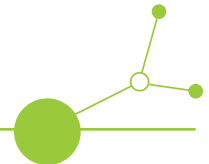


D.2.4.3 Report on pilot action - Citizen engagement and co- creation model



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A. Introduction

Urban areas in Central Europe face increasing environmental challenges due to urban sprawl, which replaces green spaces with grey infrastructure. This shift exacerbates the negative impacts of extreme weather events and climate change, intensifies the effects and incidence of urban heat islands and urban flooding, and leads to air pollution, health problems, loss of biodiversity and increased energy demand. The GreenScape CE project aims to address these challenges by integrating Nature-based Solutions (NbS) and green infrastructure (GI) into urban infrastructure.

GreenScape CE brings together 12 partners across six countries (Austria, Croatia, Hungary, Italy, Poland, Slovenia) to strengthen multi-level governance and facilitate peer-to-peer learning, capacity building, and participatory decision-making. Through the implementation of five NbS/GI action plans and three pilot actions in Milan, Ptuj, Szeged, Warsaw, and Zagreb, the project seeks to provide replicable solutions for integrating NbS into urban planning.

Key project goals include:

- Enhancing citizen engagement and co-creation processes with key stakeholders.
- Developing technical and tendering solutions to facilitate the implementation of NbS/GI.
- Exploring financing models, including public, private, and citizen-led approaches.
- Strengthening policy frameworks to encourage the integration of NbS into urban planning.

One of the main objectives of GreenScape CE is to develop and implement three local NbS pilot actions, leading to citizen co-creation, technical, and funding solutions that capture multiple benefits of NbS in urban areas.

The piloting process builds heavily on preparatory activities such as the definition of a Joint Strategy on Strengthening NbS Implementation in CE available [here](#), the creation of the GreenScape CE visual mapping tool available [here](#), 5 NbS/GI Action Plans in pilot areas available here:

[Local Action Plan Zagreb](#)

[Local Action Plan Ptuj](#)

[Local Action Plan Warsaw](#)

[Local Action Plan Italy](#)

[Local Action Plan Szeged](#)

For the development of the five NbS/GI Action Plans in CE pilot areas, project partners have jointly collaborated, and these action plans are products of the transnational co-design process, capacity building workshops for local government representatives in pilot areas and citizen involvement. Action plans define priority areas and measures for NbS development in the above mentioned five urban areas in CE and serve as a foundation for identifying pilot actions in those areas.

Thus, this report aims to narrate results, experiences and lessons learned concerning Citizen engagement and co-creation model from the piloting actions in Zagreb, Warsaw, Milan, Ptuj and Szeged, to provide a frame for potential replicability. Pilot Partners share this guided and comprehensive reflection based on their experience, which serves as a baseline for potential replicating urban areas.



B. Report on citizen engagement and co-creation model in Warsaw

1. Summary of the pilot action

The pilot action takes place on Wileńska Street in Warsaw's historic Nowa Praga, Praga Północ district—an area with significant pre-war architecture and part of the city's official revitalisation zone. This 1.1 km street, with a daily traffic load of around 60,000 passes, reflects diverse urban characteristics: a dynamic, varied northern edge contrasts with a more stagnant southern side. The street is divided into four sections, guiding the structure of the intervention.

The pilot unfolds in three stages. Stage 1, funded by the GreenScape CE project, includes pre-design work such as spatial programming, geological analysis, and surface run-off studies. Key local stakeholders—including city officials, public space managers, and revitalisation coordinators—participated in the initial promotional meeting. Public engagement began with awareness-raising events about the role of Nature-based Solutions (NbS). Stage 2 focuses on executive design and public consultations. The final stage covers physical implementation, including roadworks, greenery upgrades, and educational activities like community tree planting.

Central to this process is the Citizen Engagement and Co-creation Model, which ensures inclusive planning with active involvement from residents and key stakeholders. Through structured dialogue, consultations, and awareness campaigns, the model fosters local ownership and aligns the pilot with broader revitalisation goals.

2. Identification of the stakeholders/ beneficiaries

Stakeholder engagement plays a central role in the development of NbS and GI in Warsaw, as outlined in Deliverable 1.4.1 - Multi-stakeholder Engagement Map. A comprehensive list of local actors was created and analysed throughout the project. These stakeholders operate at municipal, district, national, academic, and community levels, each contributing distinct expertise and responsibilities.

At the municipal level, the Warsaw Greenery Authority and the Office of Architecture and Spatial Planning provide technical guidance and support decision-making in early planning phases. The Office of Environmental Protection contributes with its expertise in climate resilience and green infrastructure.

District-level engagement is led by the Praga-Północ District Office, ensuring alignment with local needs and priorities. The Revitalisation Department further reinforces the process by involving residents and coordinating monitoring and evaluation efforts.

Community participation is facilitated through the local residents' association Porozumienie dla Pragi, which plays an active role in implementation and supports revitalisation from the ground up.

National involvement comes from the Ministry of Climate and Environment, which offers funding and strategic policy input. Scientific support is provided by the Warsaw University of Life Sciences, ensuring that project design is underpinned by academic research.



This multi-level collaboration enhances project ownership, local relevance, and the long-term sustainability of NbS and GI in Warsaw.

3. Engagement of the stakeholders

Stakeholder engagement in Warsaw has been implemented from the early stages of the project, in line with the guidance outlined in Deliverable 1.4.1, Section C. A key starting point was the Launch Event, which aimed to raise awareness, introduce the project, and establish a foundation for long-term cooperation across departments and with the wider community. Given Warsaw's complex municipal structure and overlapping responsibilities related to green space management and climate adaptation, it was essential to involve a broad spectrum of City Hall units. We have sent the invitations to 7 non-governmental and civil society organizations, 2 university departments, and 10 offices or units of the city of Warsaw. As a result, the launch event was attended by 21 people.

To ensure local relevance, a promotional meeting for the Pilot Action Plan was organized, gathering 13 stakeholders from municipal and district levels, including departments for housing, infrastructure, architecture, and public space management. These meetings served as informal memoranda of understanding (MoUs), clarifying roles and expectations.

To engage citizens, two public awareness-raising events were conducted, focusing on the value of Nature-based Solutions (NbS). These two meetings were attended by 36 people in total. A hackathon-style event was also held to crowdsource ideas for rainwater retention in roadside areas. This interactive tool promoted co-creation by leveraging local knowledge and creativity to address climate challenges.

Challenges included coordination across dispersed administrative units and communicating technical topics to non-specialist audiences. These were addressed through targeted communication tools, cross-departmental briefings, and facilitated workshops, ensuring transparency and mutual understanding throughout the engagement process.

4. Process monitoring and long-term impact

The Warsaw pilot demonstrated that early, structured, and inclusive stakeholder engagement fosters long-term collaboration and improves the relevance of NbS and GI. The process began with a Launch Event, bringing together diverse departments of Warsaw City Hall and community actors, and was followed by public meetings and a hackathon-style event. These actions strengthened awareness, encouraged co-creation, and revealed the need for clearer internal coordination due to the city's complex administrative structure.

A key foundation was the 2018 placemaking-based study of Wileńska Street, which highlighted the importance of seeing residents as experts. Tools such as space audits, structured observations, and guided walks with local "guides" revealed pedestrian challenges and local expectations. The mapping of potential partners – from cultural venues and NGOs to gastronomy and public offices – helped identify roles in the future co-creation process and built a wide base of local support. The hackathon notably impacted the co-design model, sparking collaboration between citizens, professionals, and institutions.

Challenges included navigating fragmented responsibilities among city offices and translating technical content into accessible language. These were mitigated by cross-departmental briefings and interactive public formats. Key recommendations include earlier integration of local actors, investment in



communication tools tailored to different groups, and experimenting with digital and hybrid engagement formats.

C. Report on citizen engagement and co-creation model in Szeged

1. Summary of the pilot action

The Pilot Action for Szeged focuses on greening public transport stops. The greening of bus/tram stops is an urban environmental development project that serves several important goals and aims to improve sustainability, environmental quality, and the well-being of commuters. The purpose of greening is not only aesthetic but also practical, providing long-term benefits that ensure the sustainability of transportation infrastructure. Greening bus/tram stops can help reduce urban environmental problems, such as air pollution, noise, and the urban heat island effect.

Additionally, plants have a significant cooling effect. Trees, shrubs, and flowers provide shade and, through transpiration, also improve the microclimate. This can reduce temperatures around the bus/tram stop, particularly in hot summer months, and mitigate the urban heat island effect. Reducing this effect is important for maintaining the urban microclimate since concrete and asphalt surfaces in cities often amplify temperature increases, which not only impacts comfort but also increases energy costs.

The Citizen Engagement and Co-Creation Model focuses on involving residents and key stakeholders—including the municipality, local departments, civil organizations, and environmental groups—in the planning and implementation of the bus stop greening project. This participatory approach ensures that the project reflects local needs, enhances urban liveability, and fosters a sense of ownership among citizens. Key target groups, such as public transport users, students, and tourists, benefit from improved comfort, environmental quality, and community engagement. The model includes structured steps such as consultations, community planning, and long-term maintenance involvement to ensure sustainability. Ultimately, it strengthens collaboration, transparency, and the long-term success of urban greening efforts in Szeged.

2. Identification of the stakeholders/ beneficiaries

Project Partners have been actively involved in this first phase of identifying the project stakeholders and reflect on their relevance at Pilot level. Categories and sub-groups have been defined as available in the Annex I.

Stakeholders were identified based on their institutional role, level of influence, technical expertise, proximity to the project, and relevance to NbS/GI implementation. A balanced approach was pursued, involving decision-makers, implementers, facilitators, knowledge providers, funders, and community actors.



Stakeholder	Role(s)	Planning Stage	Relation to NbS/GI
Deputy Mayor (Urban Development)	Decision-maker	Design, approval, and oversight	Provides political support, enables institutional adoption of NbS
Municipality of Szeged MJV - Urban Development Department	Project Owner, Implementer	Planning, implementation, monitoring	Directly oversees design and ensures integration of green elements
Municipality of Szeged MJV - Procurement Department	Facilitator	Planning and tendering	Manages transparent and timely procurement of design and contractor services
SZKHT (Szeged Environmental Management Nonprofit Ltd.)	Implementer, Maintenance Operator	Implementation, maintenance	Responsible for long-term upkeep of green infrastructure
Municipality of Szeged MJV - Urban Management Department	Implementer, Facilitator	Implementation, maintenance	Coordinates physical integration of GI in urban areas
Designer (to be procured)	Expert Knowledge Provider	Design	Translates community feedback into technical designs aligned with NbS principles
Permitting Authorities	Regulatory Actor	Design, approval	Ensure compliance with legal and environmental standards for GI integration
Contractor (to be procured)	Implementer	Implementation	Executes the physical construction and planting of green elements
Energiaklub (Professional Partner)	Expert Knowledge Provider, Facilitator	All phases	Offers guidance on energy and environmental integration, stakeholder engagement strategies
Civil Society Organizations (e.g., community gardens, environmental NGOs)	Lobbyist, Mediator, Facilitator	All phases, especially implementation and maintenance	Mobilize public support, maintain installations, support education and outreach



Local Residents and Commuters	Beneficiaries, Contributors	Design, feedback, maintenance	Provide lived experience input; key to ensuring relevance, success, and sustainability
Students and Schools	Beneficiaries, Co-creators	Design (education phase), Maintenance	Participate in greening activities, develop long-term environmental awareness
Tourists	Beneficiaries	Indirect (design consideration)	Benefit from aesthetic and functional improvements but less active in the process

3. Engagement of the stakeholders

Stakeholder engagement in the Szeged pilot was approached through a multi-channel, multi-stage strategy to ensure inclusive participation, co-creation, and long-term commitment to the bus stop greening initiative. A variety of tools and actions were implemented, with attention to transparency, feedback loops, and local relevance.

The Launch event (D1.1.3 event) was an in-person participatory planning session aimed at municipality staff, NGOs, residents, and commuters, designed to introduce the project, gather initial input, and raise awareness.

The hackathon-style events to be organised in each pilot area aimed to connect cities and local stakeholders in co-creating ideas and NbS suggestions. The event was expected to result in suggestions of NbS projects in Szeged to be considered in either Action Plan or/and for the pilot action. The event was organized by City of Szeged with the support of Energiaklub and served inputs for the Action Plan (D1.5.2) development and identification of the pilot action.

The Local Action Plan for Urban NbS Promotion event in Szeged (D1.5.3) was a platform to celebrate the work done for identifying the measures and actions and to outline their potential impacts on the course of adaptation to climate change. The promotion event organised on 12 February in Szeged in the framework of the GreenScape CE international project aimed to promote sustainable urban development, especially green infrastructure and climate-resilient public spaces. The event took place as a stand-alone event, providing an opportunity for the local community and experts to get information and share their experiences. Participants of the Hackathon were also invited, many of whom attended the promo event. Participants were able to brainstorm on the pilot action, which came to a fruitful conclusion. This event was not open to the public, but by invitation only.

The project initially faced low resident engagement, risking the loss of important local insights. A lack of clarity on long-term maintenance roles and the digital divide among older residents also limited inclusive participation.

The project team boosted local involvement by organizing in-person community workshops, pop-up events in busy public spaces, and door-to-door information campaigns, creating multiple opportunities for residents to share their ideas and engage with the design process. To ensure the long-term sustainability of the interventions, a formal maintenance plan was developed early in the design phase, clearly defining the roles and responsibilities of municipal departments, local NGOs, and community volunteers. This approach not only strengthened accountability but also fostered a shared sense of ownership over the project's outcomes.



The “train the trainers” seminar, organized by ALDA+ (IT), improved knowledge, skills, and methodologies to ripple out through the wider community, contributed to the planning of the engagement actions of pilot design and implementation.

4. Process monitoring and long-term impact

The target audience of the bus stop greening project is diverse, as the initiative can impact many local communities, interested individuals, and groups. Identifying the target groups is a crucial step to ensure that the greening measures meet their specific needs and achieve long-term success.

The primary beneficiaries of the project are public space users in the action area and residents.

Hackathon-like events supply opportunities for participation in action planning, giving visibility and strength to a sustainability-driven approach to governance. Although the event is a one-time occasion, the purpose is to create some form of connection between local authorities and stakeholders.

The hackathon event had a significant impact on the co-design model in Szeged, transforming initial fragmentation into meaningful stakeholder collaboration. It served as a catalyst for engagement by bringing together residents, NGOs, students, and municipal actors to jointly explore and shape ideas for the public space redesign. This early collaborative momentum laid the foundation for more inclusive decision-making and strengthened community ownership throughout the planning process. This partnership has since continued to support the urban area in a stable and sustained way. Participants are invited to events organized by the local government (including those on green topics) and are informed about changes in the project. Communication is ongoing. It stands as a potential example for other Central European urban areas on how to initiate and build a collaborative local network from the ground up.

The LAP for Urban NbS Promotion event emphasized the Municipality’ commitment to engaging with diverse stakeholders during and after the project. Interactive session facilitated conversations between project leaders, community representatives, and attendees. The LAP for Urban NbS Promotion event witnessed the participation of over 23 attendees, representing diverse stakeholder groups from local public authority, interest groups including NGOs and students as well.

Co-creation workshops and feedback loops successfully integrated community voices into planning, resulting in more context-sensitive and accepted designs. The partnership between the municipality, SZKHT, schools, NGOs, and Energiaklub led to a balanced blend of institutional support and grassroots engagement. There were several meetings with these partners, either by email or in person (like promo event, hackathon). Face-to-face events, although resource-intensive, lead to deeper engagement and discourse.

Engagement activities initially faced low participation, especially among residents unfamiliar with NbS concepts or sceptical about project outcomes. Older adults and less tech-savvy individuals were underrepresented in digital engagement formats. The project lacked strong physical presence in the early stages making it harder for the public to understand what was planned or being asked of them.

The pilot could establish a lasting culture of collaboration between urban management and local civil society, extending beyond the project’s duration. By involving students and schools, it laid the foundation for ongoing environmental education and potential expansion to other public spaces. Community-involved maintenance plans also ensure the long-term functionality and value of nature-based solutions, one example of this is the plans developed at the community meeting in early 2024.



D. Report on citizen engagement and co-creation model in Zagreb

The City of Zagreb prepared a pilot action under the GreenScape CE project to enhance the climate resilience and social value of urban recreational spaces. The pilot focused on the transformation of a degraded neighbourhood sports field located in Trnsko, Zagreb. The project aimed to create a multifunctional, inclusive, and environmentally sustainable public space. A GIS-based suitability analysis was developed to support systematic site selection, using criteria compatible with the GreenScape CE Visual Mapping Tool methodology.

1. Summary of the pilot action

The pilot project aimed to redesign the existing sports field into a climate-resilient and community-oriented space. The approach combined technical planning with strong citizen engagement from the earliest stages. A structured participatory model was applied, beginning with stakeholder mapping, assessment of community needs, and initial workshops to explore expectations and ideas. The pilot methodology and selection process were also recognised by the City of Zagreb as a model for further application; following this pilot, preparation was underway for ten additional pilot projects outside the GreenScape CE framework.

2. Identification of the stakeholders/ beneficiaries

Project Partners were actively involved in the first phase of identifying the project stakeholders and reflecting on their relevance at the Pilot level. Categories and sub-groups were defined as available in Annex I. Stakeholders were identified through an inclusive mapping process. Key groups included representatives of the local district council (MO) and city district council (VGČ), interested citizens and residents from the surrounding neighbourhood, and entities who were recognised as essential for the future operation and maintenance of the site, pending final confirmation by the feasibility study and project development process. These included all relevant public authorities (notably the municipal water and wastewater company ViO), the local municipal self-government responsible for management and maintenance, and the municipal green space maintenance company ZAGREBAČKI HOLDING d.o.o. - Podružnica ZRINJEVAC. The mapping process aimed to proactively define potential future stakeholders early in the planning phase to facilitate smoother project implementation. The project team used targeted communication tools, including invitations to consultations and information sessions, to ensure inclusive participation.

3. Engagement of the stakeholders

A structured multi-level engagement approach was planned, ranging from information sharing and consultation to active co-design and feedback loops. Initial consultations were organised to define key criteria for site selection, including regulatory, environmental, technical, and community priorities. In a second step, local stakeholders were invited to participate in reviewing the results of the GIS-based suitability analysis and to provide direct input into preliminary design concepts for the pilot site. Target groups included representatives of the local district council (MO), the city district council (VGČ), municipal companies, and citizens from the surrounding neighbourhood.



Furthermore, dedicated workshops and meetings were conducted with local district councils (MO and VGČ), community residents, local NGOs, representatives from public bodies such as the water and wastewater company ViO, Zrinjevac, and the municipal self-government department responsible for future maintenance and operation. The involvement of these diverse groups aimed to ensure that all potential interests and operational aspects were considered from the outset. Specific events included a Hackathon, which gathered around 80 participants to generate innovative ideas and solutions. The event brought together competent public authorities (including City Offices), citizens, representatives of local communities, students, and members of the professional public. As well, a participatory session was held with citizens in Trnsko, where the proposed pilot solution was presented and discussed.

Despite the complexity of legal and administrative frameworks, early engagement helped build trust and understanding, enabling smoother project coordination. Stakeholder input significantly shaped the prioritisation of NbS elements, multifunctionality of the space, site accessibility, and integration of community-driven ideas. Public participation primarily focused on defining the functional uses of the space, including the types of sports facilities, recreational and social areas, and the preferred location of nature-based solutions (NbS), while the technical design and specification of NbS elements remained under the responsibility of experts. The process served as a pilot test for improving participatory urban green space planning within the city.

To engage citizens and stakeholders, tools such as targeted workshops, public consultations, and digital communication channels (including online surveys and information platforms) were implemented. Among the challenges encountered were the complexity of coordinating multiple institutional stakeholders, varying levels of citizen interest and availability, and the need to translate technical NbS concepts into accessible and understandable formats for the wider public.

4. Process monitoring and long-term impact

The monitoring phase of the engagement process focused on collecting feedback, tracking participation rates, and evaluating stakeholder satisfaction with the consultation process. In addition to the documentation of stakeholder meetings and workshops, a citizen survey was conducted in Trnsko to assess satisfaction with the current state of the playground and to gather preferences for future uses and NbS elements. The questionnaire included questions on how often residents use playgrounds, what they find unsatisfactory, which new facilities they would like to see, and which nature-based solutions they support. The project team also monitored the inclusiveness of participation across all key stakeholder groups.

Although the pilot had not yet progressed to physical implementation, the approach was intended to serve as a strategic model. The structured methodology planned for Zagreb was designed to inform the preparation of ten additional pilot projects under the city's urban greening programme. Early, structured citizen engagement demonstrated its value in building ownership and trust among stakeholders. For example, in the citizen survey conducted in Trnsko, several respondents indicated their willingness to contribute to the maintenance of the site or to take part in the organisation of community events.

Monitoring efforts focused on supporting the transition into the design and implementation stages. This included documenting adjustments based on feasibility study results, evaluating the responsiveness of local governance structures, and preparing lessons learned to further refine the engagement model for wider application across other municipal NbS projects. One example identified for improvement was the need for clearer communication of technical NbS concepts to citizens, to make participation more accessible and to ensure that feedback could be more effectively translated into design decisions.

In the long term, the experiences from this pilot were intended to be embedded in all future playground and public space redevelopment projects in Zagreb. The lessons learned went beyond the local context and pointed to necessary changes in procedures, decision-making processes, and even legislative frameworks.



The pilot highlighted how national policies, rooted in European frameworks, encourage NbS projects, while specific legal acts such as the Water Act and the Fire Protection Act simultaneously constrain their implementation. Building on these insights, the pilot established a foundation for proposing legal amendments at the national level, ensuring that NbS can be more systematically integrated into urban planning. In this sense, the project served as a widely applicable pilot and is expected to become a reference point and standard for shifting the paradigm of urban space design in the city.

E. Report on citizen engagement and co-creation model in Ptuj

1. Summary of the pilot action

One of the Municipality of Ptuj's main goals is to improve living conditions in the historic city center, where green spaces are scarce, making the urban climate particularly vulnerable to climate change. By integrating NbS, the city aims to "revitalize" its central area with greenery, creating a more pleasant urban atmosphere, lowering temperatures in the central area during hot periods, improving air quality, and fostering a more sustainable urban environment. Consequently, one of the designated NBS locations is in the historic city center, specifically along Ulica heroja Lacka and Zelenikova ulica.

The second designated area includes residential neighborhoods along Ciril Metodov drevored (CMD), Kvedrova ulica, Panonska ulica, and Rimska ploščad. In these neighborhoods, the municipality seeks to enhance the quality and usability of existing green and publicly accessible spaces located between apartment blocks in two defined zones. The goal is to create accessible and attractive green and blue urban infrastructure, following the principles of NbS. Accessibility will be ensured for all residents of these neighborhoods, as well as for users of nearby educational institutions (kindergarten, primary school, secondary school) and residents of the Ptuj Retirement Home.

2. Identification of the stakeholders/ beneficiaries

The identification process of stakeholder involves and will continue to involve:

- the local community,
- the Municipality of Ptuj,
- users of open spaces,
- landowners.

Each of these groups plays a crucial role in successfully identifying the needs for a specific NbS, co-designing the solutions, implementing them, and ensuring their long-term sustainability, including maintenance and monitoring. Their collaboration and contributions ensure that the solutions are practical, widely accepted, and beneficial for all stakeholders involved.



STAKEHOLDER	ROLE	CONTRIBUTION
LOCAL COMMUNITY	Residents living in or near selected areas for NbS implementation.	<p>Provide insights into local needs, cultural values, and traditional knowledge,</p> <p>Participate in decision-making and implementation processes,</p> <p>Help identify priority areas for NBS interventions,</p> <p>Encourage broader community involvement and increase project acceptance.</p>
MUNICIPALITY OF PTUJ	Local government authorities responsible for urban planning, infrastructure, and environmental management.	<p>Provide regulatory support and ensure compliance with regulations,</p> <p>Allocate financial and logistical resources,</p> <p>Ensure alignment with local development plans and policies,</p> <p>Support awareness and educational campaigns for residents on the importance of NbS.</p>
USERS	Individuals and groups who directly use the land or resources where NBS interventions are implemented (e.g., residents of housing neighbourhoods, recreational users, tourists).	<p>Offer practical insights into the functionality and usability of NBS interventions,</p> <p>Provide feedback on proposed solutions,</p> <p>Participate in the maintenance and monitoring of interventions,</p> <p>Promote and support the use and benefits of NBS among the wider public.</p>
LANDOWNERS	Individuals or entities that own the land or resources targeted for NBS interventions (e.g., private landowners, businesses).	<p>Provide access to land for intervention implementation,</p> <p>Invest in NBS projects, either financially or by providing resources,</p> <p>Ensure long-term sustainability and maintenance of interventions,</p> <p>Engage in the planning and design process to align projects with their interests and needs.</p>

3. Engagement of the stakeholders

In the NbS pilot project in Ptuj, stakeholder engagement was a continuous and adaptive process. We involved municipal departments (urban planning, environment, utilities), local residents and housing communities. Co-creation and collaboration processes with public were organized to collect input, identify local needs, and explain the principles of NbS.



One of the main challenges was **limited awareness and understanding of NbS**, particularly among residents and some technical stakeholders. To address this, we used visual materials, reference examples, and simple language to communicate the expected benefits (e.g., flood reduction, improved microclimate, aesthetics).

Another challenge was **conflicting expectations** regarding land use, especially between green infrastructure and car parking needs. This was mitigated through participatory design approaches and iterative planning – presenting alternative scenarios and adjusting based on feedback.

Administrative coordination across departments was also time-consuming, but regular interdepartmental meetings helped maintain alignment. The key takeaway is that early, transparent, and visual communication, paired with flexibility in design, is essential for building trust and support among diverse stakeholders.



STAKEHOLDER	ENGAGEMENT	CONTRIBUTION
Residents living in or near selected areas for NbS implementation.	<p>BE INVOLVED</p> <p>Attend local events organised to deepen your knowledge of the other stakeholders and make your concerns and recommendations heard.</p>	<p>Provide insights into local needs, cultural values, and traditional knowledge,</p> <p>Participate in decision-making and implementation processes,</p> <p>Help identify priority areas for NBS interventions,</p> <p>Encourage broader community involvement and increase project acceptance.</p>
Local government authorities responsible for urban planning, infrastructure, and environmental management.	<p>“COLLABORATE”</p> <p>Promote events not only to disseminate the project results but also to become testimonials / promoters and, as such, support and build confidence in the project's approach and tools.</p> <p>and</p> <p>“BE CONSULTED”</p> <p>Participate in regular meetings</p>	<p>Provide regulatory support and ensure compliance with regulations,</p> <p>Allocate financial and logistical resources,</p> <p>Ensure alignment with local development plans and policies,</p> <p>Support awareness and educational campaigns for residents on the importance of NbS.</p>
Individuals and groups who directly use the land or resources where NbS interventions are implemented (e.g., residents of housing neighborhoods, recreational users, tourists).	<p>“BE INVOLVED”</p> <p>Attend local events organised to deepen your knowledge of the other stakeholders and make your concerns and recommendations heard.</p>	<p>Offer practical insights into the functionality and usability of NBS interventions,</p> <p>Provide feedback on proposed solutions,</p> <p>Participate in the maintenance and monitoring of interventions,</p> <p>Promote and support the use and benefits of NBS among the wider public.</p>
Individuals or entities that own the land or resources targeted for NbS interventions (e.g., private landowners, businesses).	<p>“EMPOWER”</p> <p>Participate in the co-creation activities to provide insights/needs/expectations concerning main investigation sectors, the technological tools developed</p>	<p>Provide access to land for intervention implementation,</p> <p>Invest in NBS projects, either financially or by providing resources,</p> <p>Ensure long-term sustainability and maintenance of interventions,</p> <p>Engage in the planning and design process to align projects with their interests and needs.</p>



4. Process monitoring and long-term impact

KEY LESSONS LEARNT:

Challenges in implementation:

- Community scepticism and resistance - lack of trust in the effectiveness of NbS among residents and decision-makers.
- Weak cross-sectoral collaboration - insufficient cooperation between municipalities, investors, ecologists, and architects.
- Limited public awareness and understanding of NbS, their forms, and their role in establishing new NbS interventions.
- Without the support from local authorities and municipal structures in implementation and management you cannot achieve the results.

Effective actions to have long-term impact:

- Public awareness and education - campaigns, workshops, and engaging residents in the planning process.
- Cross-sectoral collaboration - connecting urban planners, ecologists, municipal services, and local authorities.
- Pilot projects and demonstration sites - establishing NbS showcase projects to demonstrate their benefits in practice
- Raising awareness and educating stakeholders on the benefits and maintenance of NbS on each possible event.

It is necessary to ensure the involvement of stakeholders (residents, utility companies, private sector) in the early stages of spatial and climate planning.

F. Report on citizen engagement and co-creation model in Metropolitan City of Milan

1. Summary of the pilot action

The GreenScape CE pilot in the Metropolitan City of Milan focuses on the systematic mapping of Nature-based Solutions (NBS) and Green Infrastructure (GI) across all 133 municipalities under its jurisdiction. This metropolitan-scale action aims to address fragmented spatial data, lack of standard definitions, and weak accessibility indicators by producing a harmonized inventory of 15 NbS typologies, differentiated by public/private ownership to measure accessibility. The data is compiled and visualized through the GreenScape Visual Mapping Platform (GVMP) a strategic planning and monitoring tool developed collaboratively with local and regional institutions.

To ensure legitimacy and uptake, the pilot is built on a multi-tiered engagement model. It integrates metropolitan and municipal authorities, academia (Politecnico di Milano), and European networks (NbS Italy Hub, SELINA CoP) alongside the private sector through Alleanza per il Clima of Municipality of Milan. Engagement strategies include an online mapping competition for citizens to submit green elements, co-



design workshops, and academic hackathons to co-create NBS solutions. The “GreenScape CE Milan Ambassadors” program of Ambiente Italia mobilizes interns (students, young professionals) to support mapping and promote awareness. The pilot was also presented at national events, such as the 2025 NbS Italy Hub Annual Meeting, reinforcing stakeholder buy-in.

2. Identification of the stakeholders/ beneficiaries

Stakeholders were identified through a structured mapping process following the GreenScape CE engagement framework, based on their institutional role, spatial jurisdiction, knowledge capacity, and potential benefits from enhanced NbS planning. Key stakeholders include: municipal authorities across all 133 municipalities, responsible for territorial data contribution and use of mapping outcomes; CMM planning and environment departments, leading integration of mapped outputs into strategic tools; academia, notably Politecnico di Milano, which contribute geospatial analysis and support student involvement; and Ambiente Italia, the technical partner coordinating engagement and platform development. The “GreenScape CE Milan Ambassadors” include university interns and PhD students in agronomy, urban planning, and architecture, responsible for field verification, typology classification, and awareness raising. Private sector actors contribute with expertise and promote replication. Civil society actors and local citizen groups support outreach and local knowledge gathering. Stakeholders were selected to ensure representation across governance levels, professional domains, and user groups, thus supporting a balanced model of metropolitan-scale co-creation.

3. Engagement of the stakeholders

Stakeholder engagement followed a blended approach combining structured institutional coordination and participatory outreach. GreenScape Ambassadors (students, PhD researchers) hosted by Ambiente Italia supported GI/NbS mapping, field checks, and awareness raising. Academia (Politecnico) ensured scientific robustness. Municipalities were involved through workshops, technical briefings, and shared GIS templates. Citizens engaged via a mapping competition where they uploaded photos and details of local green assets. Co-design labs and a “Greenathon” hackathon mobilized students and professionals to ideate NBS solutions.

Engagement visibility was amplified through national platforms such as the NbS Italy Hub Annual Meeting 2025. Challenges included inconsistent municipal data and limited public awareness. These were mitigated through institutional anchoring, social media communication, and academic incentives (e.g. credits, training from NbS Hub).

4. Process monitoring and long-term impact

Monitoring combined technical verification (platform testing, field data) and stakeholder feedback (event evaluations, continuous meetings). The cross-sectoral ecosystem created by engaging planners, students, and NGOs helped co-develop a metropolitan GI/NbS culture. Student Ambassadors enabled systematic mapping and civic engagement. Public visibility improved through presentations (e.g., NbS Italy Hub). Co-design and hackathons sparked new collaborations between local actors.

Challenges included limited continuity of citizen participation and varied engagement among municipalities. Future improvements include formalizing Ambassador roles, integrating engagement into city policies, and developing mobile-friendly citizen tools. Long-term impacts include the development of a unified NBS/GI planning approach across CMM, creation of cross-departmental coordination culture, and strengthened



planning legitimacy. Recommendations include aligning outreach with governance tools, supporting citizen-led data platforms, and experimenting with digital/AR engagement formats to strengthen future initiatives.