucial for the conservation of protected areas. The Secretariat of Environment and Agricultural Development has established strategic alliances to consolidate and strengthen the departmental system of protected areas. This includes sharing experiences with other administrations and promoting linkages with neighbouring communities. The Southern Conservation Roundtable, comprising Envigado, Sabaneta, Caldas, La Estrella and Itagüí, has made significant progress in three main areas: (i) information collection, analysis and development of regional products; (ii) knowledge sharing and capacity building for ecosystem conservation; and (iii) inter-institutional coordination of projects and initiatives focused on wildlife conservation and resource management. The main objective is to implement feline conservation actions in the five municipalities.

- Envigado has become a national reference in the field of nature conservation, thanks to its collaboration with institutions such as the Alexander von Humboldt Institute, the National Natural Parks and various universities.
- One of the notable achievements of the municipality of Envigado is its successful integration of the community and various stakeholders into the implementation of NbS. This inclusive approach involves environmental leaders, educational institutions, and local citizens, all of whom have been actively engaged in nature conservation strategies. By incorporating diverse methods such as territorial recognition walks, environmental day celebrations, conservation forums, environmental education initiatives, and citizen science activities, Envigado has effectively strengthened its participatory processes and fostered a collaborative approach to environmental stewardship.

6. Granollers

Greener, livelier and more resilient. In the face of cross-cutting challenges, ecosystemic solutions.

Target audience:

Granollers City Council staff, including politicians, management team and technical personnel

Objective:

Use the knowledge and strategies developed during INTERLACE to consolidate the implementation of NbS in Granollers.

Forms of dissemination:

Various activities for second half of 2024 with authorities, citizens, experts and working groups

Format:

Digital document, informative infographics for citizens

6.1 Summary

Their IP is a plan to promote NbS in Granollers. The first section of the IP serves as an introduction, presenting key concepts such as risk interaction, transversal challenges and ecosystem services, as well as a definition of NbS. Although general, this section is tailored to the specific context of Granollers, with illustrations highlighting the city's profile and clear references to local problems exacerbated by climate change.

In the second section, the IP delves into the different NbS typologies and explains how they address three transversal challenges (urban stormwater management, biodiversity loss and urban resilience, strengthening social cohesion, social equity and the local economy).

The Granollers IP can catalyse substantial and lasting positive change by providing a clear, contextualised introduction to NbS, offering detailed and practical guidance on different NbS typologies, addressing key cross-cutting challenges, showcasing real-world examples, building stakeholder capacity and engagement, and influencing policy and strategic planning. This comprehensive approach will ensure that Granollers is well equipped to implement effective and impactful NbS, ultimately benefiting the environment and improving the quality of life for its residents.

6.2 Introduction

Integrated vision of urban challenges

This section presents some of the urban challenges faced by Granollers City Council and some of the NbS proposed in response. NbS can be a sustainable way to address three of the major urban challenges facing Granollers. They are not only one-off interventions promoted by the city council, but can also arise from private and/or community initiatives. In these cases, it is essential to have tools to support and involve everyone in the process of transformation towards a green, lively and resilient Granollers.

6.3 Urban stormwater management

Sustainable Urban Drainage Systems (SUDS) are a family of NbS that allow rainwater runoff to be managed using techniques based on natural hydrological processes (infiltration, evapotranspiration...). They form part of the local green infrastructure and are located upstream of the sewerage system, with which they complement each other to avoid the risks associated with urban stormwater flooding.

How to implement SUDS in Granollers?

Within the framework of INTERLACE, the city council of Granollers has drawn up a municipal strategy to improve urban permeability. The study has provided design criteria adapted to the specific characteristics of the municipality and has identified priority action areas where municipal investments and actions can be carried out in a coherent and reasoned manner.

Other actions needed to facilitate the implementation of SUDS in Granollers are:

- Creation of a Sustainable Urban Drainage Commission, with the participation of the main local stakeholders, in order to include urban permeability in the urban agenda of Granollers.
- Developing a regulatory framework and advanced planning to encourage the construction of SUDS (particularly relevant in new urbanisations).
- Promote advanced planning to achieve a long-term SUDS programme, including economic incentives and subsidies, maintenance protocols, and education and awareness actions.
- Implementing other structural measures such as improving the management of sewer overflows during rain events and providing an economic plan to improve urban permeability infrastructure.

6.4 Biodiversity loss and urban resilience

Restoration of degraded or abandoned natural spaces to bring nature into the city through green corridors that promote ecological and social connectivity.

Ecological restoration is a category of NbS that is based on the use of natural processes to achieve sustainable and resilient restoration of degraded natural spaces. It includes actions such as reforestation of deforested areas, reintroduction of native species, sustainable water and soil management, and the promotion of ecological connectivity between fragmented habitats, as well as the integration of urban and peri-urban green infrastructure.

How to implement NbS restoration in Granollers?

Granollers has promoted exemplary restoration projects, such as the [social and natural recovery of the Congost river](#) and the restoration of the degraded [Can Cabanyes](#) site for biodiversity. The next strategic steps consist of:

- Expanding the restoration of peri-urban natural spaces, especially in Can Cabanyes with new NbS (constructed wetland, bioremediation stream and flooded forest pilot).
- Promote the creation of new urban and interurban green corridors linking restored natural spaces and creating more natural environments in the city streets.

- Promote the river restoration project for new sections of the Congost River, with the support of river stewardship agreements between the main river stakeholders.
- Continue the participatory processes for the recovery of green spaces in the city.

6.5 Strengthening social cohesion, social justice and the local economy

Integrating NbS into urban projects creates a more inclusive and resilient city. To ensure that all citizens can benefit from a revitalised natural environment, local economic opportunities and a stronger social fabric, it is essential to identify the most vulnerable sectors and populations for NbS prioritisation. Examples include studies using spatial modelling to identify the streets and urban areas most affected by the heat island effect, or the identification of areas most vulnerable to flooding.

In addition to identifying local vulnerabilities, a second approach to ensuring social cohesion, social equity and a healthy local economy is to involve and empower all city residents in the process of change. For example, the promotion of more green spaces in cities managed by the residents themselves, whether through urban gardens, green facades and balconies, the creation of allotments with pollinating plants, or through projects known in the city of Granollers as '[Fem un jardí](#)', where schoolchildren and municipal technicians work together to design a green space next to a school, are just some examples of improving the quality of the environment and the urban landscape, while promoting environmental education practices and generating community initiatives for **land stewardship**.

The Granollers City Council wants to accompany the agricultural sector with a [strategic plan for Palou](#) in a process that will allow Palou to become an area of economic opportunities by increasing the production and marketing of local products. Granollers still has around 350 hectares of arable land. The current socio-economic context can offer new opportunities for the sector, both in terms of production and consumption, with a nearby market that is increasingly receptive to local products.

7. Krakow Metropolis (KM)

Target audience:

Decision-makers in municipalities who are part of Krakow Metropolis, other municipalities in Poland

Objective:

Provide a search engine to increase the uptake of NbS by increasing the availability of funding for this type of investment

Forms of dissemination:

The impulse paper will be published in the metropolitan magazine, on their website and recommended in their newsletter

Format:

Digital

7.1 Summary

This IP presents a new innovative search engine that provides decision-makers with inspiring information on NbS and funding opportunities for future projects. The search engine is free and open to all, especially local and regional authorities. This will enable a wide use of resources and increase the number of nature-based projects implemented. The IP also presents INTERLACE products tailored to Krakow Metropolis, such as the climate change vulnerability maps of the Krakow Metropolitan Area, learning tour in Skawina, Minecraft video game as an educational tool, [INTERLACE Stakeholder Engagement Strategy](#), [Urban Governance Atlas](#) and [Cookbook on Virtual Interactive Exchange Formats for Cities](#).

The IP is a tool that could drive substantial and lasting positive change by equipping decision-makers with innovative tools and resources, highlighting tailor-made products, strategically engaging stakeholders and promoting long-term sustainability and resilience. By democratising access to information and fostering collaboration, it will ensure that cities are well-prepared to implement effective and impactful NbS, ultimately benefiting the environment and improving the quality of life for city dwellers.

7.2 Introduction

The implementation of NbS is crucial to address concrete environmental and climate challenges in Krakow Metropolis (KM), such as urban flooding, urban heat island effect and biodiversity loss. Green infrastructure measures such as green roofs, pocket parks and permeable pavements can help mitigate these challenges. The Krakow Metropolis Association, a non-profit organisation of 15 local government units, has set ambitious climate change targets in its [Krakow Metropolis 2030 Strategy](#) and [Climate Strategy of Krakow Metropolis](#). It has developed governance tools to support the implementation of NbS.

One of the main barriers to the implementation of NbS in KM are financial barriers. These include a lack of dedicated funding for nature-based projects, limited knowledge of available resources, and limited experience with mechanisms for involving private sector funds in NbS initiatives.

7.3 Financial support search engine

A proposed solution to these challenges is the financial support search engine, a tool initiated by the INTERLACE Local City Network Accelerator Group, which operates at the Krakow Metropolis Association. This tool is designed to significantly improve the availability of information on funds that can support local authorities in implementing nature-based projects, thereby directly addressing the financial barriers.

Search engine functions

The NbS funding search engine has been created to increase opportunities for blue-green infrastructure projects. It is an intuitive tool for decision-makers to find inspiration and apply for funding for future projects. The tool provides an interactive interface for efficient research into current calls for proposals. Published on the website of the Krakow Metropolis Association (<https://metropoliakrakowska.pl/>), the search engine is free and open to all, especially local and regional authorities. This allows for a wide use of resources and an increase in the number of nature-based projects implemented.

The search engine is available at the following web address (temporary; it is still a test version): <http://metropolia.idea-solution.pl/wyszukiwarka-srodkow-zewnetrznych-na-projekty-dotyczace-blekitno-zielonej-infrastruktury>

The search engine database contains detailed information on the following:

- type of beneficiary (who can apply for funding under a given call for proposals),
- size of the investment (eligible costs),
- type of support (e.g. infrastructure investment, technical assistance, human resources),
- financial instruments (e.g. financial instruments, grants, non-financial)
- duration of the project,
- amount of support available.

All elements are thematically tagged, making it easy to navigate and find relevant information among the available options.

Objectives and benefits

The aim of providing a search engine is to increase the implementation of NbS in Krakow Metropolis by increasing the availability of funds for this type of investment. The benefits will include:

- reducing flood risk by enhancing retention and delaying surface runoff,
- improving local biodiversity,
- increasing the attractiveness of the region through investment in blue-green infrastructure,
- improving the local environment: increasing humidity, cleaning the local air and reducing thermal stress, which will have a positive impact on the psychological and physical well-being of residents.

In Krakow Metropolis, there is a growing interest in implementing NbS to address environmental challenges and improve the well-being of local communities. These initiatives are in line with the objectives of the Krakow Metropolis 2030 Strategy, which emphasises sustainable urban development.

Access to up-to-date information on funds is crucial for the implementation of NbS in Krakow Metropolis. By providing local authorities with this information, they can effectively plan and implement projects that benefit the environment and contribute to the well-being of residents. Securing adequate funding is essential to bridge the gap between interest in and implementation of NbS.

8. Portoviejo

Target audience:

General public

Objective:

Incorporate citizens in the development of NbS

Forms of dissemination:

Community workshops, municipal website

Format:

Digital document, printed document, educational materials and resources based on the paper, and multimedia content, to support teaching and learning activities

8.1 Summary

The IP summarises the extensive efforts undertaken by the city to incorporate new practices in the design and development of green spaces through collaboration with a wide range of local stakeholders. This participatory approach enables the city to better prepare for the challenges of climate change. The IP also provides general information about NbS and their benefits, highlighting the successes of community participatory processes. The Mamey Ecological Park is a key example of how community involvement can lead to significant achievements in ecological restoration and urban sustainability.

In summary, this impulse paper can drive meaningful and lasting social change by showcasing collaborative efforts and best practices, preparing cities for climate change challenges, providing general information and benefits of NbS, highlighting successes of community participatory processes, promoting long-term sustainability and resilience, encouraging community engagement and ownership, and facilitating knowledge sharing and collaboration. By providing a comprehensive and practical guide, the IP will ensure that cities are well equipped to implement effective and impactful NbS, ultimately benefiting the environment and improving the quality of life for city residents.

8.2 Introduction

The city of Portoviejo has a population of approximately 300 thousand inhabitants, of which 93% live in the urban area and 7% in the rural area. The Portoviejo River is a very important resource, as it crosses the city from east to west. For this reason, the City Council has included the Portoviejo River Corridor project in its planning, with the aim of strengthening the restoration, rehabilitation and (re)connection of urban ecosystems by integrating criteria of nature, citizen participation, co-design and climate change in the planning projects of the Canton, especially in areas close to the river.

How do we achieve it?

In Portoviejo, we have a "City Plan" that includes a "Green Space System" that integrates the "Portoviejo Corridor" project, made up of seven parks and five sections that form a green corridor of ecological protection.

The municipality of Portoviejo, in articulation with the INTERLACE project, is focused on environmental sustainability and the recovery of ecosystems.

Alignment of the objectives of the municipality of Portoviejo with the INTERLACE concept

- Portoviejo integrates NATURE through new green spaces and the recovery of ecosystems.
- Portoviejo promotes common PLACES for dialogue and exchange between people.
- It strengthens the link between PEOPLE and their natural environment of public and green spaces.

8.3 Portoviejo as a reference for urban development

By involving and working with a wide range of local stakeholders, new practices for the design and development of green spaces have been introduced.

Participatory work is enabling the city to prepare for the challenges of climate change.

For Portoviejo it is crucial to ensure the environmental sustainability of the city, preserving green areas of great natural value for future generations.

To achieve this, the city has developed participatory processes and tools that integrate nature issues in public spaces, which are:

- a) The green space design guide
- b) The urban tree manual
- c) Other community strategies.

8.4 What do participatory community processes consist of?

Portoviejo has included participatory processes in its strategies/tools with the aim of involving the community, these processes have made it possible to:

- Involve all members of a community in the identification of needs, solutions and decision-making, to ensure that the actions and policies implemented are adapted to their reality.
- Promote inclusiveness and transparency through workshops, forums, surveys, dialogues and other activities that generate ownership and co-responsibility in restoring urban and resilient ecosystems.
- Understand the importance of the river as a development axis and an opportunity for social cohesion and sustainable local development.

Application of the participatory and sustainable process in the Portoviejo River corridor

Awareness workshops:

- Photo contest
- Minecraft
- Painting footprints

Participatory workshops:

- Co-design with the community of El Mamey.

Regulatory instruments:

- Urban tree manual
- Design guide for green spaces

Mamey Ecological Park – A good example of the recovery of public space

With the aim of reclaiming the public space of El Mamey Park, a process of ecological restoration has been initiated that favours the social appropriation of the space. To this end, workshops were held between the community, the Portoviejo city council and the Yes Innovation team.

The aim of these workshops is to involve the community in order to understand their needs and how they perceive the space. This strategy allows us to promote commitment to the conservation of the biodiversity of the park and the Portoviejo River.

The involvement of different social and age groups has enriched the planning process and involved the community in the understanding and implementation of NbS.

This process is carried out through the following phases:

- Diagnosis
- Co-design
- Proposal

9. Conclusions: Effectively promoting NbS in cities

The seven city impulse papers developed within the INTERLACE project provide a strategic and comprehensive framework for improving urban governance and promoting NbS. Each IP is tailored to the specific challenges and needs of each city, ensuring that the strategies and recommendations are relevant and actionable. This tailor-made approach enables cities to effectively address complex urban issues and promotes sustainable urban development. The key messages to promote NbS will be:

Improving decision-making and policy coherence

The IPs serve as valuable tools for decision-makers, providing detailed guidance and critical information necessary for the adoption and implementation of NbS. By highlighting successful examples and providing practical tools and resources, they help policy makers and urban planners to make informed decisions that integrate NbS into their urban planning and governance frameworks. This not only improves policy coherence, but also enhances the capacity of cities to address challenges such as climate change, biodiversity loss and urban resilience.

Promoting citizen participation and cooperation

A key strength of these IPs is their emphasis on citizen participation and collaboration between a wide range of stakeholders. By actively involving local authorities, civil society organisations, experts and the community, these plans ensure a participatory approach that promotes social cohesion and strengthens community ownership of NbS projects. This inclusive process not only lends legitimacy to the proposed solutions, but also empowers citizens to actively participate in the ecological restoration and sustainable development of their cities. It also fosters a sense of shared responsibility and partnership, increasing the effectiveness and resilience of NbS initiatives. By working together, stakeholders can address local needs and concerns, adapt solutions to specific contexts, and build a collective commitment to environmental stewardship.

Tackling diverse urban challenges

Each IP addresses a wide range of urban challenges through the NbS, including human health and well-being, equitable access to green spaces, green justice, biodiversity protection, climate change adaptation and environmental education. Chemnitz's IP, for example, focuses on inspiring action and promoting behaviour change among citizens and landowners, illustrating the importance of tailor-made strategies to achieve local impact. By providing targeted solutions, the IPs help cities address these multifaceted issues and implement effective and impactful NbS.

Promoting equity, inclusion and sustainability

The overarching goal of the IPs is to promote equity, inclusion and sustainability through restorative NbS. By integrating diverse perspectives and knowledge, the IPs ensure that proposed solutions benefit all segments of the urban population. The IPs were developed using an agile approach⁴ and the interests of the target groups were taken into account in the development of the IPs. This commitment to equity and inclusion is fundamental to creating resilient and thriving urban ecosystems that improve the quality of life for all residents.

Catalysing long-term positive change

The IPs are designed to catalyse substantial and lasting positive change in urban environments. By providing decision-makers with innovative tools and resources, strategically engaging stakeholders, and promoting long-term sustainability and resilience, the IPs lay a strong foundation for sustainable urban development. For example, the IP for Krakow Metropolis introduces an innovative search engine that democratises access to information and funding opportunities for NbS projects, fostering collaboration and increasing the number of projects implemented.

Showcasing successful examples and best practices to raise awareness and change behaviour

By showcasing successful examples and best practices, the IPs provide practical insights and guidance that can be adapted and implemented by other municipalities. The IPs highlight key achievements, such as the ecological restoration efforts in Portoviejo's Mamey Ecological Park, demonstrating how community involvement can lead to significant urban sustainability outcomes. These case studies serve as valuable references for cities wishing to replicate and build on these successes.

Facilitating knowledge sharing and cooperation

By facilitating knowledge sharing and showcasing collaboration between different stakeholders, the IPs promote a culture of learning and continuous improvement in urban governance and NbS implementation beyond the INTERLACE project. This collaborative approach fosters a sense of ownership and commitment among stakeholders, which is essential for successful implementation.

The seven city impulse papers represent a robust and strategic effort to improve urban governance and promote NbS in medium-sized cities. By offering tailored frameworks for action, promoting citizen participation and collaboration, addressing diverse urban challenges, and emphasising equity, inclusion and sustainability, these IPs serve as valuable guides for sustainable urban development. The collaborative development process and adaptation to specific city needs further ensure that the IPs are practical, actionable and impactful, ultimately benefiting the environment and improving the quality of life for city residents.

⁴ See Mortelmans, D., Callebaut, J., Salmon, N., and Jacobs, S. (2021). Draft guidance document about the INTERLACE agile workflow implementation and the agile workflow meeting strategy. Interim report. Deliverable 1.1. INTERLACE Project. Available in English and Spanish: [Draft guidance document about the INTERLACE agile workflow implementation and the agile workflow meeting strategy \(D1.1\) | INTERLACE \(interlace-project.eu\)](#).



INTERLACE is a four year project that will empower and equip European and Latin American cities to restore urban ecosystems, resulting in more liveable, resilient and inclusive cities that benefit people and nature.

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INTERLACE es un proyecto de cuatro años que busca empoderar y apoyar ciudades de Europa y América Latina en la restauración de ecosistemas urbanos, resultando en ciudades más vivibles, inclusivas y resilientes para el beneficio de la gente y la naturaleza.

Project Partners



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