

FOSTERING NATURE-BASED SOLUTIONS FOR SMART, GREEN AND HEALTHY URBAN TRANSITIONS IN EUROPE AND CHINA

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REPORT ON THE STAKEHOLDER DIALOGUE

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EXECUTIVE SUMMARY

In response to the growing need for sustainable urban development, the Stakeholder Dialogue in the framework of the REGREEN project brought together leading experts from across Europe to explore the transformative power of NbS in addressing urban challenges and fostering thriving, green, and healthy cities. The stakeholder dialogue was organised in the framework of the European Resilience Forum in October 2023 in Cascais, Portugal. This report provides an overview of the key takeaways and recommendations that emerged from this insightful dialogue.

The dialogue shed light on the benefits of NbS for urban environments, encompassing improved air quality, mitigation of the heat island effect, efficient stormwater management, and enhancement of biodiversity. These solutions can be integrated into various urban infrastructures, such as green roofs, parks offering adaptable solutions to transform urban landscapes.

The dialogue underscored the imperative of collaborative efforts in effectively implementing NbS. A collective approach involving urban planners, policymakers, researchers, and active involvement of community members is crucial for the success of such initiatives. Furthermore, the need for increased research and data on the performance of NbS across diverse urban contexts was emphasized, emphasizing the need for a more evidence-based approach to implementation.

The recommendations arising from the dialogue emphasize the importance of integrating NbS into the very fabric of urban planning and development. Advocating for the seamless integration of NbS into urban planning frameworks, zoning regulations, and development guidelines is essential. Additionally, strategic communication plays a vital role in promoting NbS adoption. Increased collaboration between researchers and urban planners is crucial, while visualization tools can effectively communicate the multifaceted benefits of NbS.

Engaging stakeholders is paramount to the successful implementation of NbS. Establishing governance structures that facilitate active stakeholder participation, including participatory platforms to gather diverse inputs, is crucial. Embracing innovative urban planning processes that prioritize biodiversity and the incorporation of NbS to address complex urban challenges is also stressed.

A holistic approach to problem-solving is proposed with the development of comprehensive NbS strategies that integrate multiple solutions. This approach aims to offer a more robust and adaptable response to the intricate and evolving challenges faced by urban environments. Continuous monitoring systems to track NbS performance and foster adaptive strategies that can evolve over time to meet changing urban needs are also advocated.

To promote knowledge exchange and best practices, the establishment of a marketplace for NbS solutions is recommended. This platform would facilitate the exchange of NbS solutions and promote collaboration among cities striving for sustainable development. Additionally, a





strong emphasis is placed on education and public awareness. Investment in educational initiatives to enhance public awareness of NbS benefits, along with collaboration with schools and community organisations to integrate NbS education into curriculums, is deemed essential.

The Stakeholder Dialogue on NbS highlighted the crucial role that NbS can play in fostering thriving, green, and healthy European cities. The recommendations outlined in this summary provide a roadmap for cities to harness the transformative potential of NbS.





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1 INTRODUCTION

The stakeholder dialogue of the REGREEN project was organised as part of the 10th edition of the European Resilience Forum. The stakeholder dialogue was structured in three main activities: i) the Marketplace interaction with more than 300 participants of the Forum representing research institutes, the private sector, and local and regional authorities; ii) one interactive Workshop, and iii) one interactive round table discussion. This stakeholder dialogue was an opportunity to bring together thought leaders, practitioners, and policymakers to discuss the role of Nature-based Solutions (NbS) in building resilient cities.

The marketplace was a space for participants to showcase their research findings, tools, and technologies related to NbS. This included presentations, poster sessions, and networking opportunities. The Marketplace was a great way for participants to learn about the latest developments in the field of NbS and to connect with other experts in the field.

The interactive Workshop focused on developing NbS-focused pathways for resilient cities. Participants discussed the tools and methodologies for holistic valuation of NbS, stakeholder engagement, and community needs alignment. The Workshop also included breakout groups that explored NbS tools and technologies in depth.

The Round Table Discussion brought together experts from the field of NbS to discuss policy insights and actionable recommendations for mainstreaming NbS in urban planning. The discussion focused on the need to develop a paradigm shift in adaptation planning, to set target values for NbS, to value NbS through deliberate assessment, to co-create solutions with communities, and to raise awareness and improve education about NbS and related benefits.

The stakeholder dialogue succeeded in providing a platform for participants to share their knowledge, learn from each other, and develop a common vision for the future of NbS in cities. The outcomes of the dialogue will be used to inform the development of new policies and initiatives to promote the use of NbS in urban planning.





2 STAKEHOLDER DIALOGUE SESSIONS OVERVIEW

Topic stream

Mainstreaming solutions for a just transformative pathway: an integrated approach to climate resilience.

The sessions under this topic focused on concrete solutions that in the last 10 years of discussions, proved to increase resilience and sustainably make cities adapt to the changing climate. Looking particularly at how Nature-based Solutions and green-blue infrastructure have been mainstreamed in planning and action, speakers assessed the performance of tested solutions and the need to accelerate and increase their impact at a larger scale. Reflecting on the transformational aspect of resilience, these sessions discussed the role of participation in upscaling solutions.

Key Questions posed.

Are key community systems today more resilient than 10 years ago?

- Are communities sufficiently mature to meet the resilience challenges (including climate change and other natural disasters, urban conflicts, pandemics, etc) towards 2030?
- What solutions could improve resilience of key community systems?
- What solutions could improve societal resilience?

2.1 Interactive Poster Session and Networking – Marketplace

The Marketplace provided a dedicated space for participants to interact, exchange contacts, and explore potential collaboration opportunities. This fosters a community of NbS practitioners and enthusiasts, encouraging the exchange of knowledge and the development of new partnerships.





Figure 1: Interaction of the REGREEN partners with the participants of EURESFO at the Marketplace

Knowledge Dissemination

Researchers and organisations can showcase their research findings and tools in the form of posters. This fosters informal discussions and networking among participants, allowing them to exchange ideas, share experiences, and explore potential collaboration opportunities. The Marketplace facilitates knowledge dissemination in several ways:

 The Marketplace provides a platform for identifying potential areas for future stakeholder dialogues, collaborative initiatives, and ongoing knowledge-sharing.





 The collected information and insights are compiled into this report to be shared with a broader audience, further disseminating the knowledge gained during the stakeholder dialogue.

By facilitating knowledge exchange and collaboration, the Marketplace played a crucial role in advancing the field of NbS and promoting its widespread adoption.

2.2 Workshop on Unveiling the Power of Nature-based Solutions for Equitable, Green, and Healthy European Cities

2.2.1 Objective

The objective focused on advancing the understanding and implementation of Nature-based Solutions (NbS) within communities to enhance resilience against a range of challenges. These objectives encompass tools for decision-making, incorporating NbS into planning processes, valuing NbS through deliberate assessment, setting target values for NbS, co-creating solutions with communities, and raising awareness and improving education about NbS and related benefits. The ultimate goal was to ensure that key community systems are not only more resilient than they were 10 years ago but are also well-prepared to meet the resilience challenges anticipated towards 2030 and beyond.

2.2.2 Session description

This session focused on advancing the role of NbS as a transformative approach for urban resilience. Participants engaged in robust and interactive discussions on how to develop NbS focused pathways, by integrating spatial assessment and decision-making tools into planning processes. Examples and methodologies for a holistic valuation of NbS were presented, fostering holistic urban planning. The session also emphasized community needs alignment through stakeholder engagement, co-creation, and educational efforts. Breakout groups explored NbS tools and technologies in depth, fostering expertise in ecosystem restoration, urban planning, and integration. Concluding with policy recommendations and collaborative action points, the session aimed to empower stakeholders to implement NbS effectively for a resilient urban future.

2.2.3 Key Topics [reflected in the break out groups]

- 1. Develop NbS focused pathways.
 - a. Tools for decision-making
 - b. Incorporating NbS into planning processes
 - c. A paradigm shifts in adaptation planning.
- 2. Holistic Valuation of NbS
 - a. Target Values for NbS
 - b. Different perspectives of valuation of NbS
- 3. NbS that meet the needs of the community.
 - a. Stakeholder engagement/ Co-creation in ULLs
 - b. Education and awareness raising
 - c. Vulnerable populations and multiple knowledges

2.2.4 Agenda

18th October 2023, 14.15 pm -15.45pm CET

- 14:15 14:40: Setting the scene Panel Discussion, 25.'
 - \circ 4 speakers (externals) 5' each for setting the scene of the workshop.
- 14:40 15:25: NbS Round Table: Decisions, Valuation, and Community Engagement 45'





- o 3 round table discussions, for deep dives on the three key topics (see below)
- 15:25 15:45: Policy Insights and Actionable Recommendations Panel Discussion, 20'
 - 4 speakers (2 researchers & 2 cities) 5'. Each provides highlights from the discussion.

2.3 Round table discussion & Field visit on the Ecological quality of restoration activities and nature-based solutions

2.3.1 Session description

The session, "Ecological quality of restoration activities and nature-based solutions," delved into the fundamental principles and practical strategies that underpin the creation of resilient cities intertwined with their natural surroundings. This comprehensive exploration aimed to equip participants with the knowledge and tools required to effectively integrate restoration practices into urban planning for a sustainable future.

2.3.2 Key Topics

Nurturing Nature's Wisdom: Understanding the Natural Values to Preserve

The foundation of resilient cities rests on their capacity to recognize and preserve the natural values embedded within their landscapes. By understanding these natural values, cities can align their restoration activities with the inherent potential of their landscapes.

From Vision to Action: Co-Creating Restoration Activities with Local Knowledge

Restoration isn't just a process—it's a collaborative journey of co-creation. Through real-world stories and interactive discussions, learn how communities and their knowledge can guide restoration efforts, nurturing biodiversity and fostering a sense of shared ownership.

Orchestrating Resilience: Crafting Holistic Action Plans for Nature-Based

Nature-Based Solutions (NbS) have emerged as cornerstones of resilient urban planning. From greenblue infrastructure to biodiversity-rich corridors, discover the strategic design principles that yield multifaceted benefits, ranging from climate adaptation to improved quality of life.

Trust in Resilience: Weaving Public and Politicians Confidence through Restoration

Restoration activities become catalysts for change when embraced by informed communities. Strategies that ignite curiosity, empower informed decision-making, and cultivate a shared commitment to restoration and ecological preservation.

2.3.3 Agenda

Quinta do Pisão Biodiversity, 19th October 2023, 14.15-17.45pm CET.

- Opening Plenary, 5'
- Speakers' Interventions, 25'
- Audience Questions, 15'
- Speakers' Interaction with the public, 25'
- Closing of the session, 5'





3 PREPARATION OF THE STAKEHOLDERS DIALOGUE

3.1 Detailed structure of the workshop on Unveiling the Power of Naturebased Solutions for Equitable, Green, and Healthy European Cities

3.1.1 Details of the activities during the session

Format of the session: Panel Discussion and Breakout Groups Discussions

Time: 90 min

Participants: 50 - 80

Material support: 3 tables/ 3 standing boards

3.1.2 Setting the scene – Panel Discussion

- Welcome and Opening Remarks: Introduce the purpose of the dialogue and its importance in the context of addressing environmental challenges through Nature-based Solutions.
- Define Nature-based Solutions within the context of urban resilience: Provide a clear context and examples of NbS, outlining their role in mitigating climate change, enhancing biodiversity, and promoting sustainable development.

3.1.3 NbS Round Table: Decisions, Valuation, and Community Engagement Breakout Groups: Decisions, Valuation, and Community Engagement

- Interactive session where participants can delve deeper into specific topics, such as ecosystem restoration, urban planning with NbS, or integration of NbS into the planning system. See key topics above.
- Using the context from the plenary discussion, divided into working groups, participants
 discuss similar ideas emerged on issues originated in the broader environment that impact
 the local context, members, and the organizational priorities.
- The breakout leader helps to identify linkages between different contexts and build consensus on what are the issues/what are/should be the actions.

3.1.4 Policy Insights and Actionable Recommendations – Panel Discussion

Recap Highlights: Summarize the key takeaways from panel discussions and round-table discussions.

- Policy Implications: Discuss how research findings can inform policy decisions and regulatory frameworks.
- Action points: Facilitate discussions on how stakeholders can collectively translate research outcomes into actionable plans for NbS implementation in their respective sectors or regions.

Future Directions: Potential for future stakeholder dialogues, collaborative initiatives, and ongoing knowledge-sharing

3.1.5 Moderators

Elena Petsani, ICLEI Europe

3.1.6 Speakers & Round Table Leads

Setting the scene [14.15-14.45]

o Efren Feliu, Tecnalia [5-7']





- Bianca Katharina Lüders, City of Hamburg [5-7']
- o Maria Loroño, BC3 Basque Centre for Climate Change [5-7']
- o Marianne Zandersen, Aarhus University [5-7']

3 Breakout Sessions Leads [14.40-15.25]

- o Ellen Banzhaf, Helmholtz-Zentrum Für Umweltforschung UFZ
- Laurence Jones, UK Centre for Ecology and Hydrology
- o Sally Anderson, Aarhus University
- Åsa Ode-Sang, Sveriges Lantbruksuniversitet

Policy Recommendation and Action Plan for cities – highlights from discussions [15.25-15.45]

- o Ellen Banzhaf, Helmholtz-Zentrum Für Umweltforschung UFZ
- o Marc Barra, Institut Paris Region
- o Lene Vinther Larsen, Aarhus Kommune
- Åsa Ode-Sang, Sveriges Lantbruksuniversitet

The roles:

Topical Experts

- Reflections on the latest research outcomes related to Nature-based Solutions.
 These reflections can cover topics such as the ecological impact of NbS, cost-effectiveness, and case studies from different ULLs.
- Challenges and opportunities of adopting NbS, and how research outcomes and tools can address these challenges.

ULLs

 Highlight Success Stories: Share real-world examples of successful NbS projects that have positively impacted communities and ecosystems.





Table 1: Detailed planning for the workshop and the roles of the session leaders.

Breakout Session Title/ Talking points	Time	Objective	Guiding questions	Master of the Session	Invited Expert
Success for adaptation, vulnerable communities	14:15	Presentation of strategies and approaches that communities can employ to enhance their resilience in the face of various challenges (e.g., climate change, disasters, conflicts, pandemics) by the year 2030.	Cities all over the world are working to adapt to the changing climate, but what does it mean to be well adapted to climate change?	Elena Petsani	Basque Centre for Climate Change (BC3)
Are the communities today more resilient than 10 years ago?	14:20		Are the communities today more resilient than 10 years ago? How can cities and regions use evidence, digital tools, and formal planning, while aligning policies and embracing a shift in planning paradigms to achieve multifunctional, cost-effective resilience?	Elena Petsani	Tecnalia
Unveiling the potential of NbS?	14:25		Considering the challenges communities face in building resilience, particularly in the context of climate change, what are the benefits to integrate NbS in the urban landscape? How can cities integrate NbS more successfully in their planning processes and investment plans?	Elena Petsani	Aarhus University
	14:30	Provide the audience with actionable insights	How can innovative digital tools (like DIPAS and Sensafety), which leverage urban data and digital	Elena Petsani	Hamburg City





Breakout Session Title/ Talking points	Time	Objective	Guiding questions	Master of the Session	Invited Expert	
		into the role of digital tools in fostering resilience.	participation, enhance the resilience of key community systems ³ and contribute to societal resilience?			
Paradigm shifts in adaptation planning	14:40 - 15:25 (3 rounds of 15 minutes)	Just transition (Resilience)	Can we know if implemented are NbS effective and for whom? Do we need disruption in the field?	Marta Olazabal (BC3)		
Tools for decision-making		15:25 (3 rounds of 15	Maladaptation Bottom-up approaches	What tools and decision-making aids are useful, what strengths and what weaknesses are there in existing tools?	Laurence Jones (UKCEH)	
Incorporating NbS into planning processes		Prioritising actions and responding to local issues	Why and how could we identify priority areas for deploying NbS?	Gwendoline Grandin (IPR)		
Target Values for NbS	14:40 - 15:25 (3 rounds of 15 minutes)	Most appropriate types of target values	How do target values support your planning?	Ellen Banzhaf (UFZ)		
Link between valuation and assessment		Planning processes Digital tools Effectiveness on the NbS assessment	How do you envision the link between valuation and assessment with digital tools-effectiveness and how it can be used in spatial/urban planning?	Efrén Feliu (Tecnalia)		

³With "key community systems", in line with the definition in the Mission Adaptation Implementation Plan, we refer to: 1. Ecosystems and Nature-based Solutions, 2. Critical Infrastructure, 3. Health and Wellbeing, 4. Land use and Food Systems, 5. Water Management, 6. Local etc.





Breakout Session Title/ Talking points	Time	Objective	Guiding questions	Master of the Session	Invited Expert
Valuation of NbS – different perspectives [Deliberate valuation; photoelicitation; ecological momentary assessment; reduced damage costs]		How best to measure and understand values of NbS to people	What role do values towards NbS have in your decision-making and planning?	Marianne Zandersen (AU)	
Stakeholder Engagement/Co-creation in ULLs	14:40 - 15:25 (3 rounds of 15 minutes)	Spaces for (community) dialogue	How to reach and dialogue with citizens?	Åsa Ode Sang (SLU) & Lene Vinther Larsen (AAKS)	
Vulnerable populations and multiple knowledge				Maria Lorono (BC3)	
Education and awareness raising		How to inculcate long-term, resilient human-nature relations and interaction adaptable to the challenges of the moment?	How young people may contribute to exploring/ learning that furthers resilient human/nature interaction.	Sally Andersen (AU)	





Breakout Session Title/ Talking points	Time	Objective	Guiding questions	Master of the Session	Invited Expert
Policy - City Perspective	15:25	Discuss how cities are integrating NbS into public and private policies / action plans	Main question: Looking back 10 years ago: are we more confident about NbS and resilience strategies based on nature? In the Paris region, are NbS only experimental or mainstreamed in urban policies?	Elena Petsani	Marc Barra
Action Points- Mainstreaming Research outcomes into practice	15:30	Provide an overview how target values and the assessment processes of NbS can be up taken from practitioners in the cities.	How can we effectively bridge the gap between research findings and practical applications in Nature-based Solutions (NbS) projects, considering the selection of appropriate target values, planning processes, digital tools, and the assessment of NbS?	Elena Petsani	Ellen Banzhaf
Policy - City Perspective	15:35	How to transform good intentions (policies) into real life changes with Multiple functional NbS and local engagement	In your experience, can you provide examples of government policies or regulations that have been particularly effective in promoting the adoption of NbS? The city of Aarhus is working with different inclusive tools such as the floor maps to foster the understanding and involvement of various stakeholders in the design	Elena Petsani	Lene Vinther Larsen





Breakout Session Title/ Talking points	Time	Objective	Guiding questions	Master of the Session	Invited Expert
			and implementation of the local NbS? What is your experience with these tools so far and what are the lessons learned that could inspire other cities to integrate them in their context?		
Action Points - Mainstreaming Research outcomes into practice	15:40		How can we encourage collaboration between various stakeholders (e.g., public, and private sectors) to support the implementation of NbS projects, and what incentives have been particularly effective?	Elena Petsani	Åsa Ode-Sang





3.2 Detailed structure of the round table discussion on the Ecological quality of restoration activities and nature-based solutions

Format of the session: Panel Discussion and Field Visit

Time: 75 min session & 120minutes of the field visit

Participants: 50 - 80

3.2.1 Itinerary of the session in the Quinta do Pisão Biodiversity Centre

14:15 – Departure from Nova SBE, by Bus

15:00 – 16:15: Ecological quality of restoration activities and nature-based solutions

16:15 – 18:15: Field Visit Quinta do Pisão Biodiversity

18:30 - Departure from Quinta do Pisão Biodiversity

19h00 - Arrival to Nova SBE

3.2.2 Overview of the panelists

Moderator

Elena Petsani, ICLEI Europe

Speakers

- 1. Speaker: Doris Knoblauch, Senior Fellow, Ecologic Institute, Berlin
- 2. Speaker: Iva Bedenko, Senior Advisor, City of Zagreb
- 3. Speaker: Lene Vinther Larsen, Department Manager, City of Aarhus
- 4. Speaker: Marc Barra, Ecologist, Institut Paris Region
- 5. Speaker: Luis Tejero Encinas, City of Madrid

3.2.3 Questions for guiding the discussion

Speaker: Lene Vinther Larsen, Department Manager, City of Aarhus

Main question: What design principles and strategies are essential for creating multifaceted nature-based solutions that enhance climate adaptation and improve the quality of life in cities?

Back up Question: Can you provide concrete examples of green-blue infrastructure and biodiversityrich corridors that have demonstrated their effectiveness in enhancing urban resilience and quality of life?

Speaker: Luis Tejero Encinas, City of Madrid

Main question: How can urban planners and policymakers encourage the integration of nature-based solutions into existing city infrastructure to enhance overall resilience?

Back up Question: Can you provide concrete examples of green-blue infrastructure and biodiversityrich corridors that have demonstrated their effectiveness in enhancing urban resilience and quality of life?

Speaker: Marc Barra, Ecologist, Institut Paris Region

Main question: How can restoration activities inspire trust and confidence among the public and politicians, leading to informed decision-making and a shared commitment to ecological preservation in urban areas?

Back up questions: What methods and tools can cities employ to assess and prioritise natural values in their landscapes for ecological restoration and resilience?





Speaker: Doris Knoblauch, Senior Fellow, Ecologic Institute, Berlin

Main Question: How can involving local communities in the co-creation of restoration activities contribute to building resilient cities with a sense of shared ownership?

Back up questions: Can participation also draw lines between the different efforts to mitigate the triple crises we are currently facing: biodiversity loss, climate change and plastic pollution?

Speaker: Iva Bedenko, Senior Advisor, City of Zagreb

Main Question: What communication and engagement strategies have proven successful in cultivating trust and confidence in urban restoration initiatives?

Back up question: What examples exist of successful restoration projects that were co-created with local knowledge, and how did they impact community engagement and biodiversityD





4 OUTCOMES OF THE STAKEHOLDER DIALOGUE

This section provides a summary of the key inputs from the keynote speakers and the workshop participants during the two panel discussions and the interactive session of the workshop.

4.1 Unveiling the Power of Nature-based Solutions for Equitable, Green, and Healthy European Cities

4.1.1 Workshop Graphic Overview

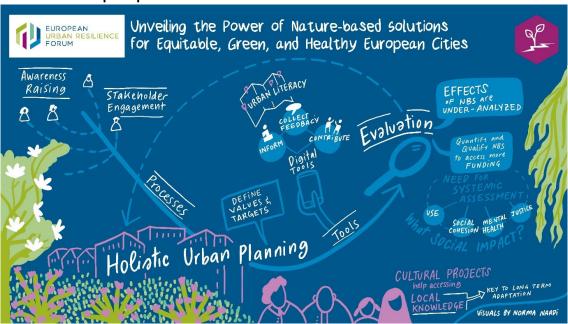


Figure 2: Graphic overview of the key takeaways, Source: EURESFO23

4.1.2 Unveiling the power of NbS – Setting the scene

The plenary discussion highlighted several key points in response to the questions posed:

Adaptation Efforts and Societal Impact:

- Cities worldwide are actively working to adapt to climate change.
- The adaptation process is not well-documented in terms of societal impact.
- Efforts have often prioritized scientific knowledge over local knowledge. Hence projects such
 as REGREEN and "Imagine Adaptation" emphasizes the importance of local participation and
 narratives for future scenarios, that can provide the space for public participation and active
 involvement in decision making processes.

Need for Awareness and Collaboration:

- It is important to showcase NbS as a service to implement for the benefits of the cities and communities.
- Local communities need to be aware of the societal impacts of decisions made in the adaptation process.





 Local knowledge should be integrated with scientific knowledge for more effective solutions in the urban areas. Interactive tools like the Walkable Floor maps can be used as the method of engaging different stakeholders to share knowledge and co-create solutions that work best for the cities.

Benefits of Nature-Based Solutions (NbS):

- NbS offer multiple benefits, including heat reduction, water quality improvement, flood protection, and mental and physical well-being.
- Quantifying and qualifying the benefits of NbS is crucial to attract private investors and financial resources.
- The REGREEN project demonstrates the economic and societal benefits of NbS, including reduced economic costs from loses and damages due to climate change.

Challenges and Solutions in Adaptation:

- The past decade has seen increased evidence, knowledge, and awareness in adaptation solutions. The adaptive solutions are implemented considering the cost-effective models and the targets that we want to achieve. In the last 10 years, there was a claim of evidence. In this 10 year we have more evidence, more knowledge, much more awareness, and we have a lot of existing demonstrations and pilots, which are helping us building resilience in different places. Though, upscaling and demonstrating different approaches remain major challenges.
- Urban planning frameworks can either enable or constrain the implementation of effective measures. Sometimes is a constraint because they do not allow to implement effective measures. Hence the multi-scale considerations and cascading effects are essential in managing and monitoring adaptation efforts. The collaboration between the research community and practitioners is vital as, on the one hand researcher can provide scenarios that quantify the impact of the NbS in the urban areas, and on the other hand the practitioners can make use of these data to make data informed decisions.

Building Resilience Through Digital Innovation:

- Innovative digital tools like DIBAS and Sensafety leverage urban data and digital participation.
 These tools contribute to enhancing the resilience of key community systems and societal
 resilience. Digital tools, such as DIBAS in Hamburg, provide accessible and open urban data
 for everyone, helping people comprehend what works in the city and what changes are
 needed.
- Digital tools can be instrumental in understanding urban dynamics, planning for resilience, and engaging communities in the decision-making process.
- Urban data support communities to become more resilient by understanding needs and qualities of neighbourhoods.





4.1.3 NbS Round Tables: Decisions, NbS Valuation, and Community Engagement

The breakout groups discussion highlighted several key points in response to the key topics of the workshop. The key points discussed in Breakout Group 'Holistic Valuation of NbS' are as follows:

Target Values for NbS





Figure 3. Holistic Valuation of NbS breakout group discussions

Envisioning a Sustainable and Equitable Future with NbS:

- Aim to cover 3% of urban areas with Nature-Based Solutions (NbS) by 2030, known as the 3-30-300 approach.
- Ensure that all residents have equitable access to NbS within a 30-minute walk.
- Prioritize the design of NbS to maximize local benefits and enhance overall liveability.

Measuring outputs:

- NbS have both long-term environmental benefits and short-term social benefits.
- It is important to track and communicate these benefits to stakeholders.
- There are challenges in quantifying the avoided costs of NbS, but monitoring is essential to assess their effectiveness.

Different Perspectives of Valuation of NbS

- Adapting to Constraints and Quantifying Benefits for Enhanced NbS:
- Acknowledge and consider unavoidable constraints when planning NbS implementation.
- Adopt an adaptive approach, allowing for upsizing or downsizing of NbS based on specific needs and context.
- Emphasize the importance of quantifying both the environmental and social benefits of NbS to demonstrate their holistic value.





The key points discussed in Breakout Group 'Develop NbS focused pathways' are as follows:





Figure 4: Develop NbS focused pathways breakout group discussions.

Tools for decision-making

- Emphasize the importance of early planning and integration of NbS into urban development strategies.
- Develop early recommendations and guidelines for effective NbS implementation.
- Avoid creating a distinction between public and private NbS initiatives.
- Foster a shared resource approach, recognizing NbS as a collective asset that benefits everyone in the community.
- There is a need to connect with existing planning and city explorer tools and resources.

Incorporating NbS into planning processes

- Local communities should be involved in the co-creation of NbS projects to ensure that they meet their needs.
- NbS initiatives should be targeted to the specific needs of the businesses and individuals who will benefit from them.

Paradigm shifts in adaptation planning.

- It can be difficult to measure the success of NbS at a large scale.
- There is a need for simple guidance for planners on how to implement NbS in different contexts.





The key points discussed in Breakout Group 'NbS that meet the needs of the community' are as follows:





Figure 5: NbS that meet the needs of the community, Breakout group discussion.

Stakeholder Engagement/ Co-creation in ULLs

- Consider using translation services or multilingual materials to accommodate non-German speakers.
- Host events at community centres, malls, or other public spaces that are easily accessible to a wider audience.
- Accept that not everyone will be interested in participating in NbS initiatives. Focus on engaging those who are genuinely interested and avoid forcing participation.
- Utilize trusted community members to function as ambassadors and outreach workers, facilitating communication and engagement with marginalized communities.
- Tailor communication strategies to resonate with the specific cultural backgrounds and interests of the target audience.
- Employ interactive floor maps to visualize and highlight NbS projects in a way that is engaging and accessible to all.
- Gather feedback from participants through surveys, focus groups, or informal discussions to ensure that their perspectives are incorporated into NbS planning and implementation.

Education and Awareness Raising

- Utilize creative methods, such as using pictures or interactive activities, to reach out to individuals who may not typically engage with traditional outreach methods.
- Integrate plant identification and education into NbS initiatives to enhance understanding and appreciation of the natural world.
- Frame NbS education within the context of children's everyday experiences and environments to foster meaningful connections and understanding.
- Consider the unique challenges and opportunities of both rural and urban settings when designing NbS education and outreach programs.





Vulnerable Populations and Multiple Knowledges

- Acknowledge and address the power imbalances that can exist between different stakeholders involved in NbS initiatives.
- Recognize and incorporate the diverse knowledge systems and perspectives of local communities, including Indigenous and traditional knowledge.
- Establish trust and collaboration among various stakeholders, including vulnerable populations, to ensure equitable participation and decision-making.
- Empower vulnerable communities to take ownership and leadership in NbS planning and implementation.
- Adopt adaptive and iterative approaches to NbS planning and implementation that allow for continuous learning, improvement, and feedback from vulnerable communities.

4.1.4 Policy Insights and Actionable Recommendations

The concluding session aimed to provide some actionable recommendations to guide city representatives and researchers in fostering the effective implementation of Nature-Based Solutions in urban environments, emphasising collaboration, communication, and a holistic approach to address evolving challenges.



Figure 6: Panel discussion on the key outcomes of the workshop

Policy Integration for NbS

Recognize Nature-Based Solutions (NbS) as an integral policy within urban planning frameworks.

- Establish NbS as a distinct policy area, encompassing planning, implementation, and evaluation.
- Ensure that NbS are considered alongside traditional infrastructure investments, such as roads and buildings.
- Integrate NbS into comprehensive urban plans, including zoning regulations and development guidelines.





• Foster collaboration between urban planners, policymakers, and environmental experts to prioritize NbS in urban development.

Strategic Communication and Collaboration

Facilitate effective communication and collaboration between researchers and urban planners.

- Organize joint workshops and conferences to exchange knowledge and expertise on NbS.
- Develop joint research projects that investigate the effectiveness of NbS in addressing urban challenges.
- Utilize visualization tools like maps and infographics to communicate the benefits of green infrastructure to planners.
- Encourage cross-disciplinary collaboration between urban planners, ecologists, and other relevant professionals.

Engagement with Diverse Stakeholders

Establish governance structures that promote the active engagement of diverse communities, practitioners, and decision-makers.

- Create participatory platforms where stakeholders can provide input on NbS proposals.
- Conduct stakeholder surveys and interviews to gather feedback on NbS preferences and concerns.
- Develop tools that showcase NbS solutions and future scenarios, enabling stakeholders to visualize the benefits of NbS.
- Empower community groups to advocate for the integration of NbS into local planning processes.

Innovative Urban Processes

Embrace innovative urban planning processes that prioritize biodiversity and NbS.

- Utilize floor maps and other simplified visualization tools to make complex urban planning information more accessible.
- Encourage the use of NbS to enhance urban liveability and well-being, such as green roofs, parks, and bioswales.
- Implement NbS-based zoning regulations that encourage the integration of green infrastructure into new developments.
- Develop and apply NbS-based masterplans that guide long-term urban development with a focus on sustainability.

Holistic Approach to Challenges

Acknowledge NbS as more than just green solutions.

• Recognise that NbS can address a wide range of urban challenges, including air pollution, heat island effect, and stormwater management.





- Develop comprehensive NbS strategies that integrate multiple solutions to address complex urban issues.
- Consider the potential of NbS to mitigate the impacts of wildfires and other extreme weather events.
- Evaluate the effectiveness of NbS in different urban contexts, including historical city centres and suburban areas.

Continuous Monitoring and Adaptation

Recognise the evolving nature of urban challenges and the need for continuous monitoring and adaptation of NbS.

- Establish monitoring systems to track the performance of NbS over time and identify areas for improvement.
- Develop adaptive NbS strategies that can be modified to address changing environmental and societal conditions.
- Utilize data analytics and predictive modelling tools to assess the effectiveness of NbS in addressing future challenges.
- Encourage collaboration between urban planners, researchers, and community members to continuously refine NbS practices.

Marketplace for NbS Solutions

Create platforms or marketplaces that facilitate the exchange of NbS solutions and best practices.

- Establish online platforms where cities can share successful NbS projects and learn from each other's experiences.
- Develop toolkits and guidance documents to assist cities in selecting, implementing, and evaluating NbS solutions.
- Encourage the development of standardized NbS metrics to enable comparisons between different cities and projects.
- Promote the use of NbS procurement frameworks that favour projects with strong sustainability credentials.

Education and Public Awareness

Invest in educational initiatives to enhance public awareness of NbS benefits.

- Develop engaging educational materials, such as infographics, videos, and interactive exhibits, to communicate the benefits of NbS.
- Organise public workshops and events to raise awareness of NbS and encourage citizen engagement.
- Collaborate with schools and community organizations to integrate NbS education into curriculums and programming.





• Empower citizens as advocates for NbS by providing them with the knowledge and tools to advocate for their implementation.

4.2 Panel discussion on the Ecological quality of restoration activities and nature-based solutions



Figure 7: Stakeholders participating in the Ecological quality of restoration activities and nature-based solutions.

4.2.1 Understanding Natural Values and Ecosystem Integration

- Work harmoniously with water, allowing for natural flow, and integrate blue-green infrastructure into urban landscapes.
- Prioritize the conservation and restoration of biodiversity within cities to combat the global extinction crisis.
- Seek opportunities to integrate NbS into various infrastructures, such as energy systems, transportation networks, and water management systems.

4.2.2 Holistic Action Plans and Stakeholder Engagement

- Combine the expertise and resources of public and private stakeholders to effectively implement NbS.
- Recognize that innovation alone is insufficient; comprehensive action plans are essential for long-term NbS success.
- Integrate social communities into policymaking and participation processes related to NbS, ensuring their voices are heard.

4.2.3 Effective Communication and Public Transport Planning

• Effectively convey the benefits and advantages of NbS to address misconceptions and raise public awareness.





- Integrate NbS into mobility infrastructure, such as pedestrian spaces, to enhance urban liveability.
- Acknowledge the role of NbS in shaping urban landscapes, promoting liveability, and achieving sustainable development.

4.2.4 Community Engagement Strategies and Political Decision-Making

- Employ citizen platforms as democratic tools to foster participation, gather valuable insights, and bring communities together.
- Carefully design citizen participation processes to ensure inclusivity, effectiveness, and meaningful outcomes.
- Utilise scientific data and citizen science protocols to provide evidence-based support for NbS implementation and influence political decision-making.

4.2.5 Education, Awareness, and Long-Term Planning

- Educate and raise awareness about the role of biodiversity and NbS in cities to address misconceptions and foster support.
- Address fears or misconceptions about green elements in cities through education and dialogue.
- Ensure the sustainability of NbS projects by planning for the long-term maintenance and care of green spaces.

4.2.6 Communication with Developers and Holistic Approach

- Convey the cost-saving benefits and positive impacts of NbS on waste management and sustainable practices to encourage developer adoption.
- Advocate for a holistic approach to improving river basins by incorporating NbS strategies that address water quality, biodiversity, and ecosystem health.
- Engage stakeholders at the appropriate time to ensure their meaningful participation and buyin throughout the NbS planning and implementation process.

4.2.7 Knowledge Sharing and Collaboration

- Highlight examples of successful projects where citizen participation led to increased awareness, engagement, and positive outcomes.
- Foster a culture of knowledge sharing and collaboration among stakeholders to accelerate the development and implementation of NbS.





5 CONCLUSION & KEY MESSAGES

The discussions highlighted the urgent need for cities to adapt to climate change, emphasising the often-overlooked societal impacts of adaptation efforts. While cities are increasingly prioritising Nature-based Solutions, integrating local knowledge with scientific expertise is crucial for their effective implementation. REGREEN demonstrates the economic and social benefits of NbS, which are essential for attracting private investment. Challenges remain however in upscaling and showcasing diverse adaptation approaches, necessitating collaboration between researchers and practitioners. Digital innovations such as DIBAS and Sensafety play a pivotal role in enhancing community resilience by providing accessible urban data.

Roundtable discussions emphasized the importance of envisioning a sustainable future by covering 3% of urban areas with NbS by 2030, ensuring equitable access, and valuing both environmental and social benefits. Policy insights recommend recognising NbS as an integral part of urban planning, fostering collaboration, engaging diverse stakeholders, embracing innovative urban processes, and continuously monitoring NbS effectiveness. Key conclusions highlight the multifunctional nature of Nature-based Solutions and their pivotal role in urban adaptation to climate change. Recognising NbS as an integral part of urban planning frameworks is essential, emphasizing their inclusion in comprehensive plans alongside traditional infrastructure. Effective communication and collaboration between researchers and urban planners are critical, facilitating knowledge exchange and joint research projects.

In conclusion, by embracing NbS, we can create sustainable, liveable, and resilient cities, addressing the challenges of climate change, biodiversity loss, and urban sustainability for generations to come.





6 ANNEX

List of Participants at the REGREEN Stakeholder Dialogue

Position	Organisation
Research Officer	CAWAVULG
Residency Officer	Devongnosis Ltd
YOUTH LEADER	PEACE SOCIETY OF KENYA
Development Officer	Ogun State Ministry Of Health, Governor Office Complex A
Project Officer (Urban)	Tropical Forest Network And Consulting Nigeria Limited
City Director & CRO	City Of Ramallah (Ramallah Municipality)
Research Officer	CAWAVULG
Analyst	Ablekumah North Municipal
Associate Director	Howden
Educatrice Superviseur Generale	College De Libreville
Professor	Dept Of Urban And Regional Planning, LAUTECH, OGBOMOSO
сто	KLATO INFORMATION TECHNOLOGY AND SECURITY SERVICE
President	Love Alliance Foundation For Orphans Disabled And Aband
Director Of Research And Business Development	Sustainable Environment Food And Agriculture Initiative
Environment & Social Safeguard Expert	Department Of Roads, GON
Team Lead Climate Resilience Planning	Urban Insight By Sweco
Executive Secretary	Faith Association Of Rehabilitation Of Street Children
Executive Director	Youth For Human Rights Pakistan
Senior Consultant. Urban Planner	Arup
Associate For Programs And Engagement	Resilient Cities Network
Architect	Directorate General For Development And Architecture Of
Technical Specialist Risk Financing	United Nations Development Programme





Position	Organisation
Executive Officer	Lviv City Council
Smart Cities Consultant	BABLE Smart Cities
Arquitecta Paisagista	Ateliervmdo - Arquitectura Paisagista, Lda
Researcher	LNEC
Director Technical Assistant	Fundación Asturiana De La Energía (FAEN)
Junior Officer	ICLEI World Secretariat
PRORAMMS	Make Hope For Development
Senior Technician	Municipality Of Torres Vedras
Reader In Sustainable Urban Design	University Of Dundee
Project Manager	Valencia Institute Of Building
Valunteer	Drnghana
Associate Professor	Danish School Of Education, Aarhus University
Técnica Superior Do Município De Oeiras.	Câmara Municipal De Oeiras
Diretor Of Cascais Civil Protection City Council	Cascais City Council
Strategic Learning Lead	Global Resilience Partnership
HC Climate Change	The African Centre for Human Advacement, Social And Com
City Councilor Of Odivelas	Municipality Of Odivelas
Coordenador	Camara Municipal De Coimbra
Crisis Management	AXA
Officer	ICLEI Europe
Projects And Acquisition/Partnerships Officer	IHS
Chief Resilience Officer	Tbilisi City Hall
CHEF OF RESILIENCE OFFICE IN AVCILAR MUNICIPALITY	AVCILAR MUNICIPALITY
Deputy Managing Director	Atnaujinkime Miestą





Position	Organisation
HR	DELTA STATE GOVERNMENT
Chief Executive Officer	Barokupot Ganochetona Foundation -BGF
University Putra Malaysia	University Putra Malaysia
Associate Programme Management Officer	UNDRR
Técnico Superior	Câmara Municipal De Cascais
Intern	ICLEI ES, Freiburg
VICE PRESIDENT	ANNPETERS GLOBAL HUMANITARIAN FOUNDATION
NUM Energy Sector Coordinator	NUM
Senior Scientist	Helmholtz Centre For Environmental Research - UFZ
Head Of Division Of Sustainable Finance And Adaptation	Portuguese Environment Agency
Researcher	EFIS Centre
URBAN ECOLOGIST	PARIS REGION INSTITUTE
Director	CEDRU
Entrepreneur	Ets Barry Alpha
Student	Mahamakut Buddhist University
Landscape Architect	Avcılar Municipality
Senior Expert Advisor	City Of Zagreb
Consultant	SPI - Sociedade Portuguesa De Inovação
Policy Officer	European Commission
Regional Director	Climateview
Solutions Engineer	Terrapulse
Consultant	SPI
Fellow	UNDP
CEO	NBSC CONSULTING





Position	Organisation
Advisor/Focal Person	Khaniyabas Rural Municipality
сто	ECOTEN Urban Comfort S.R.O.
Post-Doctoral Research Fellow	Politecnico Di Milano
Assist. Prof.	Golestan University
Consultant At Adelphi Research Ggmbh	Adelphi Research
Executive Director	MILAN,MYAGDI , Nepal
Head Of Research Programme	VIA University College
Mercator Fellow For Urban Resilience	OECD
Project Manager	Institute Of Applied Systems Analysis
Associate Professor	Zaporizhzhia National University
District Chief Executive / Mayor	Ellembelle District Assembly
Chief Resilience Officer	Glasgow City Council
Communication Manager	F6S Network Ireland Limited
Policy Worker On Climate Adaptation	City Of Ghent
Climate Resilience Manager	Resilient Cities Network
Founding Principal	Resilient Cities Catalyst
Consultant	Here Partners L.D.A.
Chief Protocol Officer	International Human Rights Commission Africa
Project Manager	Hidromaster
Specialist	Prefecture Of Fier Region
Expert, Governance Innovation	ICLEI Europe
Phd	Self-Employed
Manager, Environmental Risk & Emergency Management	NEOM
Manager	Voda Beverages Zambia





Position	Organisation
Governance And Funding PSF Expert	Covenant Of Msyors
Researcher	University Of Lisbon, Faculty Of Sciences
Resilience And Adaptation Lead For Europe	Arup
CEO	PATER
Master's Degree Student	NOVA University Of Lisbon
Civil Protection Coordinator-Local Focal Point MCR2030	Municipality Of Amadora
Engenheiro Agricola	Camara Municipal De Cascais
Founding Partner	Fluxus Design Ecológico
Technical Advisor - Climate Adaptation & Nbs	Think City
President	Evoluir Oeiras Associação
Técnico Superior	СМС
Head Of Operation's Center	Cantonal Department For Civil Protection
Climate Change Expert	Directorate Of Climate Change
Vice Dean For Development	Czech University Of Life Sciences Prague
Research Assistant	Norwegian Institute For Water Research
Managing Director	Bankers Without Boundaries
Project Officer	TUMA
Chair	Urban Resilience Research Network
Research Scientist	Norwegian Institute For Water Research
Student	Technical University Of Kenya
Youth Leader	Peace Society Of Kenya
Multimedia Journalist And Anchor	GNN
Urban Resilience Coordinator	Group On Earth Observations
Senior Sustainability And Climate Change Officer	Dundee City Council





Position	Organisation
Head Of Office	Câmara Municipal De Setúbal
Environmental Engineer	Cascais Ambiente

Stakeholder Dialogue Invitation: Dissemination during EURESFO 22.

Social Media Card for the Stakeholder Dialogue Workshop



Social Media Card for the roundtable plenary

