UN environment programme | copenhagen climate centre

ROOTED IN NATURE:

Advancing Nature-Based Solutions from National Policy to Local Action Across NDCs, NAPs and NBSAPs

A Practical Guide for Practitioners and Policy Makers

Disclaimers

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, or city or its authorities, or concerning the delimitation of its frontiers or boundaries. Some illustrations or graphics appearing in this publication may have been adapted from content published by third parties to illustrate the authors' own interpretations of the key messages emerging from such third-party illustrations or graphics. In such cases, the material in this publication does not imply the expression of any opinion whatsoever on the part of the United Nations Environment Programme (UNEP) concerning the source materials used as a basis for such graphics or illustrations. Mentioning a commercial company or product in this document does not imply endorsement by the UNEP Copenhagen Climate Centre or the authors. The use of information from this document for publicity or advertising is not permitted. Trademark names and symbols are used editorially with no intention of infringement of trademark or copyright laws. The views expressed in this publication are those of the authors and do not necessarily reflect the views of the UNEP. We regret any errors or omissions that may have been unwittingly made.

Citation

UNEP Copenhagen Climate Centre (2026). *Rooted in Nature: Advancing Nature-based Solutions from National Policy to Local Action Across NDCs, NAPs and NBSAPs – A Practical Guide for Practitioners and Policy Makers.* Copenhagen, Denmark: UNEP Copenhagen Climate Centre.

Acknowledgements

Authors

Julia Rocha Romero (UNEP-CCC), Lilly Lusznat (Independent), Geronimo Gussmann (UNEP-CCC), Fatemeh Bakhtiari (UNEP-CCC), Clara Camarasa (UNEP-CCC), and Maija Bertule (UNEP-DHI Centre).

City Experts

Andrea Martinez Bolivar (City of Barranquilla, Colombia), Anthony-Paul Diaz (Seattle Parks and Recreation, City of Seattle, United States of America), Cristiano Ferreira Gozdecki (City of Curitiba, Brazil), Eva Gonzáles (Municipality of the City of Mendoza, Argentina), Gabriel Olle Dalmazo (City of Curitiba, Brazil), Michèle Picard (Office of Ecological Transition and Resilience, City of Montréal, Canada), Neil G. Ravena (General Services Office, Iloilo City Government, Philippines), Ronald M. Cartagena (Office of the City Planning and Development, Iloilo City Government, Philippines), Sidney Ribaux (Office of Ecological Transition and Resilience, City of Montréal, Canada), and Silvina López (Municipality of the City of Mendoza, Argentina).

Reviewers

Alissa Murray (UNEP), Anne Olhoff (UNEP-CCC), Clara Camarasa (UNEP-CCC), Dora Almassy (Middle East Technical University), Gabriela Prata Dias (UNEP-CCC), Henry Neufeldt (UNEP-CCC), Katie Dawkins (UNEP-WCMC), Marie Hartmann (UNEP), Talat Munshi (UNEP-CCC), Yulia Rubleva (UNEP), Oscar Ivanova (UNEP), and Tatiane Vieira (UNEP).

Production and Coordination

Julia Rocha Romero (UNEP-CCC).

Media and launch support

Mette Annelie Rasmussen, Lasse Hemmingsen, and Aristedis Tsakiris (UNEP-CCC).

Thanks also to

Alba Cobos Sanchez (UNOPS), Ali Amer Taha Al-Hindawi (UNOPS), Cornelia Moreru (UNOPS), Emily Grünendieck (Independent), and Mikkel Roslef (UNEP).

Design, Layout, and Language Editing

Formato Verde.

Table of Contents

List of Figures

List of Tables

List of Boxes

Acronyms and Abbreviations

BMZ	German Ministry for Economic Cooperation and Development
BTRs	Biennial Transparency Reports
CBD	Convention on Biological Diversity
EO	Earth Observation
GBF	Global Biodiversity Framework
GHG	Greenhouse Gas Emissions
ICLEI	International Council for Local Environmental Initiatives – Local Governments for Sustainability
IEEP	Institute for European Environmental Policy
IFC	International Finance Corporation
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
MEL	Monitoring, Evaluation and Learning
MRV	Monitoring, Reporting, and Verification
NAPs	National Adaptation Plans
NbS	Nature-based Solutions
NBSAPs	National Biodiversity Strategies and Action Plans
NDBs	National Development Banks
NDCs	Nationally Determined Contributions
PES	Payments for Ecosystem Services
PFIs	Public Financial Institutions
SOEs	State-Owned Enterprises
UHI	Urban Heat Islands
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNEP-CCC	United Nations Environment Programme – Copenhagen Climate Centre
UNFCCC	United Nations Framework Convention on Climate Change

Executive Summary

Escalating climate-related extremes and slow-onset processes indicate that the global climate system is facing increasing risks driven by human-induced warming. Global average temperatures between 2023 and 2025 exceeded 1.5°C above pre-industrial levels for the first time in any consecutive three-year period. These global signals are now felt acutely in cities through unprecedented heatwaves, floods, and climate-related disasters, placing increasing pressure on urban systems and practitioners' ability to manage risks.

Against this backdrop, the need for multilateral climate action at the local municipal level, targeted at the benefits of socioeconomic development, biodiversity and climate resilience, is ever pressing.

Cities, home to over half the world's population and major contributors to global greenhouse gas emissions, are increasingly vulnerable to the impacts of climate change. Yet their density, economic weight, and governance capacity make them critical leverage points for advancing national climate ambition and translating Nationally Determined Contributions (NDCs) into tangible action on the ground.

The NDCs submitted ahead of COP 30 in Belém, Brazil, in November 2025, pointed to a growing inclusion of urban responses and vulnerabilities into countries' ambitions. This shift is echoed by local municipal governments around the world that are pioneering mitigation, adaptation and resilience efforts. However, implementation delivery is not taking place at the speed needed, and delivery and policy coordination across national to local municipal domains remains largely inconsistent when it comes to climate and biodiversity agendas.

Nature-based solutions (NbS) offer a powerful pathway for addressing these challenges. Urban NbS can reduce heat stress, regulate temperatures, enhance stormwater management and mitigate floods. They improve air and water quality, restore habitats and ecological connectivity, and create social and health co-benefits, from better urban well-being and public spaces to stronger community engagement. When well designed and locally grounded, NbS help cities build resilience while contributing to national mitigation and adaptation targets.

This Guide demonstrates how multilevel governance can unlock this potential, based on tried and tested approaches developed by several cities around the world. The information and tools presented in this Guide aim to support practitioners both at the national and local municipal levels:

For national governments, it offers steps to embed urban NbS within climate and biodiversity strategies, align regulatory, legislative and fiscal instruments, and strengthen enabling environments that reduce risk and mobilise investment, thus presenting concrete ways that NbS can be mainstreamed into NDCs, National Adaptation Plans (NAPs), and National Biodiversity Strategies and Action Plans (NBSAPs).

For local municipal governments, it presents approaches and tools to integrate NbS into urban plans and strategies, develop credible project pipelines and leverage different types of soft and hard policy instruments when prioritising nature in urban areas.

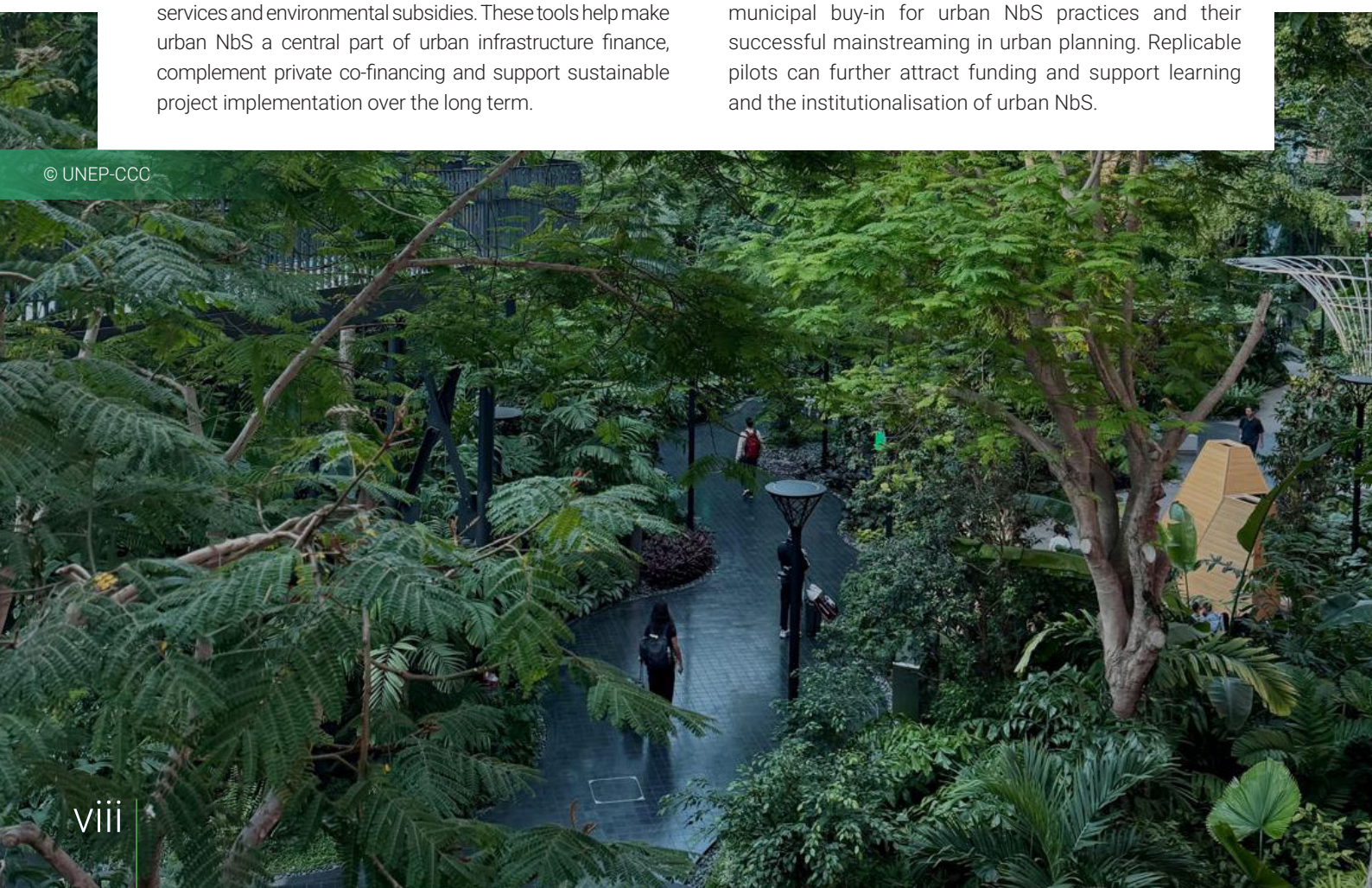
Key Messages

1. **Multilevel governance is a ladder for ambition and implementation of national climate priorities:** The relevance of the synergies between municipal and national ambition, as put forward by countries' NDCs, NAPs, and NBSAPs is essential, given that a complementary approach across NDCs, NAPs, and NBSAPs can drive and guide more coherent national to local municipal strategies that support sustainable development within cities and at a broader regional level. Aligned efforts can strengthen transparency and budgetary prioritisation, supporting finance and institutional arrangements that support nature and help address multiple societal challenges.

2. **Addressing policy gaps to secure financing is key:** Cities are better positioned to scale and attract finance for NbS when national systems provide business-friendly investment environments, eligibility rules and de-risking instruments. Embedding financial approaches for NbS into fiscal, regulatory and economic frameworks is a powerful tool to accelerate NbS implementation at the national, regional and municipal levels. Policy-based strategies for NbS enhance recognition of the economic contribution made by nature, as shown by local tax incentives, payments for ecosystem services and environmental subsidies. These tools help make urban NbS a central part of urban infrastructure finance, complement private co-financing and support sustainable project implementation over the long term.

3. **Instruments for municipal mainstreaming of urban NbS are complementary and span from soft to harder policy measures:** Evidence from cities shows that no single instrument is sufficient on its own; regulations provide direction, fiscal tools unlock investments, cooperative agreements mobilise communities and institutions, and knowledge systems strengthen design, monitoring and adaptive management. Rolling out and testing real-life proof of concepts is essential for securing municipal buy-in and successfully mainstreaming urban NbS into planning. Insights gained from replicable pilots attract funding and inform and strengthen regulations, creating a positive feedback loop where evidence from practice drives policy, and policy, in turn, supports wider implementation.

4. **Local Municipal Proof Drives National Change: Pilots Become Policy When Cities Lead on NbS:** Case studies from the United Nations Environment Programme's (UNEP) projects show how technical feasibility, community buy-in and measurable climate benefits translate into reforms at scale. Rolling out and testing real-life proof of concepts are key to enabling the local municipal buy-in for urban NbS practices and their successful mainstreaming in urban planning. Replicable pilots can further attract funding and support learning and the institutionalisation of urban NbS.



How to Use This Guide

The Rooted in Urban Nature, Resilient to Climate: Unlocking Nature-Based Solutions from National Policy to Local Climate Action, hereafter referred to as the Guide, is designed to help policymakers, practitioners and urban stakeholders navigate the interconnectedness of global commitments, national frameworks and city-level implementation. Examples from UNEP's Generation Restoration Cities will support the contextualisation of local policy possibilities in different urban settings (for a full overview, visit Appendix A).[1]

This overview will help you get the most out of the Guide.

1. Start with the big picture.

Begin with the introduction (Chapter 1), which outlines the growing urgency of urban local action in the context of the climate crisis. The chapter explains why urban NbS are central to resilience, biodiversity and inclusive urban development in cities.

2. Explore the national-to-global policy alignment.

Chapter 2 examines how member states can embed nature across key national strategies, including NDCs, NAPs, and NBSAPs. This chapter guides you through opportunities to raise ambition, harmonise policy tools and strengthen institutional readiness to deliver across the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity.

3. Understand how national frameworks unlock local municipal action.

Use Chapter 3 to see how national mechanisms, particularly institutional arrangements, legislation, regulatory tools and financing frameworks, can enable city-level deployment of urban NbS. This chapter highlights how alignment between national and local municipal policy can accelerate implementation, attract investment, mobilise private-sector support and inspire greater ambition.

4. Dive into local municipal integration and planning tools for cities.

Chapter 4 focuses on how local municipal governments can mainstream urban NbS into planning and climate strategies within cities. It also illustrates how cities can scale integration and unlock wide-ranging socioeconomic benefits and presents UNEP tools that local municipal governments can apply to guide their steps.

5. Use the Guide non-linearly.

While the chapters are built upon one another, you can also consult them independently. Read straight through for a comprehensive journey from global commitments to local municipal action or jump to the sections most relevant to your need and role.

6. Adapt and revisit.

In this Guide, the recommendations, steps, tools, and approaches selected are tried and tested case examples that support NbS integration. However, there is no one single recipe for unlocking NbS from national to local climate action. As such, as policies evolve and projects progress, readers are encouraged to return to this Guide as a reference to refine strategies, strengthen coordination and scale impact.

1 The Generation Restoration Cities project (2023–2025) is dedicated to reversing the tide of ecological degradation in urban areas. UNEP, together with global experts, has handpicked 24 Generation Restoration cities: 14 cities are receiving direct funding and technical assistance to implement innovative pilot projects to scale up the implementation of urban NbS and restore their urban ecosystems, and a growing number of role models are set to accompany and support them as champions of restoration. The project is financed by the BMZ and implemented by UNEP with the support of and in coordination with the UN Decade Secretariat and ICLEI Cities Biodiversity Center. For more information about UNEP's Generation Restoration project, visit: https://www.decadeonrestoration.org/cities

CHAPTER 1

Introduction: Making the case for Urban Nature-based Solutions

While cities occupy only 3 per cent of the Earth's land surface, they house over 50 per cent of the global population, and this figure is expected to rise to 68 per cent by 2050 (United Nations Department of Economic and Social Affairs 2018). At the same time, cities are at the frontline of climate impacts, with 90 per cent of coastal urban areas facing sea-level rise (Glavovic *et al.* 2022), and 1.6 billion urban residents in 970 cities projected to endure extreme heat by mid-century (Urban Climate Change Research Network 2018). Rapid urban expansion is expected to consume 14.76 million km^2 of natural habitat by 2050 (Ren *et al.* 2023), reducing adaptive capacity and resilience of urban residents and infrastructure.

Extreme weather events, such as floods, droughts, and extreme heat, alongside slow-onset climate change processes such as sea-level rise and gradual warming, are increasingly shaping urban life, adversely affecting human well-being and exacerbating existing inequalities. (Glavovic *et al.* 2022; UN-Habitat 2024a; Montfort *et al.* 2025). Cities play a vital role in advancing the climate and development agenda amidst unprecedented documentation of the growing climate-induced impacts in urban areas (Montfort *et al.* 2025). There is growing evidence that the costs associated with climate impacts are rising sharply worldwide, both in terms of overall economic damages and specific losses to infrastructure. Analyses show that climate-linked extreme weather events have already resulted in hundreds of billions of dollars in annual damages, including damage to infrastructure and property, as well as health losses, with costs projected to rise into the trillions of dollars per year by 2050 if climate trends continue (Newman and Noy 2023). In addition, earlier assessments of infrastructure resilience indicate that climate-induced disasters currently cause over US$ 300 billion per year in damage to infrastructure systems, highlighting the substantial strain that climate change places on built assets worldwide (Global Infrastructure Resilience Report 2025).

Climate derived damages related to urban infrastructure alone can reach as much as US$4.2 trillion by the end of the century, even under a scenario where member states meet their Paris Agreement goals.[2]

Urbanisation comes at a high cost to biodiversity due to land expansion, causing habitat loss and fragmentation (Simkin *et al.* 2022). With over 50 per cent of the world's population already living in urban areas (Ritchie, Samborska and Roser 2025) and projections indicating this will rise to 68 per cent by 2050 (United Nations Department of Economic and Social Affairs 2018), it is essential to intensify urban decarbonization efforts alongside the implementation of robust climate adaptation strategies.

Against this backdrop, there is an urgent need for integrating NbS into urban design and embracing integrated cross-cutting solutions that can deliver multiple environmental and socioeconomic benefits. NbS approaches, such as wetland restoration, urban forest expansion and the use of green and blue infrastructure, can address urban challenges and enhance resilience, cool city temperatures, improve air quality, reduce flood risks, and conserve biodiversity. NbS are one of the tools to mitigate and adapt to the growing climate impact in urban areas. They also offer documented co-benefits that transcend the climate and environmental domains and can enhance strategies to support human wellbeing in urban and peri-urban areas (see Table 1).

2 The US$ 4.2 trillion figure represents the estimated annual loss for the global physical infrastructure sector by 2100. In contrast, the same analysis indicates that in a higher warming scenario (6°C), these annual infrastructure damages could rise to US$ 13.8 trillion. The IPCC's analysis highlights that even if the goals of the Paris Agreement are met, substantial, unavoidable damages will still occur, necessitating significant investment in adaptation and resilience, rather than only climate mitigation. Glavovic *et al.* (2022).

TABLE 1 | **EXAMPLES OF URBAN NBS AND ASSOCIATED BENEFITS**

NbS Type	Description	Associated Main Benefits	Cost / Implementation Considerations	Climate Adaptation / Mitigation Potential
Green Roofs, Walls, and Façades in Buildings	Vegetation on rooftops, walls, and vertical spaces, including gardens, living walls, and pollinator-friendly roofs.	▶ Enhances energy efficiency ▶ Reduces heating and cooling expenses ▶ Decreases stormwater runoff ▶ Increases aesthetic value ▶ Creates space for urban pollinators ▶ Offers opportunities for urban farming (rooftop farms/gardens) ▶ Captures and stores carbon	Moderate to high upfront cost; requires regular maintenance; long-term energy savings possible	Mitigation: Carbon capture, energy reduction Adaptation: "UHI reduction, stormwater management
Urban Green Spaces and Forests	Parks, lawns, roadside trees, residential greenery, regenerating existing areas or developing new ones with native plants and inclusive design.	▶ Supports cleaner air inside cities ▶ Creates space for urban life and free recreational spots ▶ Captures and stores carbon ▶ Creates green belts to halt desertification ▶ Strengthens urban cooling strategies and mitigates UHI ▶ Promotes urban wildlife habitats	Land acquisition or re-purposing needed; moderate maintenance cost	Mitigation: Carbon sequestration, air quality improvement Adaptation: Cooling, UHI mitigation, desertification control
Community Gardens and Urban Farming	Urban and peri-urban agriculture: community plots, self-harvest gardens, farm-to-table systems, cooperative food production.	▶ Helps restore urban degraded areas ▶ Decreases transportation and food packaging needs ▶ Encourages organic and healthy eating ▶ Offers educational and leisure opportunities for citizens ▶ Encourages community engagement	Low to moderate cost; requires community involvement; ongoing maintenance	Mitigation: Reduced transport emissions, local carbon footprint Adaptation: Urban food security, land restoration
Integrated Green and Blue Infrastructure	Combines natural land and water systems in urban design, e.g., rainwater harvesting gardens, urban wetland restoration parks.	▶ Supports stormwater management strategies ▶ Reduces flood risks ▶ Supports creation of multifunctional leisure areas ▶ Reduces pressure on existing water drainage infrastructure ▶ Promotes awareness and appreciation of ecosystem value	High to moderate costs multi-stakeholder coordination needed; ongoing maintenance	Mitigation: Carbon capture and storage: Supports biodiversity, ecosystem services Adaptation: Flood mitigation, urban cooling, water management
Urban Blue Infrastructure & Regeneration of Water Bodies	Regeneration of natural water bodies and associated habitats within cities, including the rehabilitation of degraded rivers, lakes and wetlands. Efforts can involve renaturalising water channels, restoring floodplains, and reconnecting wetlands to surrounding ecosystems to improve hydrological and ecological functions.	▶ Enhances micro-habitat provision for aquatic and terrestrial species ▶ Reduces surface runoff and supports flood mitigation ▶ Supports urban heat island mitigation	High upfront cost; multi-stakeholder coordination needed; ongoing maintenance	Mitigation: Carbon capture and storage: Biodiversity enhancement, ecosystem services Adaptation: Flood control, urban cooling, water management

Source: Adapted from UNEP-CCC (2025b) and Toxopeus and Polzin (2021).

Urban NbS present a strong economic case when their cost-effectiveness and revenue potential are clearly demonstrated. Integrating urban NbS into green–grey infrastructure can deliver public benefits, such as flood control, urban cooling, and recreation, while reducing costs associated with stormwater treatment, water purification and health impacts (Organisation for Economic Co-operation and Development [OECD] 2020). These multiple benefits make NbS an attractive option for public and private investment (European Investment Bank 2023). Governments can accelerate uptake through policy tools such as green budgeting, green public procurement and concessional financing, while national and international funding mechanisms can further scale NbS investment and support progress toward the Sustainable Development Goals (Cohen-Shacham *et al.* 2019).

It is important to highlight that ensuring the resilience of NbS is critical: Urban green spaces must be designed to withstand and adapt to changing climate conditions to remain sustainable and continue providing their intended benefits. Moreover, the effective implementation of urban NbS depends on a strong evidence base and careful matching of each intervention to its specific context. Given the wide variation in urban climates, soils and socioeconomic conditions, cities need thorough ecological assessments and ongoing monitoring to maximise impact and prevent unintended outcomes (Cohen-Shacham *et al.* 2016).

The United Nations Environment Assembly's Definition of Nature-Based Solutions [UNEP/EA.5/Res.5]

The United Nations Environment Assembly's Definition of NbS is the following:

Nature-based solutions are actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services, resilience and biodiversity benefits.

(…) The United Nations Assembly recognizes that Nature-based solutions:

(a) Respect social and environmental safeguards, in line with the three "Rio conventions" (the Convention on Biological Diversity, the United Nations Convention to Combat Desertification and the United Nations Framework Convention on Climate Change), including such safeguards for local communities and indigenous peoples.

(b) Can be implemented in accordance with local, national and regional circumstances, consistent with the 2030 Agenda for Sustainable Development, and can be managed adaptively.

(c) Are among the actions that play an essential role in the overall global effort to achieve the Sustainable Development Goals, including by effectively and efficiently addressing major social, economic and environmental challenges, such as biodiversity loss, climate change, land degradation, desertification, food security, disaster risks, urban development, water availability, poverty eradication, inequality and unemployment, as well as social development, sustainable economic development, human health and a broad range of ecosystem services. (UNEP Knowledge Repository 2022, p 2).

As such, urban NbS offer substantial benefits for cities and can serve as key local and national assets by enhancing liveability, supporting progress on sustainable development, and contributing to the goals of the Paris Agreement and the Global Biodiversity Framework.

Urban experiences from around the world reveal effective recipes for embedding NbS into climate-resilient planning and design (visit Chapter 5).

These examples share several core elements, notably the leadership of local governments, active community engagement, and a clear identification of the specific challenges that NbS is intended to address.

The Generation Restoration cities showcase various types of urban NbS that aim to address more than one urban challenge, including lack of green spaces, decrease in urban biodiversity, drought-prone areas, food-insecure neighbourhoods, and the intensification and expansion of UHIs. A distinguishing feature of UNEP's Generation Restoration Cities initiative is the strong policy backing and the effective mainstreaming of NbS into local municipal agendas, which strengthens the longevity of the initiatives and demonstrates coherence and alignment between implementation and policy.

Building on this foundation, Chapter 2 examines how local climate action led by municipalities contributes directly to national commitments, including NDCs, NAPs, and NBSAPs. Chapter 3 zooms in on the focus on the national enabling environment, identifying the policy, institutional and financial levers that allow cities to plan, fund and scale NbS and providing guiding steps and examples to illustrate success stories. Chapter 4 provides hands-on orientation to local tools and approaches, showing how municipalities can operationalise this enabling environment. Chapter 5 showcases successful examples from the Generation Restoration Cities, and finally, the Guide ends with a set of Recommendations and Next Steps (Chapter 6).

City of Tokyo, Japan © UNEP-CCC

2 CHAPTER Connecting Local Municipal Delivery with National Climate and Biodiversity Ambitions

The interplay between local and national policies is key. In principle, much of what happens at the national level in terms of policy direction and climate priorities can set the tone for policies at the local level; however, local governments' ambitions and pioneering of climate agendas are required to push for stronger ambition and implementation at a national level. In sum, national policies can influence and shape local (regional and municipal) policymaking and direction, and vice versa. Box 1 describes multilevel governance, presenting how it is connected to the global climate and biodiversity agendas.

Recognising the relevance of synergy between local and national climate policies is essential, especially as a complementary approach can drive more coherent strategies that support sustainable development both within cities and at a broader scale. Aligned efforts can strengthen transparency and budgetary prioritisation, supporting finance and institutional arrangements favourable to nature at the national and local levels.

NbS play a significant role in strategically bridging national and local climate policies that support climate mitigation and adaptation action, as well as biodiversity conservation. This support was shown through the 10th anniversary of the Paris Agreement in 2025 and the round of NDCs (known as NDC 3.0), which were submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in 2025 ahead of COP 30 in Belém. Notably, the new NDCs address urban climate challenges and solutions in a more targeted and implementation-focused manner. They increasingly take a sectoral approach, with the strongest nature link emerging in areas such as infrastructure, ecosystems and biodiversity, and water management (UN-HABITAT 2025). Overall, the NDCs 3.0 demonstrated a growing tendency pointing to multilevel governance being recognised, which underscores ambitious implementation models that seek to connect national, regional and municipal stakeholders in a more cohesive and aligned manner (UN-HABITAT 2025). Such efforts are supported by international frameworks, such as the Sendai Framework and the Convention on Biological Diversity, which urge governments to mainstream ecosystem-based approaches at all levels (NAP Global Network 2020; United Nations University 2024).

Recent updates to countries' NDC 3.0 submissions demonstrate growing support for NbS (UN Habitat, 2025). Many countries are also taking concrete steps to mainstream NbS in their NAPs and NBSAPs, using ecosystem restoration and green infrastructure to reduce emissions, strengthen resilience to climate hazards, and enhance biodiversity protection (Cook *et al.* 2025; United Nations Development Programme 2025). However, reviews of climate risk assessments in NAPs show that urban ecosystems receive far less attention than other ecosystem types (Terton, Qi and Jang 2024), highlighting an important opportunity to strengthen ambition and integration in urban contexts.

Recent advances in climate policy reveal how cities and regions actively reach for NbS to address local challenges, while mainstreaming in broader national directions (Diep *et al.* 2025; Mosisa *et al.* 2025; UNEP-CCC 2025a). For example, in Denmark, the city of Copenhagen applies cloudburst parks, green streets and multifunctional public spaces to manage extreme rainfall, core components of Denmark's nationally guided climate adaptation framework (City of Copenhagen 2011; Ministry of Environment of Denmark 2023). In Medellin, Colombia, the city has implemented its "Green Corridors" initiative to reduce heat and improve air quality, aligning with Colombia's previous national NDC commitments to expand urban green infrastructure (UNEP 2019). The City now has 26 green corridors covering over 92,000 m² of urban gardens, with new additions completed in 2024-2025 under its development plans (Alcadia de Medellin 2026).

BOX 1

What is Multilevel Governance, and How Does It Apply to the Global Climate and Biodiversity Agendas?

Multilevel governance refers to coordinated action across national, regional and local governments, ensuring that national goals, regional strategies, and local implementation reinforce one another (UN-HABITAT 2025). It helps translate national ambition into local results by strengthening shared authority, accountability and trust.

For global climate and biodiversity frameworks, this coordination is essential. Under the Paris Agreement, national climate commitments rely heavily on local implementation, especially for adaptation, land-use planning and resilience-building. Cities and regions also contribute to national reporting and transparency processes.

Likewise, the Kunming-Montreal Global Biodiversity Framework (GBF) acknowledges that while targets are set nationally, outcomes depend on local action. Effective vertical coordination ensures that national policies, regulations, and finance enable local governments to conserve ecosystems, expand green–blue infrastructure, and manage nature-related risks.

Multilevel governance enhances climate and biodiversity outcomes by:

- Aligning national policy signals with local mitigation, adaptation, and restoration actions.
- Supporting collaboration among institutions and non-state actors.
- Enabling cooperation across jurisdictions, such as shared watershed or cross-border city initiatives (United Nations Department of Economic and Social Affairs 2024).
- Building local capacity to deploy NbS that reduce climate risks and support biodiversity.

For urban NbS, this coordination is especially important. While the GBF does not impose obligations on cities, it stresses the need for national frameworks that empower local governments to integrate NbS into urban planning and deliver resilient, inclusive urban development.

Multilevel governance is at the centre of a well-coordinated approach related to national and municipal alignment regarding urban NbS. Pioneering national and local governments are taking concrete steps to align local and national ambition and implementation, demonstrating possible pathways to transform this alignment into concrete opportunities for socioeconomic development and human well-being. Visit Chapter 5 to learn of concrete ways cities are advancing multilevel governance and mainstreaming NbS into plans and strategies.

Local climate action at the municipal level can be leveraged to support national climate ambition and implementation under member states' submissions to the UNFCCC and to the Convention on Biological Diversity (CBD). Under these two conventions, the relevant entry points are the NDCs, NAPs, and NBSAPs, as discussed above. Given their relevance for setting the tone for national strategies and sectoral plans and for providing lighthouse guidance related to climate finance, capacity building mechanisms, transparency and institutional arrangements, the NDCs, NAPs, and NBSAPs are fundamental entry points for local climate action, where urban NbS can play a significant role (Figure 1).

FIGURE 1 | **CONNECTING GLOBAL CONVENTIONS TO LOCAL ACTION – ENTRY POINTS FOR MUNICIPAL ENGAGEMENT IN NDCS, NAPS, AND NBSAPS**

CONVENTIONS

United Nations Framework Convention on Climate Change (UNFCCC)

Convention on Biological Diversity (CBD)

FRAMEWORKS

Paris Agreement

Time of establishment:
Adopted by 195 parties during COP 21 in Paris in 2016

What it is:
The main objective of the Paris Agreement is "to hold the increase in the global average temperature to well below 2°C above pre-industrial levels, and pursue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels" (UNFCCC 2015)

Party Expectations:
The Paris Agreement follows a five-year cycle in which member states are expected to submit increasingly ambitious national climate plans known as NDCs
(UNFCCC 2015).

Global Biodiversity Framework (GBF)/The Kunming-Montreal Global Biodiversity Framework

Time of establishment:
Adopted by parties during the CBD at its COP15 meeting in Montreal, Canada, in 2022.

What it is:
The Framework establishes a direct link between biodiversity protection, ecosystem restoration, human wellbeing, particularly that of indigenous peoples, and local communities. It includes four concrete goals for the year 2050 and 23 targets for 2020 (CBD 2022).

Party Expectations:
By adopting the Kunming-Montreal Global Biodiversity Framework, all Parties agreed to establish national targets to support its implementation. Meanwhile, other stakeholders have been encouraged to create and share their own commitments (CBD 2022).

Nationally Determined Contributions (NDCs)

What they are:
NDCs are the official climate action plans submitted by each country under the Paris Agreement. They present how countries will reduce GHG and adapt to climate change.

Timeline:
NDCs run with a five-year update cycle. Countries are required to submit new, more ambitious plans every five years. The most recent major update, referred to as NDC 3.0, was due in 2025 and sets climate action targets for 2035.

National Adaptation Plans (NAPs)

What they are:
The main rationale of NAPs is to support member states' medium- to long-term planning with regard to the impacts of climate change. NAPs have two primary objectives:

(a) To reduce vulnerability to the impacts of climate change by building adaptive capacity and resilience, and

(b) to facilitate the integration of climate change adaptation into relevant new and existing policies, programmes and activities coherently, in particular development planning processes and strategies, within all relevant sectors and at different levels, as appropriate. (See UNFCCC 2023, decision 5/CP.17, par. 1)

Timeline:
The UNFCCC has established a timeline for NAPs, where developing nations should have their plans completed by 2025. By 2030, member states are expected to demonstrate substantial advancement in implementing their NAPs. (See UNFCCC 2023, decision 7/CMA.3)

This timeline is designed to strengthen countries' capacities to manage the effects of climate change and enhance long-term resilience.

National Biodiversity Strategies and Action Plans (NBSAPs)

What they are:
Aligned with the GBF, NBSAPs describe how member states intend to conserve and restore their natural environment and biodiversity (CBD n.d). These strategies play a vital role in driving collective efforts and obtaining financial support for biodiversity restoration.

Timeline:
NBSAPs have no fixed cycle to be updated by parties; instead, they are expected to follow the CBD strategic shifts.

New or revised NBSAPs were due in 2024, following the adoption of the Kunming-Montreal GBF.

2024-2025 (currently ongoing): Member states are working on completing and submitting their revised NBSAPs, facing challenges like funding shortages, administrative delays, and political changes.

2026: The first global review of progress under the GBF will take place, drawing on data from updated NBSAPs and national biodiversity reports

SUBNATIONAL ENTRY POINTS AND URBAN NBS LINKAGES

NDCs

The NDCs are increasingly taking multi-level governance into account, setting a solid framework for the development of local climate plans for mitigation and adaptation (UN-HABITAT 2025). Subnational actors (cities, regions, provinces) are critical for delivering emission reductions and building resilience. (UN-HABITAT 2023).

Climate Adaptation
Subnational governments have better access to granular data related to urban climate risks and impacts, which can inform the development of the adaptation component of the NDCs (UNEP 2022). By examining how cities respond to climate impacts, it becomes possible to identify the resources, capacities, and support mechanisms needed to implement adaptation measures, including NbS (Ibid).

Climate Mitigation
Subnational governments are key agents in advancing agendas for decarbonization and can play a prominent role in sectoral greenhouse gas (GHG) emissions decrease (e.g., in the transport sector, buildings, energy, and others) (UNEP 2018). Taking a sectoral lens into account, urban NbS fit well into several sector priorities for GHG reduction, and at the urban level, the integration of NbS can sustain important national and urban agendas, including water management and climate-smart water strategies that can address human vulnerability and GHG emissions (UN-HABITAT 2023; UN-HABITAT 2024d).

NAPs

Strong NAP processes rely on deliberate coordination between national and subnational levels to ensure local realities inform planning and that national frameworks support local implementation, with local authorities and civil society playing key roles in delivering adaptation outcomes (Terton, Qi and Jang 2024). Urban NbS can feature in the three main phases on the NAP process: planning, implementation, and monitoring, evaluation and learning (MEL), particularly given that each phase provides distinct opportunities to integrate ecosystem-based approaches, align adaptation priorities, allocate resources effectively, and track performance and outcomes to inform continuous learning and adaptive management at the national and subnational levels (United Nations University 2023).

NBSAPs

On the biodiversity side, NBSAPs are the result of national priorities that are heavily built on local realities related to environmental degradation and biodiversity loss.

In some countries, the development of subnational strategies and action plans enhances the reach of NBSAPs at the local level and fosters the development of relevant institutional arrangements for addressing biodiversity priorities.

Urban NbS fit particularly well in the CBD's Plan of Action on Subnational Governments, Cities and Other Local Authorities for Biodiversity (2011–2020) and in the **Subnational and Local Biodiversity Strategies and Action Plans (BSAPs)** (CBD 2022), which play a significant but underexplored role in bridging biodiversity strategies at the city level.

Source: Adapted from Bakhtary *et al.* (2022) and Qi *et al.* (2024)

CHAPTER 3

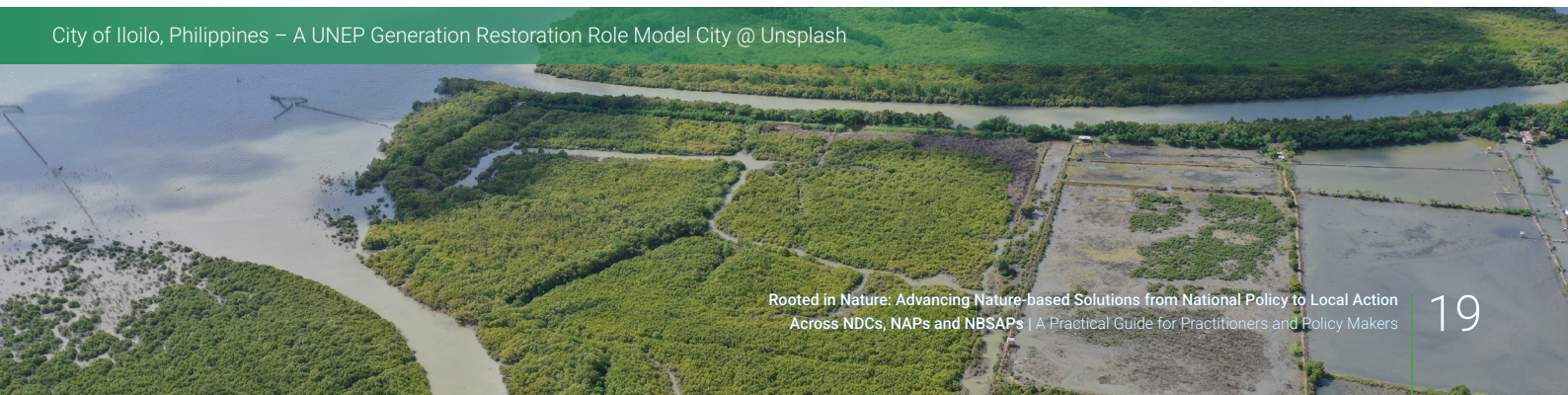
Leveraging national processes to support Urban NbS mainstreaming inside cities

As established, nationally driven processes play a prominent role in creating an enabling environment for local climate action, which includes the uptake of NbS to support and strengthen various pressing urban agendas, including for example, food security (Asamoah *et al.* 2025; Mashanye *et al.* 2025; United Nations Economic Commission for Europe 2025), water security (Abera *et al.* 2025), urban cooling (Soltanifard and Amani-Beni 2025; UNEP 2025; World Bank 2022), human health (Cissé *et al.* 2022; Vora *et al.* 2024), and social cohesion, which are agendas where NbS have a strong and scalable potential to mitigate risks (Carvalho *et al.* 2022). Moreover, evidence from the World Bank and recent IPCC assessments demonstrates that these domains are where national governments see the clearest economic and social benefits from climate-resilient urban planning (Dodman *et al.* 2022; World Bank 2022).

National processes become even more relevant when nationally defined priorities and ambitions guide local municipal action across climate, biodiversity, sustainable development and disaster risk reduction. However, local municipal ambition can also be a powerful tool to inspire action at the national level, as some examples in this chapter will demonstrate. Noting that multilevel governance is highly context-dependent and requires collaboration among multiple local and national stakeholders, it is important to keep in mind that there is no single recipe for perfecting synergies across national to local municipal domains and for leveraging national mechanisms to mainstream NbS into city-led plans and priorities.

As such, the recommendations in this part of the Guide have been developed to allow for initial first steps related to the possible synergies at hand across institutional arrangements, legislative and regulatory frameworks, and finance mechanisms. Where relevant, these first steps can also be sequenced to support a stronger pipeline approach, moving from early pilots to portfolios of bankable projects supported by national platforms, standards and blended finance structures.

To unlock the full potential of national-to-municipal coordination on urban NbS, the barriers that hinder effective local implementation must be removed. Table 2 outlines how national stakeholders can turn these barriers into policy levers that accelerate sustainable urban NbS. It presents targeted actions for the executive branch, government agencies and regulators, public financial institutions, state-owned enterprises, and the legislative branch, each aimed at overcoming well-known institutional, financial and regulatory obstacles. These policy levers also strengthen the conditions for climate finance for NbS by reducing policy uncertainty, improving MEL systems, disclosure processes, and enabling more standardised project preparation, ultimately lowering perceived risk and helping mobilise capital.



City of Iloilo, Philippines – A UNEP Generation Restoration Role Model City @ Unsplash

TABLE 2 | **PUBLIC INSTITUTIONAL BARRIERS AND OPPORTUNITY PATHWAYS FOR SCALING URBAN NBS**

National Stakeholder	Barrier	Levers
Executive Branch Examples: Office of the President/Prime Minister; Cabinet; Line Ministries (Environment, Housing, Energy, etc.)	Limited awareness and understanding of national–local interlinkages of urban NbS and the multiple public-interest co-benefits, for example, health, disaster risk reduction, biodiversity, liveability, etc. (UNEP-CCC 2025a; BiodiversaPlus 2023)	Strengthen the capacity of top decision-makers to understand cost implications, long-term savings, resource-efficiency gains, and cross-sectoral co-benefits of urban NbS. Enable leaders to compare NbS with grey alternatives and identify national priority areas for investment. This comparison supports clearer funding priorities and coherence across ministries. (Martin *et al.* 2025; UNEP-CCC 2025a).
Government Agencies and Regulators Examples: Environmental Protection Agencies; National Statistics Offices; Public Service Commissions; Energy/Electricity Regulators; National Climate or Environment Councils	Fragmented inter-agency coordination, scattered mandates, limited staff and technical resources, and procurement rules that may unintentionally exclude NbS (Toxopeus and Polzin 2021; International Institute for Applied Systems Analysis 2023; UNDP 2025, UNEP-CCC 2025a).	Establish or strengthen legal and procedural frameworks that enable cross-agency collaboration, shared budget lines, and pooled technical expertise. Ensure procurement policies explicitly allow for, encourage or require NbS where relevant, so NbS are not excluded by default (UNDP 2025; UNEP-CCC 2025a).
Public Financial Institutions (PFIs) Examples: National Central Banks; National/ Local Development Banks; Sovereign Wealth Funds; Housing & Urban Development Finance Corporations; State-Owned Enterprises with financial functions	PFIs face distinct barriers depending on their mandate: ▶ **Central Banks:** prudential and regulatory constraints, limited capacity to recognise NbS-related assets and absence of standardised risk-assessment approaches for NbS. ▶ **Development Banks, Sovereign Wealth Funds, Housing Finance Institutions, SOEs:** high perceived risks, insufficient pipelines of bankable NbS projects, lack of metrics to evaluate NbS performance, and procurement processes that may exclude NbS. Toxopeus and Polzin 2021; Karun 2025; UNEP-CCC 2025a; UNEP-CCC 2025b).	Develop and adopt NbS investment guidelines; integrate NbS into institutional strategies; introduce risk-sharing facilities for urban NbS; help develop viable business models; create standards for measurement, reporting, and verification; and revise internal procurement rules to enable NbS. These actions make NbS more attractive for public and blended finance (NetworkNature, 2024, UNEP-CCC 2025b).
State-Owned Enterprises (SOEs) Examples: Renewable Energy Agencies; National Utility Companies; National Forestry Services	SOEs are central to scaling NbS because of their sectoral reach, but often have mandates focused narrowly on service delivery, entrenched preferences for grey infrastructure, and insufficient internal capacity or finance to support NbS (EIB 2023, UNEP-CCC 2025a, UNEP- CCC 2025b).	Extend SOE mandates to include ecosystem protection, resilience, and hybrid infrastructure solutions. Integrate NbS into SOE planning guidelines and long-term investment strategies. Build staff capacity and establish partnerships with technical experts. Revise procurement policies to enable NbS (NetworkNature 2024; UNEP-CCC 2025b)

National Stakeholder	Barrier	Levers
Legislative Branch Examples: Parliaments; Parliamentary Committees; Senates; Congresses	Limited awareness of the potential of urban NbS and their co-benefits, which restricts legislative innovation and the adoption of enabling laws (NetworkNature, 2024).	Raise awareness among lawmakers and leverage their legislative authority to codify NbS in planning statutes, zoning codes, procurement rules, environmental assessments, and fiscal incentive frameworks. Embed NbS and ecosystem-based adaptation requirements into territorial plans and infrastructure standards. Engage external experts to ensure technical robustness and feasibility for local implementation (NetworkNature, 2024; European Bank for Reconstruction and Development n.d.; World Bank 2025; WWF 2025).

To unlock the full potential of the levers outlined above in Table 2, public government stakeholders (national and municipal) can utilise a wide array of mechanisms to successfully drive a national-to-local motion towards urban climate action, where NbS can play a vital role.

The sections below introduce three overarching building blocks that together form the basis for strengthening national mechanisms to support local uptake of NbS. Each block details the institutional, regulatory and financial elements involved and provides guiding steps for national and local stakeholders.

Across these building blocks, a central finance objective is to move from fragmented pilots toward credible, scalable NbS investment pipelines that can attract public, private and blended sources of climate finance. Transitioning from isolated pilot projects to systemic adoption requires robust enabling environments characterised by strong governance, strategic planning, innovative funding, and participatory processes[3].

BUILDING BLOCK 1 | SET UP INSTITUTIONAL ARRANGEMENTS ACROSS NATIONAL AND LOCAL ENTITIES

Well-coordinated institutional arrangements enable better alignment between national priorities and city-level action. When these systems work in tandem, cities are better equipped to scale NbS that deliver multiple benefits, from flood protection to urban cooling and biodiversity restoration (UNEP-CCC 2025a; UNEP-CCC 2025b; UNEP 2024a; van der Jagt *et al.* 2023). However, achieving such a goal remains a challenge. The following steps can be a useful point of departure for national stakeholders:

Create a dedicated multi-stakeholder coordinating body with local representation.

By establishing, for example, an inter-ministerial or inter-agency council overseeing urban development and urban nature, or a dedicated NbS unit in a relevant Ministry (e.g., Ministry of Environment or Ministry of Cities), and allowing for local representation (including municipal authorities, civil society, academia, and financial institutions), the government can ensure that policy dialogues and coordination on urban matters take place. It can also better ensure that relevant stakeholders start developing a common understanding and strategy for expanding the coverage of urban NbS consistently (World Bank 2021; Venuti 2025). Such a coordinating body can also help align national and local finance priorities, coordinate project preparation support, and facilitate access to climate funds and development finance by clarifying roles, pipelines, and reporting responsibilities. Importantly, coordinated governance of this kind also reduces the risk of maladaptation by enabling stakeholders to assess trade-offs jointly, anticipate unintended consequences, and ensure that NbS interventions are context-appropriate, equitable, and climate-robust.

3 Dorst 2022.

Embed NbS in national urban policies or equivalent strategies at the local level, prioritising monitoring, evaluation, and learning outcomes.

Integrating and institutionalising NbS in national frameworks for urban strategic planning and in relevant biodiversity and climate strategies and objectives sets an overall policy tone favourable to urban NbS (UN-HABITAT 2025). For example, making urban NbS a measurable objective in national urban policies and in urban cross-sectoral strategies (such as water management, transport, infrastructure, and housing) can support effective MEL mechanisms and strengthen replicability across cities and contexts (UN-Habitat 2024c).

BONUS

Enhance National Transparency Through Urban NbS Data

Under the national transparency framework of the Paris Agreement, countries are required to submit Biennial Transparency Reports (BTRs). These reports are intended to give a comprehensive picture of each country's climate actions, including GHG emissions, support provided and received, and, importantly, **progress on adaptation.**

Urban NbS can play a valuable role in this process. When countries include subnational municipal data on urban NbS, such as city-level climate risks, adaptation measures, and results, BTRs become more accurate and more useful. This information helps:

Strengthen national understanding of climate impacts: Local data provides a more detailed picture of where vulnerabilities lie and how cities are responding.

Improve the global picture of climate action: Including local data allows the global stocktake to capture better the scale and diversity of adaptation responses, many of which occur in cities.

Support more effective planning and coordination: When adaptation efforts from cities are reflected in national reporting, it becomes easier to align strategies and avoid duplication.

Although not mandatory, Article 13.8 of the Paris Agreement encourages countries to report on climate impacts and adaptation every two years. The article creates several entry points for featuring local data on planning, implementation, and results, essentially opening the door for governments to feature city-level information on:

- Climate risks and vulnerabilities
- Adaptation plans and policies
- Implementation progress
- Observed results or outcomes

Featuring city-level information can strengthen coordination between national and local actors and improve countries' abilities to access climate finance. Linking BTR reporting with MEL systems, and with finance narratives such as readiness, pipelines and performance indicators, can further help countries justify and mobilise domestic and international finance for urban NbS.

One of the main barriers hindering the uptake of urban NbS is the lack of supportive enabling conditions at the national level, especially where legal and regulatory frameworks create hurdles for practitioners (UNEP-CCC 2025a) by not being conducive to urban NbS. Strengthening the national legislative foundation for urban nature is therefore essential for creating a predictable and coherent enabling environment for urban NbS.

To guide this process, the following steps can support a streamlined national approach:

Clarify and calibrate the division of authority between national and local governments.

Rather than full decentralisation or centralisation, effective delivery of urban NbS typically requires a balanced approach. National governments set the overarching standards, objectives, and legal mandates, while regional and local municipal authorities are granted the necessary powers to adapt and implement these within their specific geographic, land-use and socioeconomic contexts (Venuti 2025). This combination preserves coherence at the national scale while providing flexibility when urban NbS must be delivered in urban and peri-urban areas.

National-level rules, laws and directives, such as those on land-use planning, environmental protection or urban development, provide a shared foundation that aligns local municipal actions with national development visions, climate goals, and land-use priorities. Such alignment is particularly important in densely developed cities experiencing both limited physical space for expansion and intensifying climate impacts (UN-Habitat 2024b; UNEP 2022). Clear national frameworks help "normalise" how urban planning integrates NbS by setting mandatory or recommended approaches for land allocation and multifunctional land use and for safeguarding ecological assets, issues that cities often cannot resolve alone when space is constrained.

From a finance perspective, coherent national legislation also reduces regulatory uncertainty for investors and lenders, while establishing the basis for fiscal transfers, conditional grants, and credit-enhancement mechanisms that can enable local municipal governments to scale urban NbS.

Introduce regulations that support multifunctional NbS in cities.

There are several opportunities for more robust legislation concerning the built urban environment, particularly given the speed of urbanisation in low- and middle-income countries, the lack of spaces in cities, and the need to consider the well-being of natural environments and biodiversity. When NbS for climate adaptation is woven into territorial planning and infrastructure standards, legislators support mandatory frameworks that drive their systematic implementation. A powerful and well-documented example of policy areas where urban NbS can be successfully mainstreamed relates to tackling urban heat and the impacts of the UHI effect in cities. For instance, the revision of building codes to allow for passive cooling strategies with NbS (such as green vertical walls and green roofs) can support energy efficiency in buildings, while enhancing a cooling effect in areas prone to exacerbated urban heat. In Quezon City, NbS initiatives are synergistically linked to the local Green Building Code, which mandates climate-smart construction practices, such as passive cooling and rainwater harvesting (Quezon City Government 2025). Strategies such as these have the added value of incentivising the wider uptake of energy-efficient building design (Qi *et al.* 2024; UNEP 2024a; International Council for Local Environmental Initiatives [ICLEI] 2025). Regulatory reform can also be paired with well-designed incentives, such as rebates, tax credits or expedited permitting, to reduce upfront costs and improve the financial viability of retrofits that incorporate NbS. In addition, public procurement processes can act both as an incentive and as a regulatory mechanism by encouraging, or where appropriate requiring the consideration of NbS as a complementary or alternative solution.

BONUS
Leverage National and Urban Cooling Action Plans

Efforts related to the enhancement of building codes, supported by city-wide urban cooling action plans, mean that the implementation of other urban NbS can be planned to increase urban cooling strategically via the implementation of natural water bodies for natural cooling, shading via the planting of tree corridors and absorptive pavement materials, and others, as has been done in the city of Can Tho, Viet Nam, via UNEP, UNEP Cool Coalition and the Green Growth Institute's support to the Department of Climate Change and the Ministry of Agriculture and Environment of Viet Nam (Department of Climate Change 2025).

Worldwide, financial investments remain disproportionately concentrated in activities that degrade nature, threatening ecosystems, economies and human well-being (UNEP 2026). This concentration persists even though nearly half of global economic output depends on nature, even as governments, businesses and financial systems continue to draw down the planet's natural capital. In this context, strong public investment from national governments is essential to build a solid foundation for urban NbS and to catalyse additional sources of finance.

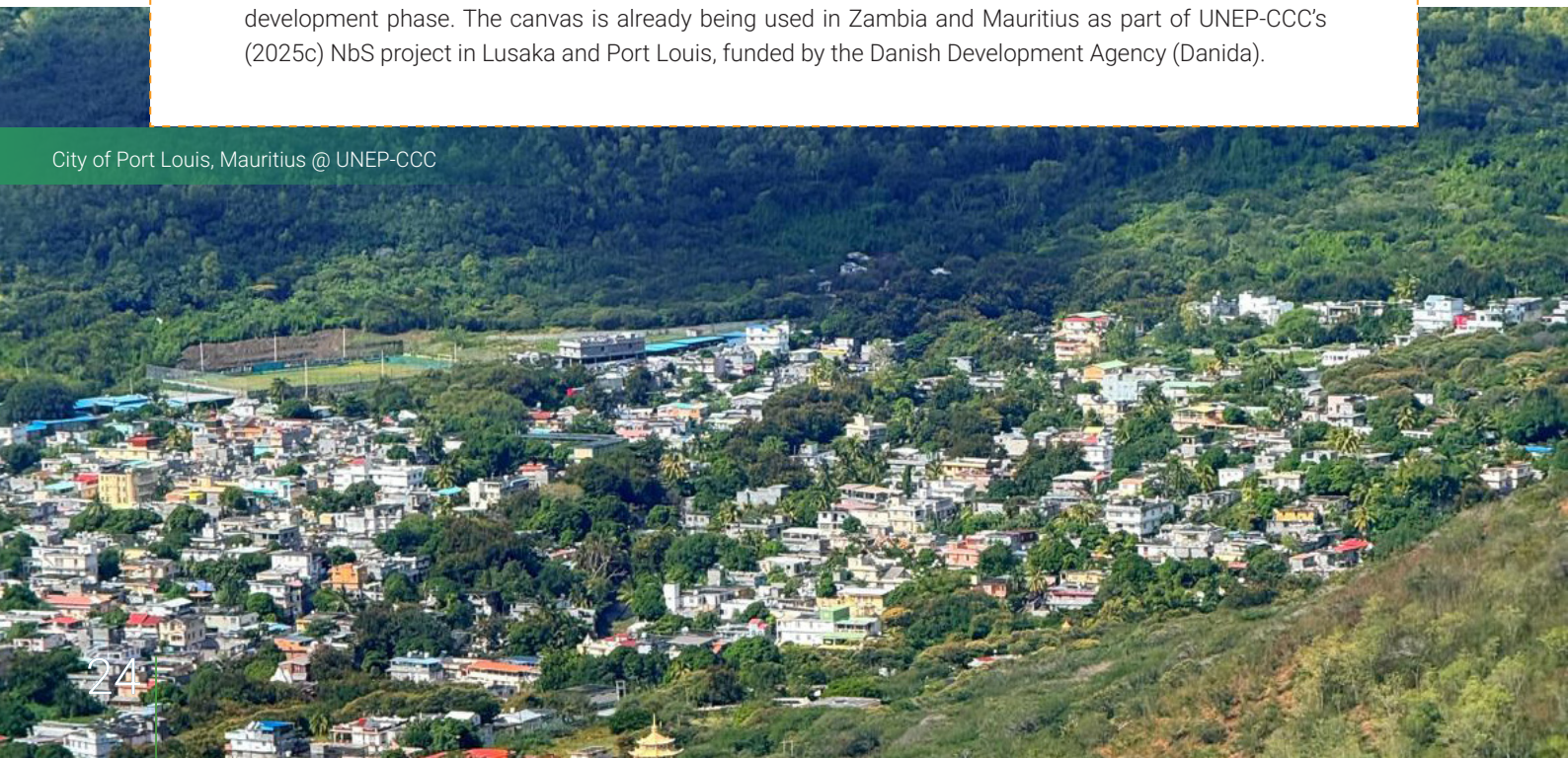
Public funding currently plays a central role in the financing of urban NbS, with local governments typically leading both financing and implementing urban NbS (UNEP-CCC 2025b). However, with local government having several competing priorities for funding basic services, access to additional financing for NbS in urban areas through international and national government funding and co-funding mechanisms remains a critical issue (UNEP 2022; UNEP 2023; UNEP 2024a; UNEP 2024b; UNEP-CCC 2025a). Channelling national finance flows to cities related to NbS can also provide a strong signal to the private sector and financial institutions and can promote the establishment of public-private partnerships. Government institutions can strengthen the uptake of urban NbS by aligning fiscal policy with climate, biodiversity and resilience objectives, and by creating dedicated funding mechanisms that lower investment risks (UNEP 2021; UNEP-FI 2024). These measures help bridge the substantial finance gap for NbS, ensuring cities have predictable resources to plan, scale and sustain nature-based investments. Bridging the gap can be strengthened through clearer national definitions of eligible NbS expenditure, the development of NbS investment criteria, and alignment with sustainable finance taxonomies and disclosure frameworks, which can help crowd-in institutional investors and domestic financial intermediaries.

Although efforts exist to value the benefits of urban NbS, comprehensive and context-specific economic assessments remain limited at the local level, partly because such analyses are complex, time-consuming and often require translating long-term or hard-to-monetise benefits into economic terms. These gaps can reduce investor confidence and hinder scaling. Framing urban NbS through a cost-effective business-model lens can help demonstrate long-term value and attract private and public investment

BONUS

Plan NbS interventions from a Business Model Perspective

Effective NbS project development demands strategic planning to unlock the full range of benefits, mobilise public investment and private investment through innovative financing, establish clear and capable governance arrangements, and build durable stakeholder support to ensure long-term sustainability while recognising opportunities for scale-up and managing potential investment risks (UNEP-CCC 2025b). The UNEP-CCC's Business Model Canvas offers a comprehensive approach for the development of implementable NbS business models that can guide local agents and NbS practitioners during the project development phase. The canvas is already being used in Zambia and Mauritius as part of UNEP-CCC's (2025c) NbS project in Lusaka and Port Louis, funded by the Danish Development Agency (Danida).



City of Port Louis, Mauritius @ UNEP-CCC

Invest in local capacity and technical assistance.

National governments have a key role to play when it comes to providing finance streams that regional and local entities can access to build and strengthen capacities related to urban resilience and development. The enhancement of technical assistance, coupled with designated finance channels for urban resilience strategies, can also be targeted at supporting local stakeholders' capacity related to fundraising for urban NbS projects, particularly in smaller and medium-sized cities in the Global South that often grapple with institutional capacities (UNEP-CCC 2025a; ICLEI – Local Governments for Sustainability 2023). In this regard, the funding of smaller pilot projects (via, e.g., grants, green and conservation bonds, credit facilities and blended finance mechanisms) can be meaningful in the development of a portfolio of living labs for NbS that provide case examples on implementable and replicable approaches. Here, the engagement with financial institutions and the private sector is key, and national and regional governments have a vital role to play, particularly in the articulation of budgetary priorities connected with the development of capacities aligned with national agendas for development and climate. In addition, targeted technical assistance can support project preparation (feasibility studies, cost-benefit analysis, safeguards, and monitoring, reporting, and verification [MRV] plans), aggregation projects into portfolios, and the development of revenue and maintenance strategies that increase long-term bankability.

BONUS

Use cities' NbS pilots to diffuse nationally recognised best practices

National governments' investment in pilot and scalable urban NbS can catalyse additional funding sources while also helping to generate and subsequently diffuse national standards for NbS in urban contexts. This relationship can work in both directions: early pilot projects can inform the development of nationally endorsed best practices (e.g., participatory design, inclusive consultation with civil society, and the use of native or endemic species), while emerging national guidance can, in turn, strengthen the design and implementation quality of new pilots. These pilots then act as "proof points" for financiers by generating early performance data, validating methodologies and demonstrating delivery capacity, all of which are key ingredients for scaling through climate funds, development finance, and private capital.

Guide the urban portfolio of regional and national development banks' investments that contemplate nature and resilience.

National development banks (NDBs) and regional banks play a leading role in financing climate-resilient and sustainable cities. Beyond traditional lending, they can help municipalities design and scale projects that integrate NbS into urban systems. Multilateral and NDBs are narrowing the urban financing gap by providing concessional loans, guarantees, and blended finance to reduce investment risks and attract private capital (UNEP-CCC 2025b).

Their national influence allows NDBs to effectively channel climate finance into urban NbS action and enable large-scale private investments. An additional advantage is that NDBs can eliminate environmentally harmful investments through steering finance into nature-friendly assets, which again can set incentives across financial markets. NDBs can thereby directly contribute to implementing and advancing national strategies and policies such as NAPs and NBSAPs (UNEP-FI 2024). Beyond bond issuance, NDBs can operationalise NbS finance through credit lines dedicated to municipalities, guarantee facilities, and co-investment platforms that blend public capital with private finance, while using standardised NbS eligibility and MRV frameworks to ensure integrity and comparability.

In addition, NDBs and commercial banks could consider the issuance of climate-related green bonds. An exemplary approach has been taken by Colombia: In 2024, the country issued the first biodiversity bond in cooperation with the International Finance Corporation (IFC). The aim is to reinvest the proceeds into projects that focus on preventing biodiversity loss (IFC 2024).

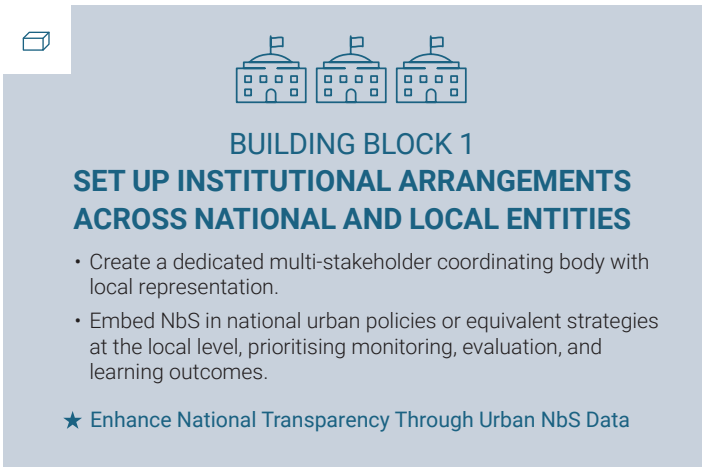
Leverage public tax incentives.

National governments can accelerate urban NbS uptake by deploying targeted tax and fiscal incentives that lower investment barriers and mobilise public and private capital (UNEP-CCC 2025b). A range of established instruments can be adapted to support city-level nature action:

- Tax credits that reduce a taxpayer's liability in proportion to certified NbS investments (e.g., green roofs, wetland restoration, permeable surface retrofits), making projects financially viable for households, developers, and businesses (OECD 2025; UNEP-CCC 2025b).
- Tax deductions allowing expenses on NbS-related activities (e.g., rainwater management, ecological restoration) to reduce taxable income, encouraging sustained investment (as recognised in economic incentives that support NbS uptake) (Trinomics and International Union for Conservation of Nature [IUCN] 2019).
- Reduced tax rates on revenues or activities linked to nature-positive development, which shift incentives away from harmful practices and toward sustainable practices (aligned with global calls to scale biodiversity-positive incentives) (OECD 2025).
- Partial or full tax exemptions for land dedicated to conservation or ecosystem services, lowering ongoing costs for landowners and encouraging long-term stewardship of urban natural assets (documented in European examples of tax relief to promote ecological land management) (Trinomics and IUCN 2019).

These fiscal tools can help cities overcome persistent barriers such as high upfront costs, uncertain returns, and limited access to capital by making NbS investments cost-effective and attractive (UNEP-CCC 2025b).

FIGURE 2 | **BUILDING BLOCKS FOR SETTING UP, PROTECTING, AND SUPPORTING URBAN NBS**



City of São Paulo, Brazil – A UNEP Generation Restauration Role Model City © UNEP-CCC

4 CHAPTER Instruments for Mainstreaming NbS in Urban Development

Knowledge for advancing the use of NbS is growing globally, with Global South assessments strengthening the existing knowledge base on urban NbS experiences.

To support policymakers and practitioners, UNEP has developed a wide array of tools to facilitate the mainstreaming of NbS into the urban policy mix by providing scientific assessments and tangible, actionable recommendations.

The focus of this part of the Guide lies on tools that local municipal governments can take to advance this uptake further by grounding NbS into local policy strategies. The chapter has the following structure: It first looks at examples of policy instruments and examples of respective urban policies that are practical entry points for mainstreaming NbS and then presents three UNEP tools that can support the process of mainstreaming NbS into the urban policy mix by assessing and prioritising interventions to respond to climate change.

Which policy instruments are available for decision makers at the subnational level when considering the usage of Nature-based Solutions for climate and biodiversity gains?

@ UNEP-CCC

At the local municipal level, decision-makers and practitioners can use different policy instruments to drive the integration of NbS into the urban policy mix. Table 3 presents an established typology of policy instruments by McKenna, Cuvas and Gvein (2024) that distinguishes between four overarching categories. The purpose of this table is to provide an easy-to-grasp overview of the different policy instruments.

TABLE 3 | **TYPOLOGIES FOR SUBNATIONAL POLICY INSTRUMENTS**

Category	Legislative, regulatory, and strategic instruments (LRSI)	Economic and fiscal instruments (EFI)	Agreement-based or cooperative instruments (AbCI)	Knowledge, communication, and innovation instruments (KCII)
Description	LRSI relates to sectoral or overarching strategies or plans, as well as urban planning mechanisms and standards.	EFI relates to establishing disincentives, payments for ecosystem services (PES), subsidies or incentives, or financing mechanisms.	AbCI relates to direct engagement of citizens and multi-stakeholder engagement, as well as joint planning.	KCII relates to communication, awareness raising, knowledge production, and innovation.

Global assessments on the progress of using these different policy instruments for mainstreaming NbS are largely missing. Nevertheless, under UNEP's Generation Restoration project, several local entities are already utilising different instruments to advance the mainstreaming of NbS into various policy domains.

- For example, in **Curitiba**, Brazil, the "Reserva Particular do Patrimônio Natural Municipal" (RPPNM) programme grants tax incentives to building projects that incorporate green areas, supporting the growth of parks and spaces, i.e., EFI (Martins 2011), and
- In **Quezon City**, Philippines, the city collaborates with the League of Cities of the Philippines to strengthen its ability to plan, carry out, and track NbS that support biodiversity and climate resilience (AbCI).

The typology of policy instruments introduced above can also be understood as a dichotomy between 'soft' and 'hard' instruments. When it comes to initiating the process of mainstreaming NbS, specifically, 'soft' instruments, such as strategies (LRSI) or knowledge products based on innovative examples (KCII), seem to be the first stepping stones, mainly due to their nature of declaring intent instead of requiring specific 'hard' actions, as is the case with legislation, regulations, or even EFI.

While the use of planning instruments is a central first step towards increasing the uptake of NbS, advancing towards 'hard' instruments, such as regulatory measures or EFI, is seen as a requirement for upscaling NbS, but is also much harder to implement, given different regulatory barriers and sometimes conflicting policy objectives at the city level. Hence, examples of cities that have successfully mainstreamed NbS into city-level regulations are predominantly from the Global North. Next to the examples above, see also, for example, Singapore's LUSH Programme that aims to transform buildings into vertical ecosystems or the Green Space Factor in Malmö, Sweden, which requires a minimum of 60 per cent green space in new district development (Randup *et al.* 2025).

The following highlights how local governments can advance concerning the soft policy mainstreaming instruments of NbS and developing portfolios to secure further buy-in and further support for urban development strategies that cohesively consider nature as an asset for climate proofing and biodiversity gains:

Practitioners can use 'soft' instruments, in particular, strategies and knowledge instruments to initiate the mainstreaming of NbS into the urban policy mix.

There is a growing consensus in the NbS community that moving towards the 'harder' policy instruments is necessary to accelerate NbS implementation significantly (Mirsafa and de Oliveira 2025). While the transition from "soft" (conceptual, planning-oriented) to "hard" (built, large-scale) NbS implementation is highly context-specific, a common pathway begins with pilot projects and proof-of-concept interventions. These initial examples serve multiple

purposes: they demonstrate practical viability, reveal operational and maintenance requirements, build technical capacity, and produce early performance data. For this, it is well established that a single focus on LSRI and EFI to mainstream and advance NbS is inadequate (Hölscher *et al.* 2023). Instead, complementing AbCI by establishing communities of practice and KCII, like preparing NbS pilots, is necessary. These activities can often be supported by international and regional organizations that have the required expertise and convening power.

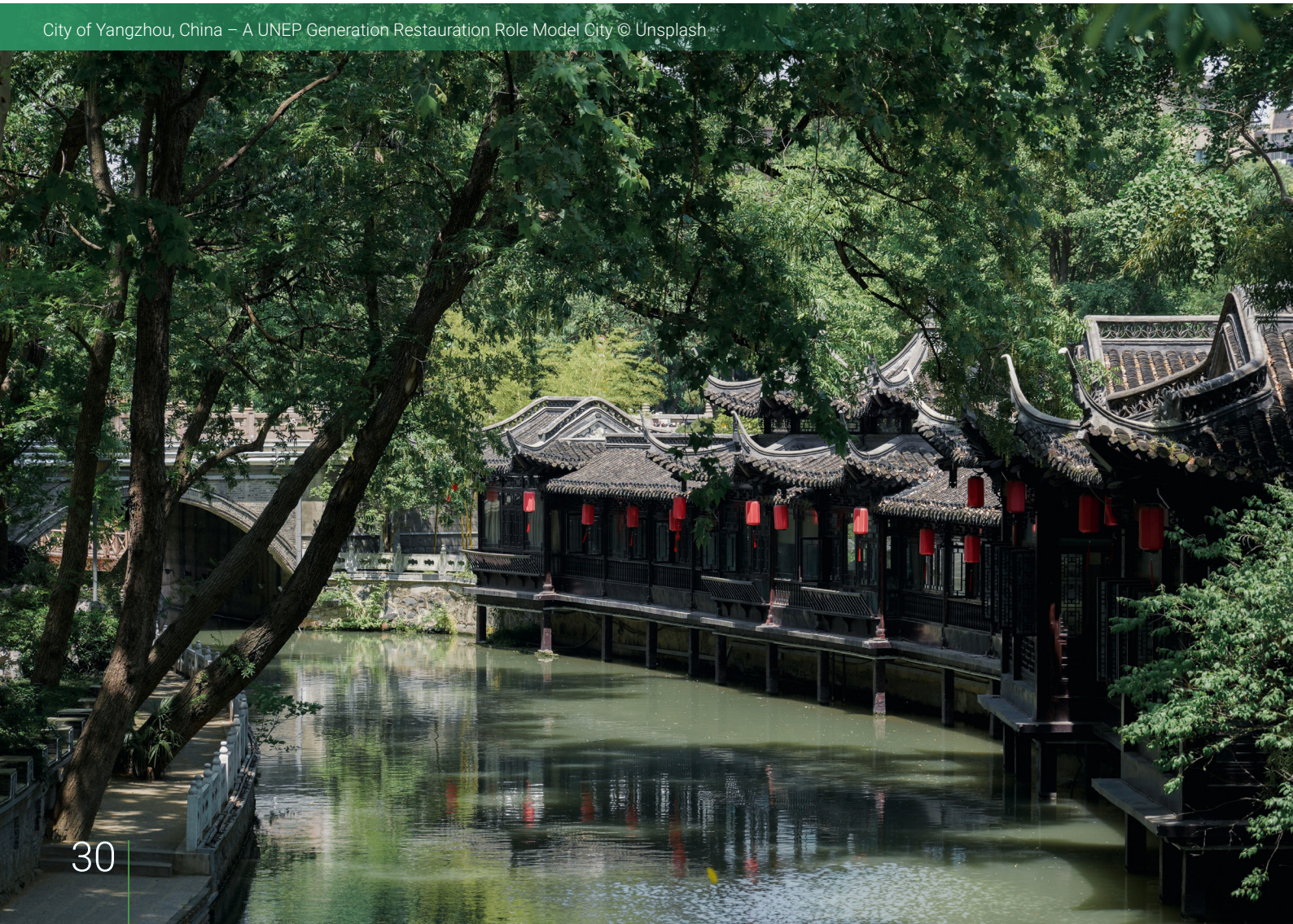
While the transition from "soft" to "hard" measures is highly context-specific, a common pathway involves first developing pilot projects and proofs of concept (see Box 2). These initial examples can then inform strategies, from which concrete plans and implementable measures can be derived, enabling practitioners to mainstream NbS.

Pilots serve as a critical proof-of-concept for mainstreaming NbS into the urban policy mix

An added general challenge in advancing the mainstreaming of NbS that is also applicable to the development of NbS pilots is the fragmented and often limited availability of data and information, which hampers the ability to fully capture the costs and benefits of NbS. Implementing NbS in urban environments presents additional layers of complexity due to the need for high-resolution spatial data for effective planning, and the interplay of diverse socioeconomic factors that shape the human-nature interactions in cities. The benefit of pilots is that reliable NbS data can ideally be obtained through establishing long-term NbS monitoring and evaluation systems already tested at the pilot stage.

Urban NbS practitioners can therefore benefit from tools that support the assessment and prioritisation of different interventions in response to climate change through spatial and socioeconomic data analysis, particularly over longer periods of time. Such tools can also play a key role in mainstreaming NbS into urban policy, by helping to bridge knowledge gaps around their effectiveness - a persistent barrier to broader NbS implementation.

City of Yangzhou, China – A UNEP Generation Restauration Role Model City © Unsplash



BOX 2

From Pilots to Policy: Early NbS Pilots Creating Pathways for Implementation at Scale and Policymaking in Mauritius and Zambia

Via the funding from the Danish Ministry of Foreign Affairs, the UNEP Copenhagen Climate Centre is supporting Lusaka and Port Louis to design early NbS pilots that address urban flooding and heat stress. These efforts demonstrate how country-led approaches, aligned with national policy priorities, can convert NbS commitments in NDC 3.0 processes into practical, finance-ready interventions.

Lusaka, Zambia:

Strengthening Local Ownership and Evidence for Scale

In Lusaka, pilot development centres on regenerating urban green spaces and integrating NbS into urban planning to reduce heat and manage flood risk. UNEP-CCC has supported the creation of an Urban NbS Technical Working Group, establishing an inter-agency coordination model owned by Zambia's authorities. These insights provide an important basis for embedding urban NbS in Zambia's national planning, and for structuring business models that can attract private finance.

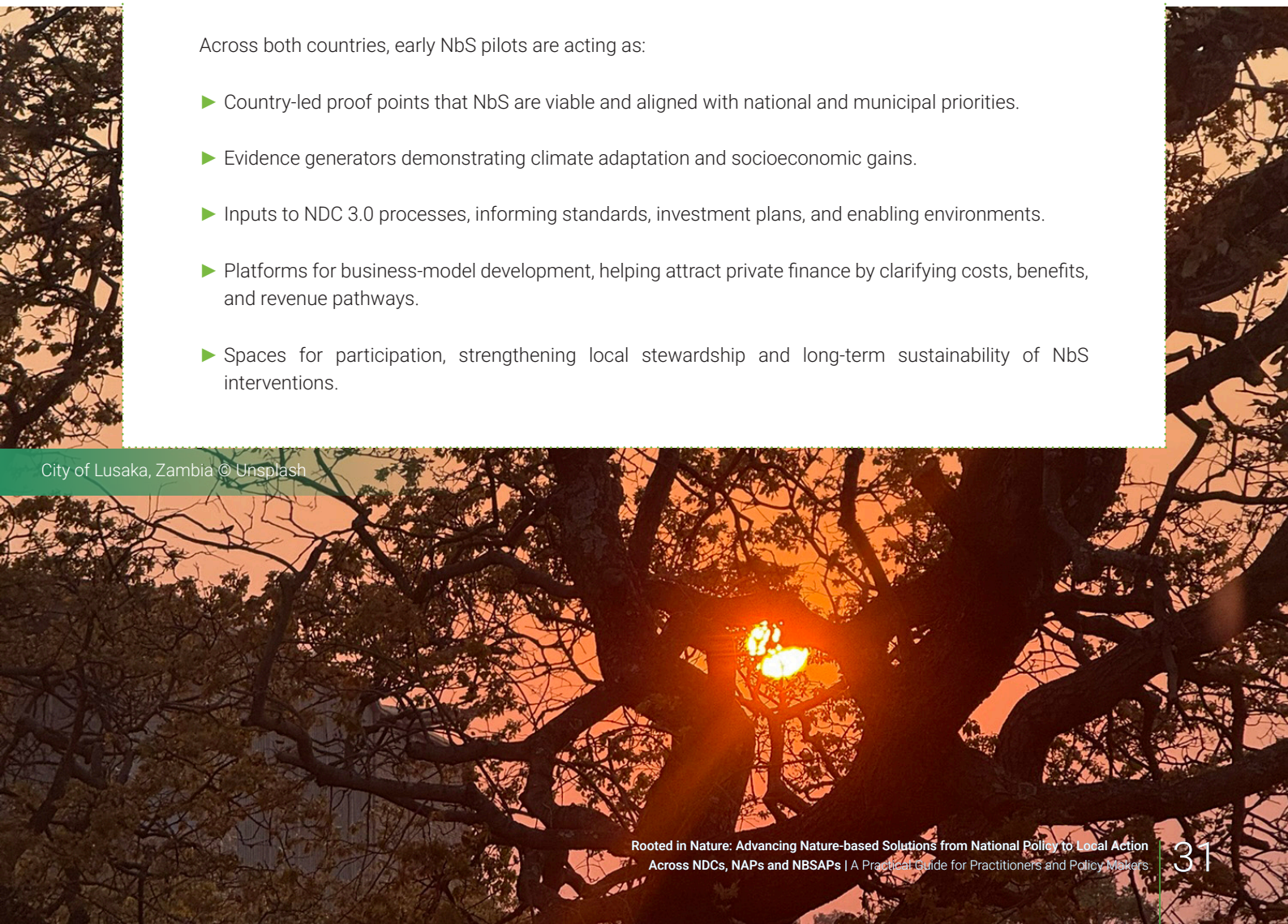
Port Louis, Mauritius:

Informing National NbS Ambition Through Practice

In the urban context of Port Louis, UNEP-CCC is supporting the planning of nature-based drainage improvements and targeted greening to address rainwater runoff, and flooding. Pilot preparation helps the Government to assess maintenance needs, hybrid design options, and financial viability, all of which are crucial for scaling and attracting private investment.

Across both countries, early NbS pilots are acting as:

- Country-led proof points that NbS are viable and aligned with national and municipal priorities.
- Evidence generators demonstrating climate adaptation and socioeconomic gains.
- Inputs to NDC 3.0 processes, informing standards, investment plans, and enabling environments.
- Platforms for business-model development, helping attract private finance by clarifying costs, benefits, and revenue pathways.
- Spaces for participation, strengthening local stewardship and long-term sustainability of NbS interventions.



City of Lusaka, Zambia © Unsplash

4.1 UNEP Tools for assessing and prioritising interventions

UNEP provides different tools to assess and prioritise interventions that help practitioners at the city level to mainstream NbS into the local policy mix.

These tools support the development of metrics and the generation of relevant local data, both vital to decision-makers and practitioners invested in scaling the uptake of urban NbS. The two following examples are particularly useful for providing evidence in support of mainstreaming NbS into urban water management policies and urban development, including transport.[4]

4.1.1 The Generation Restoration Urban NbS Tool[5]

Funded by the German Ministry for Economic Cooperation and Development (BMZ), the initiative "*Generation Restoration: Catalyzing a Nature-based Transformation in Finance, Jobs, and Cities*" has enabled UNEP, in collaboration with the United Nations Environment Programme-DHI Partnership – Centre on Water and Environment and nine pilot cities, to develop an online tool that helps identify urban climate hotspots and plan potential NbS interventions. The nine participating cities are Cape Town, Douala IV (Cameroon), Dakar-Plateau & Thies (Senegal), Kochi, Mexico City, Manaus, Quezon City, Sirajganj (Bangladesh) and Samborondón (Ecuador).

A key objective of this work was to support the project's pilot cities in scaling up their NbS activities by using Earth Observation (EO) based data tools. Such tools can help assess and monitor relevant NbS indicators (e.g., changes in tree or vegetation cover, historical flood extent or seasonal surface temperatures), identify potential climate risk hotspots, and thus pinpoint future NbS intervention areas.

The Urban NbS Tool leverages the latest available EO data products, such as Vegetation Condition Index from Sentinel-2 mission or land surface temperature derived from Landsat-8 and Landsat-9 satellite data, to enable high-resolution mapping and analysis of key climate challenges in urban environments, including UHI, flood and drought risks and the loss and degradation of green assets, among others. By combining EO data with socioeconomic information (e.g., population density, income levels, or location of critical infrastructure), the tool helps to identify climate risk hotspots and supports pinpointing and prioritising locations of potential future NbS interventions.

The rapid advances in EO data with increasing data resolution and frequency are critical for enabling NbS planning and decision-making, particularly in data-scarce locations where frequent collection of high-resolution data has traditionally been cost-prohibitive. Exploring high-resolution satellite imagery and analytics can help identify climate hotspots and opportunities for new urban agriculture NbS activities (Figure 2). Over time, this large-scale standardised information also becomes a key source for evaluating NbS effectiveness and building an evidence base for the NbS costs and benefits. Such standardised EO information can also enable better comparisons and experience sharing amongst cities, making sure that the lessons learned can benefit cities and audiences across countries and geographies.

4 More useful resources on urban ecosystem accounting and how to track the status of urban nature and its benefits can be found here: United Nations Environment Programme ⊠ World Conservation Monitoring Centre (2022).

5 More on the Generation Restoration Urban NbS tool and link to country workspaces can be found here: https://www.decadeonrestoration.org/cities/news/spatial-planning-tool-nature-based-solutions-generation-restoration-cities

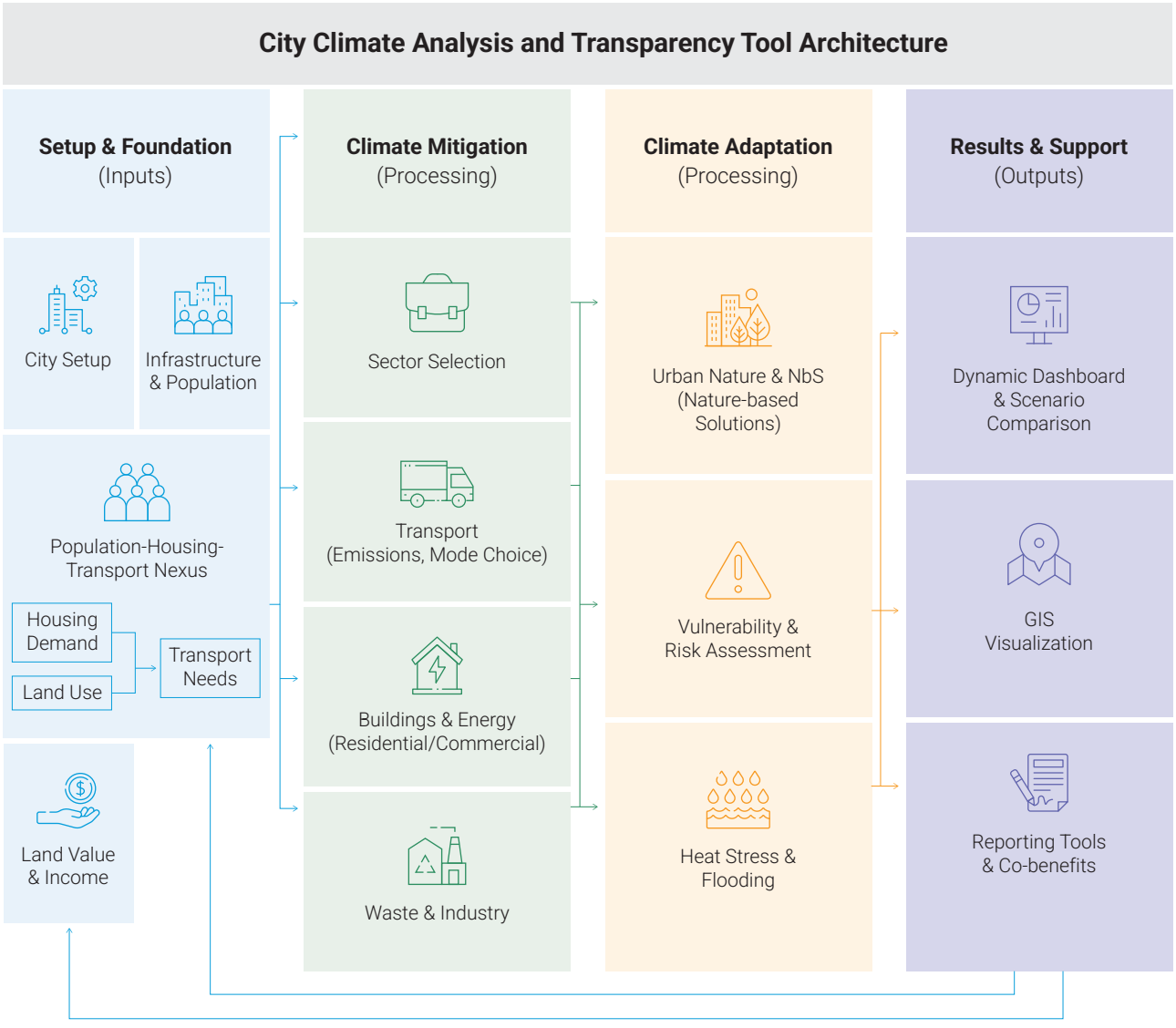
4.1.2 City Transparency Tool for Nature-Based Solutions

The City Climate Analysis and Transparency (CCAT) Tool, developed by UNEP-CCC, provides a strategic framework for cities to implement and monitor NbS within sustainable urban development plans. By integrating environmental, housing and economic data, it empowers planners to create greener, more resilient urban spaces. A key feature of the tool is its scenario-planning capabilities, enabling cities to design and evaluate various NbS interventions, such as interconnected green networks. Planners can model increases in green covers, such as parks and green corridors, enhancing biodiversity, air quality and recreational spaces.

In densely populated areas, the tool assesses the impact of vertical gardens and green roofs, helping to quantify benefits such as reduced urban heat, improved stormwater management, and better air quality. Its GHG emissions module allows cities to calculate potential carbon sequestration from green infrastructure, supporting climate mitigation efforts. In addition, the Health Impact Assessment module links green infrastructure to reduced air pollutants, quantifying urban air quality improvements. The economic analysis module demonstrates increased property values associated with green spaces, providing a strong incentive for NbS investment.

The tool also translates environmental gains into measurable health benefits, highlighting cleaner air and opportunities for physical activity while estimating reduced healthcare costs. By adopting the City Transparency Tool, cities can integrate nature as a core component of urban infrastructure, fostering more resilient and equitable urban futures.

FIGURE 3 | **UNEP-CCC'S CITY CLIMATE ANALYSIS TOOL ARCHITECTURE**



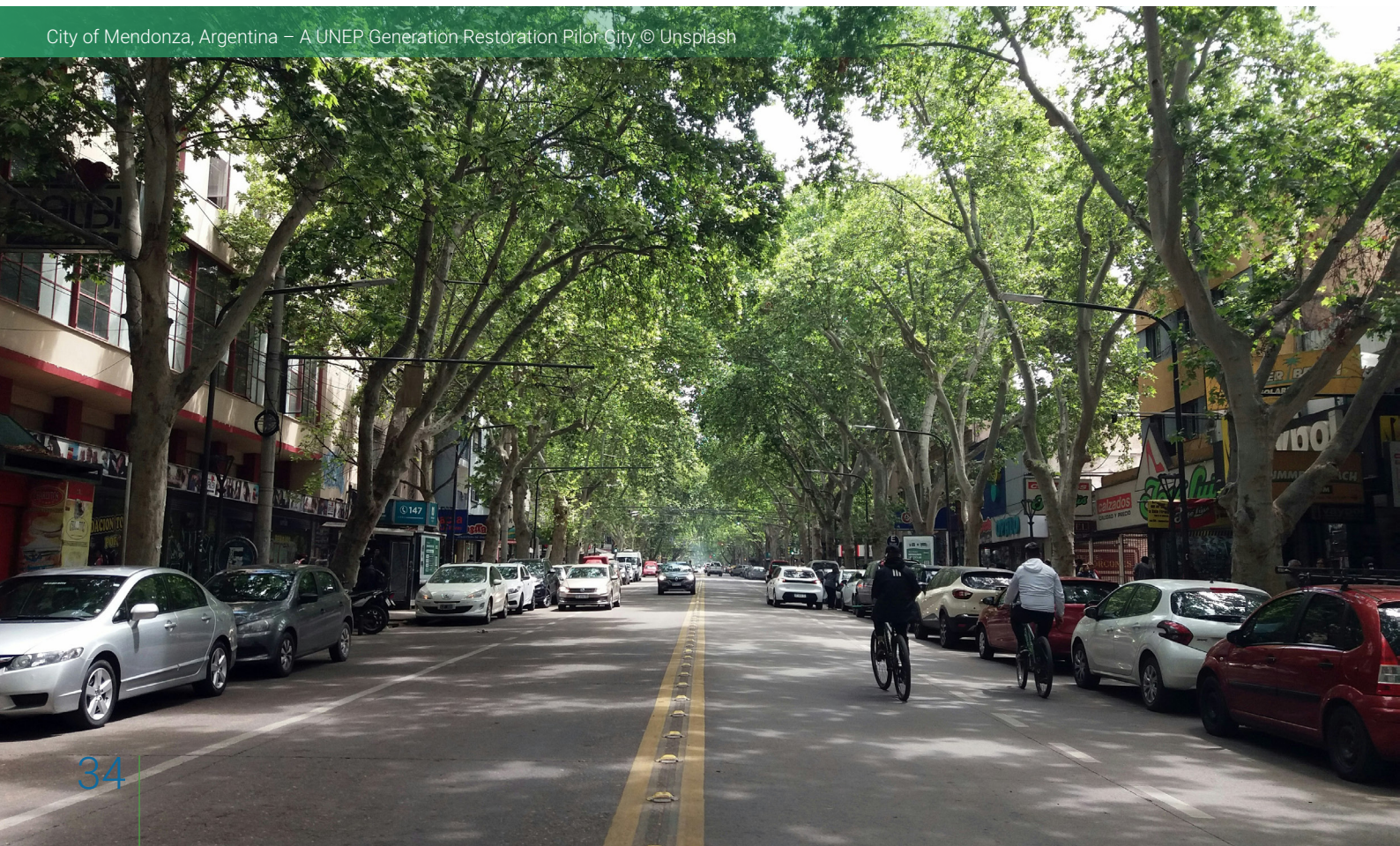
5 Case Studies

CHAPTER

5.1 Leveraging National Alignment to Advance Urban Nature-based Solutions in Mendoza, Argentina

The City of Mendoza, a UNEP Generation Restoration pilot city, demonstrates how strong alignment between national frameworks and municipal priorities can accelerate the uptake of urban NbS. National policies, including Law 27.520 (Grantham Research Institute at the London School of Economics 2019) and the National Adaptation and Mitigation Plan (Ministerio de Ambiente y Desarrollo Sostenible de la República Argentina 2022), and Argentina's updated NDC 3.0, provide mandates, guidance and policy signals that Mendoza is actively translating into local implementation. At the municipal level, Mendoza uses these frameworks to prioritise ecological restoration, expand green and biological corridors, and integrate NbS into climate adaptation and water-security strategies. The National Adaptation and Mitigation Plan has been particularly influential, helping the city anchor its restoration and wetland management initiatives within national objectives and facilitating access to technical and financial support. By tapping into national ambitions and feeding local lessons back through the Generation Restoration initiative, Mendoza is building institutional momentum for NbS while demonstrating effective multilevel governance in practice. The city shows how coherent national–local alignment can unlock resources, accelerate implementation and enhance the long-term impact of urban NbS.

City of Mendonza, Argentina – A UNEP Generation Restoration Pilor City © Unsplash



5.2 Advancing Urban Nature-based Solutions in Brazil: Pioneering City Action in Curitiba and Manaus

As Brazil strengthens its national climate governance framework, including the 2024-2035 Climate Plan, new adaptation sub-plans and expanded federal support for NbS, several cities are emerging as frontrunners in translating these commitments into urban action. Curitiba and Manaus, both UNEP Generation Restoration partner cities, illustrate how municipal leadership can operationalise national directives and develop robust NbS strategies that respond to local climatic and ecological realities.

Curitiba

Curitiba is pioneering the integration of NbS into urban planning, with a particular focus on food security, social inclusion, and the restoration of degraded areas. As a UNEP Generation Restoration City, Curitiba demonstrates how municipal leadership can translate national priorities, such as those set out in the updated NDC 3.0 (Brazilian Government 2024) and NAP (United Nations Climate Change 2021), into practical, city-scale NbS interventions taking place in the context of Curitiba's Climate Plan (Planclima 2020). Curitiba uses extensive spatial data, community engagement and environmental monitoring to prioritise areas for intervention, linking NbS to food deserts, flood-prone zones and UHI. Its approach emphasises the multifunctionality of NbS: addressing climate risks, improving local ecosystems, and strengthening social resilience. UNEP's engagement supports the city in measuring NbS benefits, exploring innovative financing options, and systematising lessons for national and international exchange.

The city has built an extensive green and blue infrastructure network that manages floods, restores degraded areas and expands biodiversity corridors and multifunctional green spaces that reduce disaster risk while improving urban wellbeing. Curitiba also stands out for linking NbS to food security and social inclusion through its Urban Agriculture Programme, which restores degraded land using native species and supports vulnerable communities. Institutionally, Curitiba has created enabling mechanisms that allow NbS to scale: local incentives such as green tax reductions (IPTU Verde), Transfer of Development Rights, municipal biodiversity reserves (RPPNMs), and partnerships with development banks (AFD, IDB) and private actors. These tools help finance restoration projects and integrate NbS into both public and private urban development.

Together, these efforts position Curitiba as a national frontrunner in implementing NbS, demonstrating how local leadership, data-driven planning and constructive alignment with federal frameworks and innovative financing can advance NbS at scale and serve as a model for other Brazilian cities.

Manaus

Manaus is aligning its climate planning closely with national priorities by embedding NbS in its Municipal Climate Action Plan (2025), which integrates mitigation, adaptation, emissions inventories, public consultations, and cross-sectoral engagement to align with NDC 3.0. The city prioritises afforestation, urban green infrastructure, and restoration of urban forests, key pathways endorsed in Brazil's national adaptation and biodiversity agendas.

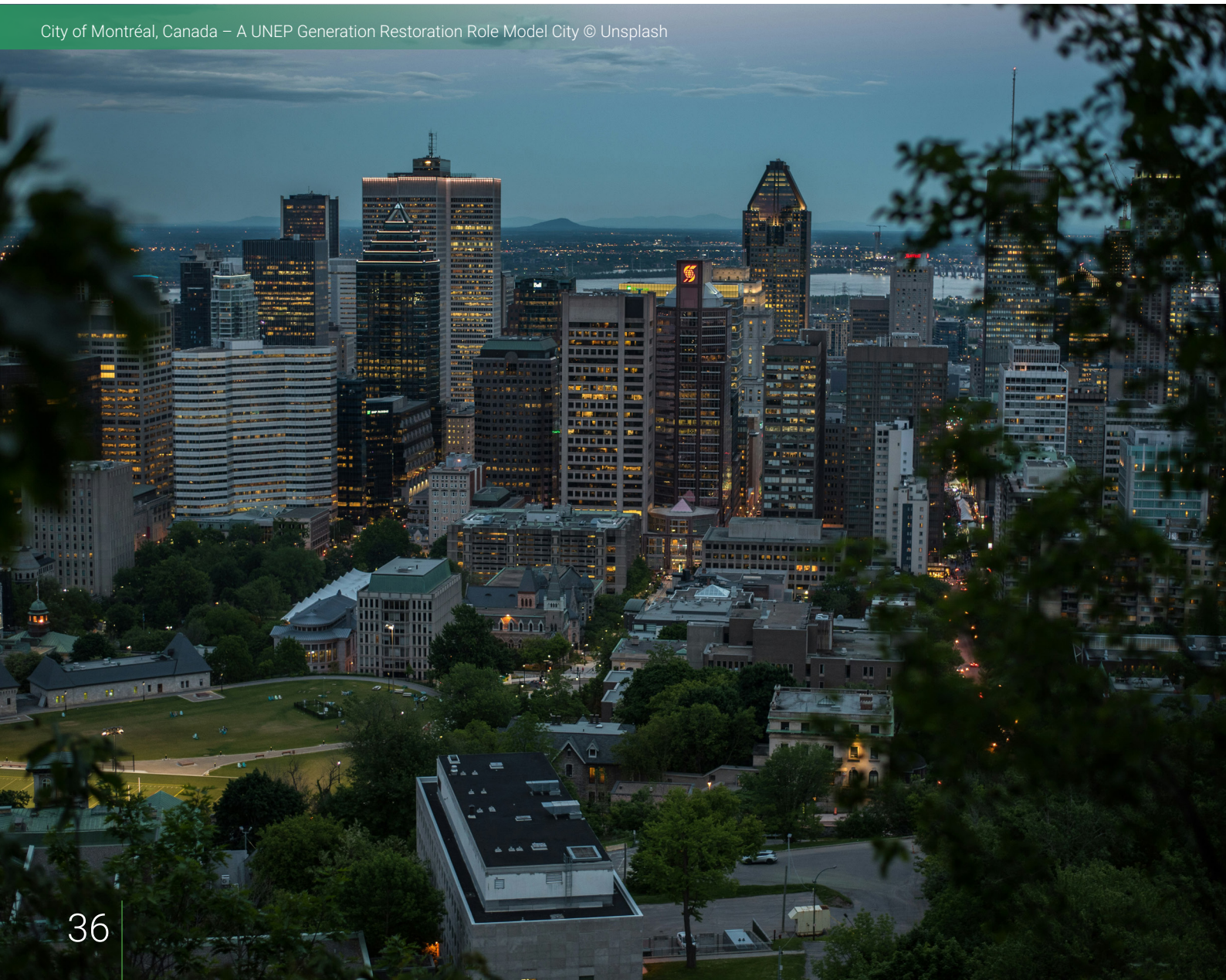
Through the Municipal Plan for Risk and Disaster Reduction (Prefeitura de Manaus 2025), developed with the Ministry of Cities under the Periphery Without Risk programme and the Federal University of Amazonas (UFAM), Manaus maps high-risk zones. It incorporates green and blue infrastructure to mitigate floods, landslides, and heat extremes. These efforts are complemented by environmental enforcement, participation in national capacity-building programmes, inter-city knowledge exchange, early warning systems, geospatial mapping and cooperation with research institutions and civil society. To scale implementation, Manaus is now exploring innovative finance options, including green bonds, bioeconomy funds, and carbon markets. Linking these instruments to measurable NbS benefits, such as reduced flood losses, lower heat exposure, and improved water quality, can enhance municipal creditworthiness and attract new investment.

City of Curitiba, Brazil – A UNEP Generation Restoration Role Model and Pilot City © Unsplash

5.3 Aligning Provincial and Municipal Priorities for Nature-based Solutions: Case Study from Montréal, Canada

Canada's rapidly intensifying climate risks, particularly heat and floods, are increasing pressure on provinces and major cities to both decarbonize and adapt. In Quebec, climate action is framed through the *2030 Plan for a Green Economy*, (Government of Québec 2020), with the 2024–2029 *Implementation Plan* (Gouvernement du Québec 2025) committing all municipalities to develop climate adaptation plans by 2030. These provincial commitments mirror national ambition outlined in Canada's NDC, the 2023 National Adaptation Strategy (Government of Canada 2023), and the 2024 *Adaptation Action Plan*. As a UNEP Generation Restoration role-model city, Montréal is advancing an integrated approach to climate and biodiversity challenges. The city's Climate Plan 2020–2030 (Montreal 2030 n.d.) aims for a 55 per cent GHG emissions reduction by 2030 and carbon neutrality by 2050, while embedding NbS as a core adaptation pathway. Montréal is rolling out regulatory and fiscal tools to curb urban land conversion, protect natural soils and counter biodiversity loss. Updated municipal by-laws now facilitate building retrofits for resilience, including, for example, green roofs, rain gardens, and permeable surfaces, and align with national climate-resilient building standards. The city is also investing in street-level green stormwater systems, requiring new developments to account for flood risks, and assisting existing structures with adaptation planning (Montreal 2020). Urban greening measures include converting surface parking into community spaces, restoring wetlands and flood-damaged shorelines, and expanding protected natural areas to reach 10 per cent of city territory. These measures, supported by emerging municipal finance tools such as green bonds or resilience funds, illustrate how aligned national-provincial-local systems can accelerate NbS deployment and strengthen long-term urban resilience (Montreal 2020).

City of Montréal, Canada – A UNEP Generation Restoration Role Model City © Unsplash



5.4 Nature-Driven Urbanisation as a National Priority: Lessons from Quezon City and Iloilo, Philippines

As the Philippines strengthens its national climate and biodiversity frameworks, including the Climate Change Act (Republic of the Philippines 2009), the Disaster Risk Reduction and Management Act (Republic of the Philippines 2010), the *Urban Biodiversity Program* (Philippine Clearing House Mechanism 2018), and the *Philippine Biodiversity Strategy and Action Plan 2024-2040* (Philippine Clearing House Mechanism 2025), several cities are emerging as leaders in localising these commitments. Quezon City and Iloilo demonstrate how local governments can pioneer nature-driven urban development that aligns with national ambitions while responding to the country's acute climate vulnerabilities.

Quezon City

Quezon City is aligning its urban resilience and biodiversity policies with national and global frameworks such as the Sendai Framework for Disaster Risk Reduction and the SDGs. Under the *National Urban Biodiversity Program* (Republic of the Philippines 2022), the city is strengthening urban NbS in core elements of planning supported by clear national legislation, encouraging policymakers to integrate ecosystem services into development plans. This alignment enables Quezon City to scale urban greening, embed NbS into resilience strategies and position biodiversity protection as a foundation for climate adaptation.

Iloilo City

Iloilo, recognised as a Generation Restoration role-model city, offers a long-standing example of how national priorities can translate into sustained local action. The city has been restoring mangrove forests and rehabilitating the Iloilo River for decades, demonstrating how ecosystem restoration can anchor flood protection, urban cooling, and recovery of biodiversity. Iloilo is now leveraging national policy backing to mobilise private-sector finance for its Biodiversity Plan, which envisions green corridors along major highways to reduce heat risks and enhance urban connectivity.

The experiences of Quezon City and Iloilo highlight how aligned national and local action can accelerate ecosystem restoration and strengthen climate resilience in one of the world's most climate-vulnerable countries.

City of Quezon, Philippines – A UNEP Generation Restoration Role Model City © Unsplash

6 CHAPTER Conclusion and Recommendations for Policy Makers

City of Manaus, Brazil – A UNEP Generation Restoration Pilot Model City © Unsplash

Urban NbS present a significant opportunity to advance climate, biodiversity and resilience objectives at both national and local levels. As highlighted in earlier chapters, cities are key players in translating ambition into practice from a climate and biodiversity standpoint.

Indeed, local action offers a powerful lever to accelerate national commitments under NDCs, NAPs, and NBSAPs, and supported by national incentives and a fertile enabling environment, local governments can go far in aligning an urban agenda with the SDGs and securing resilient and future-ready growth.

This chapter synthesises strategic recommendations and practical next steps, building on the evidence, case studies and tools presented in the earlier chapters of the Guide.

1. Strengthen multilevel governance

- **Chapter 1 Insight:** Local action is most effective when aligned with national climate and biodiversity frameworks. Integrating city-level priorities into NDCs, NAPs, and NBSAPs ensures coherence, ambition, and access to resources.
- **Recommendation:** Establish clear vertical coordination mechanisms, such as interministerial committees or multilevel climate councils, to link national priorities with municipal implementation. Include NbS indicators in national monitoring frameworks to track progress across scales.

2. Leverage national policy and fiscal instruments

- **Chapter 2 Insight:** National mandates, robust institutional arrangements, fiscal incentives, and technical support significantly contribute to local NbS uptake. Tax incentives, grants, and de-risking instruments improve the investment profile of local projects to national financing institutions. Well-planned and well-implemented NbS projects with feasible and viable business models, sustainable financing mechanisms and robust monitoring frameworks are more likely to attract investment at scale.

- **Recommendation:** Design integrated policy and fiscal packages that combine regulatory clarity, targeted subsidies, and innovative finance mechanisms (e.g., green bonds, PES, climate funds) to incentivise NbS at the city level. Identify national institutional barriers and actors and seize the opportunities to transform them into levers that can successfully drive a national-to-local motion towards urban climate action, where NbS can play a vital role.

3. Embed NbS in urban planning and regulatory frameworks

- **Chapter 3 Insight:** Cities can integrate NbS through a combination of soft and hard policy mechanisms. Key pathways include: (i) legislative and regulatory instruments, (ii) economic and fiscal tools, (iii) agreement-based or cooperative mechanisms, and (iv) knowledge, communication, and innovation instruments. Together, these instruments form a coherent framework that enables systematic, scalable and durable mainstreaming of NbS into urban planning and governance.

- **Recommendation:** Incorporate NbS requirements into urban plans, infrastructure standards and municipal resilience strategies. Link climate, biodiversity and disaster risk objectives with land management, public spaces and urban design. Apply robust tools and methodologies to guide the mainstreaming of NbS.

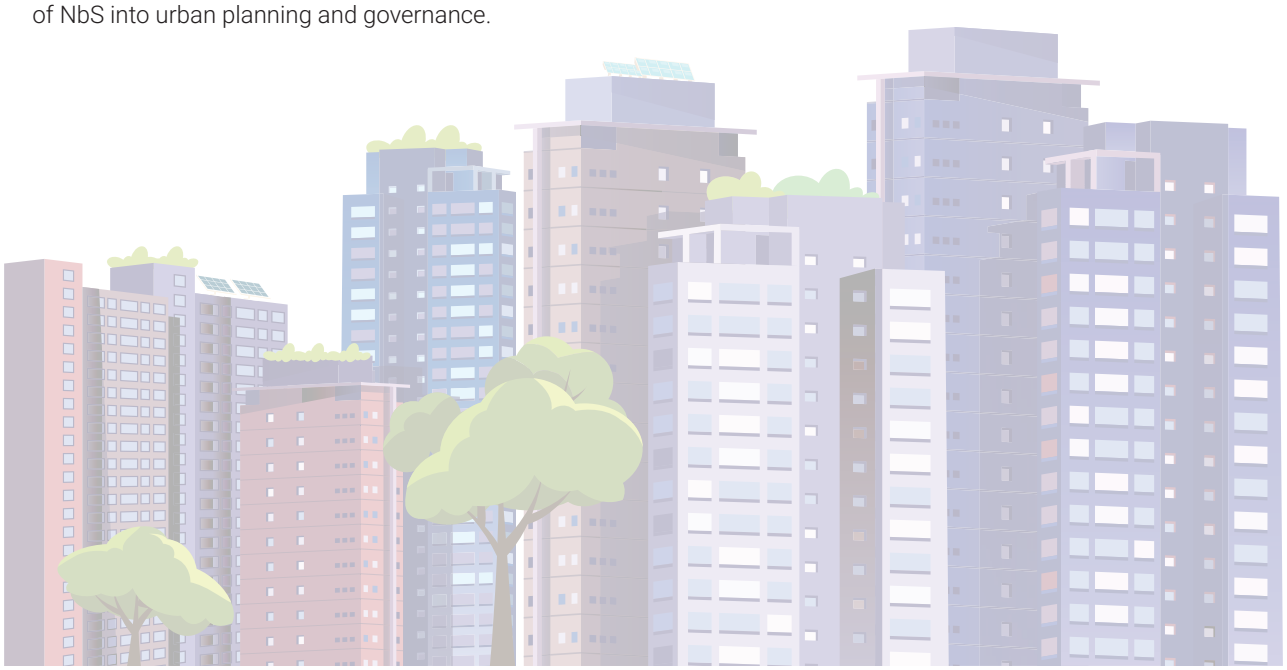
4. Promote knowledge, innovation, and stakeholder engagement and replicate pilotable successes

- **Cross-chapter Insight:** Capacity-building, data-driven planning, community engagement and knowledge-sharing are critical for effective NbS deployment.

- **Recommendation:** Support local governments with training, technical assistance and evidence-based tools for NbS design, monitoring, and evaluation. Facilitate peer-to-peer learning through networks and multi-stakeholder partnerships. Establish NbS knowledge platforms and communities of practice, integrating lessons from UNEP Generation Restoration Cities and other urban pilots.

- **Cross-chapter Insight:** Success stories and pilot cases with tried and tested approaches are key to demonstrating proof of concepts of urban NbS cases that respond to climate and biodiversity needs at the city level.

- **Recommendation:** Identify high-potential urban NbS projects as demonstrators and develop replicable models across regions. Encourage replication through policy incentives, standardised metrics, and monitoring systems.



References

A

Abera, L.E., Jumani, S., van Rees, C.B., Krishnaswamy, J., Seigerman, C.K., Nelson, D.R. *et al.* (2025) Correction: Integrating nature-based solutions for urban water security in Global South. PLOS Water 4(10), e0000461. https://doi.org/10.1371/journal.pwat.0000461.

Agricultura Urbana e Restauração de Ecossistemas em Manaus-Am. (2025, June). Recomendações políticas para a gestão pública municipal. https://eaesp.fgv.br/sites/eaesp.fgv.br/files/u1087/floresta_a_mesa_-_recomendacoes_politicas_para_a_gestao_publica_municipal.pdf.

Alcaldía de Medellín (2026, Jan). *Medellín continúa con la expansión de sus corredores verdes y suma más de 92.100 metros cuadrados de jardines urbanos*. https://www.medellin.gov.co/es/sala-de-prensa/noticias/medellin-continua-con-la-expansion-de-sus-corredores-verdes-y-suma-mas-de-92-100-metros-cuadrados-de-jardines-urbanos/?utm_source=chatgpt.com.

Asamoah, S., Mensah, H., Kwame Simpeh, E., Oduro-Ofori, E., Serwaa Boateng, S., Boateng, S. *et al.* (2025). A review of the role of nature-based solutions in mitigating food insecurity in Africa, *Green Technologies and Sustainability* 3 (2), 100173, https://doi.org/10.1016/j.grets.2025.100173.

B

Bakhtary, H., Rynearson, A., Morales, V., Matheson, S., & Zapata, J. (2022). *Breaking silos: Enhancing synergies across NDCs and NBSAPs*. World Wide Fund for Nature. https://wwfint.awsassets.panda.org/downloads/breaking-silos-enhancing-synergies-between-ndcs-and-nbsaps.pdf.

BiodiversaPlus (2023, May). *Scoping Review: What is the State of Knowledge on the Role of Biodiversity in the Design, Delivery and Benefits of Nature-Based Solutions?* https://www.biodiversa.eu/wp-content/uploads/2023/05/D4.2-Desk-study-NBS.pdf.

Brazilian Government (2024). *Brazil's NDC: National Determination to Contribute and Transform*. https://unfccc.int/sites/default/files/2024-11/Brazil_Second%20Nationally%20Determined%20Contribution%20%28NDC%29_November2024.pdf.

C

Carvalho, P.N., Finger, D.C., Masi, F., Cipolletta, G., Oral, H.V., Tóth, A. *et al.* (2022). Nature-based solutions addressing the water-energy-food nexus: Review of theoretical concepts and urban case studies. Journal of Cleaner Production 338, 130652. https://doi.org/10.1016/j.jclepro.2022.130652.

Cissé, G., McLeman, R., Adams, H., Aldunce, P., Bowen, K., Campbell-Lendrum, D. *et al.* (2022). Health, wellbeing, and the changing structure of communities. In *Climate Change 2022: Impacts, Adaptation and Vulnerability.* Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría *et al.* (eds.). Cambridge, UK and New York, NY, USA: Cambridge University Press. 1041–1170. https://doi.org/10.1017/9781009325844.009.

City of Copenhagen (2011). *Copenhagen Climate Adaptation Plan*. https://international.kk.dk/sites/default/files/2021-09/Copenhagen%20Climate%20Adaptation%20Plan%20-%202011.pdf.

Coalition for Disaster Resilient Infrastructure (2025). *Global Infrastructure Resilience Report 2025*. https://cdri.world/global-infrastructure-resilience-report-2025-capturing-the-resilience-dividend-2/.

Cohen-Shacham, E., Walters, G., Janzen, C. and Maginnis, S. (eds.) (2016). Nature-Based Solutions to Address Global Societal Challenges. Gland, Switzerland: IUCN. https://doi.org/10.2305/IUCN.CH.2016.13.en.

Cohen-Shacham, E., Andrade, A. Dalton, J., Dudley, N., Jones, M., Kumar, C. *et al.* (2019). Core principles for successfully implementing and upscaling nature-based solutions, *Environmental Science & Policy* 98, 20-29, https://doi.org/10.1016/j.envsci.2019.04.014.

Convention on Biological Diversity (2022, Dec. 19) *Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity.* https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-12-en.pdf.

Convention on Biological Diversity (n.d.). *National Biodiversity Strategies and Action Plans (NBSAPs) What's New?* https://www.cbd.int/nbsap?utm_source=chatgpt.com.

Cook, E.M., Kim, Y., Grimm, N.B., McPhearson, T., Anderson, P., Bulkeley, H. *et al.* (2025). Nature-based solutions for urban sustainability. Proc. Natl. Acad. Sci. U.S.A. 122 (29) e2315909122. https://doi.org/10.1073/pnas.2315909122.

D

Department of Climate Change (2025, Aug.). *Action Plan Report on Urban Cooling for Can Tho City*. https://gggi.org/wp-content/uploads/2025/10/Final-Report-on-Urban-Cooling-Action-Plan_Can-Tho_ENG.pdf.

Department of Environment and Natural Resources (2022, March). *DENR Inks Partnership for QC's Urban Biodiversity Park Development*. https://denr.gov.ph/news-events/denr-inks-partnership-for-qcs-urban-biodiversity-park-development/?utm_source=chatgpt.com.

Diep, L. and McPhearson, T. (2025). Empowering cities globally: Four levers for transformative urban adaptation with nature-based solutions, *Proc. Natl. Acad. Sci. U.S.A.* 122 (29), e2315912121. https://doi.org/10.1073/pnas.2315912121.

Dodman, D., Hayward,B., Pelling, M., Castan Broto, V., Chow, W., Chu, E. *et al.* (2022). Cities, settlements and key infrastructure. *In Climate Change 2022: Impacts, Adaptation and Vulnerability.* Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, *et al.* (eds.). Cambridge, UK and New York, NY, USA: Cambridge University Press. 907–1040. https://doi.org/10.1017/9781009325844.008.

Dorst, H., van der Jagt, A., Toxopeus, H., Tozer, L., Raven, R. and Runhaar, H. (2022). What's behind the barriers? Uncovering structural conditions working against urban nature-based solutions. *Landscape and Urban Planning* 220, 104335. https://doi.org/10.1016/j.landurbplan.2021.104335.

E

European Bank for Reconstruction and Development (n.d.). *EBRD Green Cities Policy Tool: Nature-based Solutions*. https://www.ebrdgreencities.com/policy-tool/nature-based-solutions/.

European Investment Bank (2023). Investing in nature-based solutions. *State-of-Play and Way Forward for Public and Private Financial Measures in Europe*. https://www.eib.org/files/publications/20230095_investing_in_nature_based_solutions_en.pdf.

G

Glavovic, B.C., Dawson, R., Chow, W., Garschagen, M., Haasnoot, M. Singh, C. *et al.* (2022). Cross-chapter Paper 2: Cities and settlements by the sea. *In Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, *et al.* (eds.). Cambridge, UK and New York, NY, USA: Cambridge University Press. 2163–2194. https://doi.org/10.1017/9781009325844.019.

Government of Canada. (2023). *Canada's National Adaptation Strategy: Building Resilient Communities*. https://publications.gc.ca/collections/collection_2023/eccc/en4/En4-544-2023-eng.pdf.

Government of Québec (2020). *A Win-Win for Québec and the Planet. 2030 Plan for a Green Economy - Framework Policy on Electrification and the Fight Against Climate Change*. https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/plan-economie-verte-2030-en.pdf.

Gouvernement du Québec. (2025). *Dépôt légal – Bibliothèque et Archives nationales du Québec*, 2025. https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/plan-mise-oeuvre-2025-2030.pdf.

Grantham Research Institute at the London School of Economics. (2019). Argentina: Law 27520 on minimum budgets for adaptation and mitigation to global climate change. *Climate Change Laws of the World*. https://climate-laws.org/documents/law-27520-on-minimum-budgets-for-adaptation-and-mitigation-to-global-climate-change_0a99.

H

Hölscher, K., Frantzeskaki, N., Collier, M.J., Connop, S., Krooijman, E.D., Lodder, M. *et al.* (2023). Strategies for mainstreaming nature-based solutions in urban governance capacities in ten European cities. *NPJ Urban Sustain* 3, 54. https://doi.org/10.1038/s42949-023-00134-9.

I

International Council for Local Environmental Initiatives – Local Governments for Sustainability (2023). *Guide to Biodiversity Financing for Cities and Regions*. Bonn, Germany: ICLEI. https://interactbio.iclei.org/wp-content/uploads/Biodiversity-Finance-Guide_final.pdf.

International Council for Local Environmental Initiatives – Local Governments for Sustainability (2025). Four steps to finance NbS. *Talk of the Cities*. https://talkofthecities.iclei.org/four-steps-to-finance-nature-based-solutions-in-cities/.

International Finance Corporation (2024). *BBVA Colombia and IFC issue the world's first biodiversity bond in the financial sector*. https://www.ifc.org/en/pressroom/2024/28298.

International Institute for Applied Systems Analysis. (2023, Sept.). *Policy and Finance Innovation for Nature-based Solutions*. Policy Brief No. 38. https://iiasa.ac.at/policy-briefs/sep-2023/policy-and-finance-innovation-for-nature-based-solutions.

K

Karun (2025). *Scaling Finance for Nature-based Solutions: Key Challenges. Climate and Sustainabiltiy Initiative (CSI).* https://csiglobal.co/scaling-finance-for-nature-based-solutions-key-challenges/.

M

Martin, J., Scolobig, A., Linnerooth-Bayer, J-A., Irshaid, J., Aguilera Rodriguez, J.J., Fresolone-Caparrós, A. *et al.* (2025). The nature-based solution implementation gap: A review of nature-based solution governance barriers and enablers. *Journal of Environmental Management* 388. https://doi.org/10.1016/j.jenvman.2025.126007.

Martins, R. (2011). Curitiba, Brazil. *In Green Cities: An A-to-Z Guide*, 126-128. Sage. https://doi.org/10.4135/9781412973816.n42.

Mashanye, E.N., Matamanda, A.R. and Bhanye, J.I. (2025). *A review study on nature-based solutions (NBS) for urban agriculture in southern Africa. Discov Cities 2*, 20. https://doi.org/10.1007/s44327-025-00054-6.

McKenna, D., Cuevas, N.B. and Gvein, M.H. (2024). Transforming ambition into action to catalyse nature-based solutions: Insights from 250 good practice policy instruments. *Nature-Based Soultions* 6, 100171. https://doi.org/10.1016/j.nbsj.2024.100171.

Ministerio de Ambiente y Desarrollo Sostenible de la República Argentina. (2022). Plan Nacional de Adaptación y Mitigación al Cambio Climático.

Ministry of Environment of Denmark (2023). *Climate Adaptation in Denmark*. https://eng.klimatilpasning.dk/national-adaptation/climate-adaptation-in-denmark?utm_source=chatgpt.com.

Mirsafa, M., & de Oliveira, F.L. (2025). *Nature-Based Solutions in Cities of the Global South* (1st edition.). Routledge. https://doi.org/10.4324/9781003495598.

Montfort, S., Callaghan, M., Creutzig, F. *et al.* (2025). Systematic global stocktake of over 50,000 urban climate change studies. *Nature Cities 2*, 613–625. https://doi.org/10.1038/s44284-025-00260-8.

Montreal. (2020, Dec. 10). *Greening Montréal to Adapt to Climate Change*. https://montreal.ca/en/articles/greening-montreal-to-adapt-to-climate-change.

Montreal 2030 (n.d.) *Climate Plan 2020-2030. Building an Inclusive, Resilient Carbon-Neutral City*. https://portail-m4s.s3.montreal.ca/pdf/climate_plan_2020_2030_vdm.pdf?trk=public_post_comment-text.

Mosisa, G.B., Bedadi, B., Dalle, G. and Tassie, N. (2025). Nature-based solutions for urban climate resilience: implementation, contribution, and effectiveness, *Nature-Based Solutions* 8, 00245. https://doi.org/10.1016/j.nbsj.2025.100245.

N

National Adaptions Plans Global Network (2025). *NAP Global Network Progress and Learning Report 2024*. https://napglobalnetwork.org/resource/nap-global-network-progress-and-learning-report-2024/.

NetworkNature (2024). *Nature-based Solutions Policy Screening and Analysis of Needs and Gaps for 2024–2030*. NetworkNature. https://networknature.eu/networknature/resource/nbs-policy-screening-and-analysis-needs-and-gaps-2024-2030.

NetworkNature (2024, Sept.). *NbS Policy Screening and Analysis of Needs and Gaps for 2024-2030*. https://networknature.eu/networknature/resource/nbs-policy-screening-and-analysis-needs-and-gaps-2024-2030.

Newman, R., and Noy, I. (2023). The global costs of extreme weather that are attributable to climate change. *Nature Communications* 14, 6103. https://doi.org/10.1038/s41467-023-41888-1.

O

Organisation for Economic Co-operation and Development (2020). *Nature-Based Solutions for Adapting to Water-Related Climate Risks: Policy Perspectives*. OECD Environment Policy Paper No. 21. https://www.oecd.org/content/dam/oecd/en/publications/reports/2020/07/nature-based-solutions-for-adapting-to-water-related-climate-risks_c715ede8/2257873d-en.pdf.

Organisation for Economic Co-operation and Development (2025). *Scaling Up Biodiversity-Positive Incentives: Delivering on Target 18 of the Global Biodiversity Framework*. Paris: OECD. https://doi.org/10.1787/19b859ce-en.

P

Philippine Clearing House Mechanism (2018). *Urban Biodiversity Program*. https://www.philchm.ph/urban-biodiversity-program/.

Philippine Clearing House Mechanism (2025). *Philippine Biodiversity Strategy and Action Plan 2024-2040*. https://www.philchm.ph/pbsap-2024-2040/.

Planclima (2020, Dec.). Plano Municipal de Mitigação e Adaptação às Mudanças Climáticas.https://ippuc.org.br/storage/uploads/52ab2de1-57f6-4fb6-8ddd-e73f98ca9dd8/00306556.pdf.

Prefeitura de Manaus (2025). Plano Municipal de Redução de Riscos de Desastres em parceria com Ufam. https://www.manaus.am.gov.br/noticia/planejamento-urbano/plano-de-reducao-de-riscos-de-desastres/.

Q

Qi, J., Terton A., Khan, M., Matheson, S. and Morales V. (2024, Oct. 18). *Effectively Delivering on Climate and Nature: NDCs, NAPs, and NBSAPs Synergies.* Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). https://www.iisd.org/publications/brief/effectively-delivering-on-climate-nature-checklist.

Quezon City Government (2025). *The Quezon City Green Building Code*. Ordinance No. SP-3439, S-2025. Quezon City, Philippines: QCG. https://quezoncity.gov.ph/program/enhancing-local-sustainable-building-practices/.

R

Randrup, T.B., Pierre, A., Sang, N. and Nilsson, K. (2025). *Equity in Green Space Planning and Management: Synthesis Study on Data Availability for the Development of a Socio-Ecological Index.* Department of Landscape Architecture, Planning and Management, Swedish University of Agricultural Sciences: SLU Movium Think Tank. https://doi.org/10.54612/a.7h5gdnod5n.

Ren, Q., He, C., Huang, Q., Zhang, D., Shi, P. and Lu, W. (2023). Impacts of global urban expansion on natural habitats undermine the 2050 vision for biodiversity. *Resources, Conservation and Recycling* 190,106834. https://doi.org/10.1016/j.resconrec.2022.106834.

Republic of the Philippines (2009). Climate Change Act (2009). The Law Phil Project. https://lawphil.net/statutes/repacts/ra2009/ra_9729_2009.html.

Republic of the Philippines (2010). Philippine Disaster Risk Reduction and Management Act of 2010. *Climate Change Laws of the World*. https://climate-laws.org/documents/philippine-disaster-reduction-and-management-act-ra-10121_4be3.

Republic of the Philippines (2022, March). *DENR Inks Partnership for QC's Urban Biodiversity Park Development.* Department of Environment and Natural Resources. https://denr.gov.ph/news-events/denr-inks-partnership-for-qcs-urban-biodiversity-park-development/?utm_source=chatgpt.com.

Ritchie, H., Samborska, V. and Roser, M. (2025). Urbanization: *The World Population Is Moving To Cities. Why Is Urbanization Happening And What Are The Consequences?* Our World in Data. https://ourworldindata.org/urbanization.

S

Simkin, R.D. Seto, K.C. McDonald, R.I. and Jetz, W. (2022). Biodiversity impacts and conservation implications of urban land expansion projected to 2050, Proc. Natl. Acad. Sci. 119 (12), e2117297119. https://doi.org/10.1073/pnas.2117297119.

Soltanifard, H. and Amani-Beni, M. (2025). The cooling effect of urban green spaces as nature-based solutions for mitigating urban heat: Insights from a decade-long systematic review, Climate Risk Management 49, 100731. https://doi.org/10.1016/j.crm.2025.100731.

T

Terton, A., Qi, J., and Jang, N. (2024). *Tracking Progress on the Integration of Nature-Based Solutions and Ecosystem-Based Adaptation in National Adaptation Plan Processes*. NAP Global Network Synthesis Report. International Institute for Sustainable Development. www.napglobalnetwork.org.

Toxopeus H. and Polzin, F. (2021). Reviewing financing barriers and strategies for urban nature-based solutions. *Journal of Environmental Management* 289, 112371. https://doi.org/10.1016/j.jenvman.2021.112371.

Trinomics and International Union for Conservation of Nature (2019). Grow Green: Approaches To Financing Nature-Based Solutions in Cities. https://oppla.eu/sites/default/files/old_files/uploads/working-documentfinancing-nbs-citiesv5.pdf.

U

Urban Climate Change Research Network (2018, Feb.). *The Future We Don't Want: How Climate Change Could Impact the World's Greatest Cities*. UCCRN Technical Report.

https://www.c40.org/wp-content/uploads/2023/04/1789_Future_We_Dont_Want_Report_1.4_hi-res_120618.original-compressed.pdf.

United Nations Climate Change (2021, Aug.) *National Adaptation Plan of Brazil*. https://unfccc.int/documents/302142.

United Nations Department of Economic and Social Affairs (2018). 68 per cent of the world population projected to live in urban areas by 2050, says UN. 2018 *Revision of World Urbanization Prospects*. https://www.un.org/uk/desa/68-world-population-projected-live-urban-areas-2050-says-un.

United Nations Department of Economic and Social Affairs (2024). *Multilevel Governance for Climate Change Mitigation and Adaptation.* Policy Brief No. 162. https://desapublications.un.org/policy-briefs/un-desa-policy-brief-no-162-multilevel-governance-climate-change-mitigation-and#:~:text=Multilevel%20governance%2C%20including%20commonly%20used%20strategies%20to%20operationalize,of%20government%2C%20as%20well%20as%20with%20non-state%20actors.

United Nations Development Programme (2025). *Rethinking Urban Governance for Tomorrow's Cities in Asia-Pacific: Insights from Bangkok, Beijing, Ahmadabad and Iloilo.* https://www.undp.org/asia-pacific/publications/rethinking-urban-governance-tomorrows-cities-asia-pacific.

United Nations Economic Commission for Europe (2025, Sept.) *Urban Resilience Through Nature: A Quick Guide to Food-Focused Nature-Based Solutions (TM)*. https://unece.org/forests/publications/urban-resilience-through-nature-quick-guide-food-focused-nature-based.

United Nations Environment Programme (2018). *Emissions Gap Report 2018.* https://wedocs.unep.org/rest/api/core/bitstreams/e102b139-3b22-4b82-b117-41bb5a4d26fc/content.

United Nations Environment Programme (2019, July). *Medellín Shows How Nature-Based Solutions Can Keep People and Planet Cool*. https://www.unep.org/news-and-stories/story/medellin-shows-how-nature-based-solutions-can-keep-people-and-planet-cool.

United Nations Environment Programme (2021, Apr. 26). *Nature-Based Solutions for Urban Challenges*. https://www.unep.org/resources/emerging-issues/nature-based-solutions-urban-challenges.

United Nations Environment Programme (2022). *State of Finance for Nature. Time to act: Doubling investment by 2025 and eliminating nature-negative finance flows*. Nairobi. https://www.unep.org/resources/state-finance-nature-2022.

United Nations Environment Programme (2023). *State of Finance for Nature: The Big Nature Turnaround – Repurposing $7 Trillion to Combat Nature Loss*. Nairobi. https://doi.org/10.59117/20.500.11822/44278.

United Nations Environment Programme (2024a). *From Grey to Green – Better Data to Finance Nature in Cities -State of Finance for Nature in Cities 2024.* Nairobi. https://www.unep.org/resources/report/grey-green-better-data-finance-nature-cities-state-finance-nature-cities-2024.

United Nations Environment Programme (2024b). *State of finance for nature: Restoration finance report. Growing the Green: Why and How Restoration Finance Needs to Quadruple by 2030.* Nairobi. https://wedocs.unep.org/items/9b0340d2-9d97-4460-bdb3-57a140b70fd8.

United Nations Environment Programme (2025, Nov. 11). *Global Cooling Watch 2025*. https://www.unep.org/resources/global-cooling-watch-2025.

United Nations Environment Programme (n.d.). *Generation Restoration Cities*. https://www.decadeonrestoration.org/cities.

United Nations Environment Programme - Copenhagen Climate Centre. (2025a). *Enabling Future-Ready Urbanization in Fast-Growing Cities with Nature-based Solutions.* Copenhagen: UNEP-CCC. https://unepccc.org/publications/enabling-future-ready-urbanization-in-fast-growing-cities-with-nature-based-solutions/.

United Nations Environment Programme - Copenhagen Climate Centre (2025b) *Business Models for Financing Nature-Based Solutions in Urban Climate Action.* Copenhagen: UNEP-CCC. https://unepccc.org/publications/business-models-for-financing-nature-based-solutions-in-urban-climate-action/.

United Nations Environment Programme - Copenhagen Climate Centre (2025c). *Towards Implementing Nature-Based Solutions in Zambia*. https://unepccc.org/publications/towards-implementing-nature-based-solutions-in-zambia/.

United Nations Environment Programme - Copenhagen Climate Centre (n.d.). *City Transport Transparency Tool.* https://unepccc.org/city-transport-transparency-tool/.

United Nations Environment Programme Finance Initiative. (2024). *Recommendations for Scaling Finance for NbS. Input Paper for G20 Sustainable Finance Working Group*. https://www.unepfi.org/wordpress/wp-content/uploads/2024/08/

Recommendations-for-designing-regulatory-frameworks-to-scale-finance.pdf.

United Nations Environment Programme - World Conservation Monitoring Centre (2022, Aug.) Resources. https://resources.unep-wcmc.org/products/WCMC_PR023.

United Nations Framework Convention on Climate Change (2015). *Paris Agreement*. https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

United Nations Framework Convention on Climate Change (2023). *Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation referred to in decision 7/CMA.3. Draft decision -/CMA.5. Proposal by the President*. UN Climate Change Conference - United Arab Emirates Nov/Dec 2023, Session CMA 5. UNFCCC, Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA). https://unfccc.int/documents/636123.

United Nations-HABITAT (2023). *The Critical Role of Nature-Based Solutions for Enhancing Climate Resilience in Informal Areas*. HS/059/22E. https://unhabitat.org/sites/default/files/2023/10/unh._2023._the_critical_role_of_nature-based_solutions_for_enhancing_climate_resilience_in_informal_areas.pdf.

United Nations-HABITAT (2024a). *World Cities Report 2024: Cities and Climate Action*. https://unhabitat.org/world-cities-report-2024-cities-and-climate-action.

United Nations-HABITAT (2024b). *Global State of National Urban Policy 2024*. https://unhabitat.org/sites/default/files/2024/10/global-state-of-national-urban-policy-2024.pdf.

United Nations-HABITAT (2024c). Urban Loss and Damage Addressing losses and damages in urban areas. https://fukuoka.unhabitat.org/wp-content/uploads/2024/11/Loss-and-damage-four-pager_Nov2024.pdf.

United Nations-HABITAT (2024d). Cities and Climate Action: World Cities Report 2024. https://unhabitat.org/sites/default/files/2024/11/wcr2024_-_full_report.pdf.

United Nations-HABITAT (2025). U*rban Content in NDC 3.0 — A Global Snapshot for COP30*. HS Number: HS/010/25E. https://unhabitat.org/sites/default/files/2025/11/urban_content_in_ndc_3.0._a_global_snapshot_for_cop30.pdf.

United Nations Framework Convention on Climate Change (2015). *Paris Agreement*. https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

United Nations University - Institute for Environment and Human Security (2023, March). 5 Factors on Implementing Nature-based Solutions into National Adaptation Plans. Why Nature-based Solutions should be implemented in National Adaption Plans. https://unu.edu/ehs/series/5-factors-implementing-nature-based-solutions-national-adaptation-plans?utm_source=chatgpt.com.

United Nations University Institute for Environment and Human Security (2024) Ecosystem-based approaches for integrating disaster risk reduction, climate, land and biodiversity goals. Policy Brief No. 15. https://cris.unu.edu/sites/cris.unu.edu/files/PEDDR%20-%20UNU%20EHS%20Policy%20Brief%2015-2024.pdf.

V

van der Jagt, A., Tozer, L., Toxopeus, H. and Runhaa, H. (2023). Policy mixes for mainstreaming urban nature-based solutions: An analysis of six European countries and the European Union. *Environmental Science & Policy* 139 51–61. https://doi.org/10.1016/j.envsci.2022.10.011.

Venuti, F. (2025): Bridging NbS and legal literature: Institutional, procedural and substantive barriers to nature-based solutions implementation. *Land Use Policy* 151, 107502. https://doi.org/10.1016/j.landusepol.2025.107502.

Vora, N.M., Narayanc, S., Alusod, A.,Donattia, C.I., El Omranig, O., Hannaha, L., Mahmoodi, J., Ndembij, N., Valek, M.M., and Willetts, E. (2024). Nature-based solutions are essential for climate and health action. *The Lancet* 404, 10456, 913915. https://doi.org/10.1016/S0140-6736(24)01599-X.

W

World Bank. (2021). *A Catalogue of Nature-based Solutions for Urban Resilience*. Washington, DC: World Bank Group. http://hdl.handle.net/10986/36507.

World Bank (2022). *A Catalogue of Nature-Based Solutions for Urban Resilience*. World Bank, Open Knowledge Repository. http://hdl.handle.net/10986/36507.

World Bank (2025). *Handbook for Urban Heat Management in the Global South*. World Bank. https://openknowledge.worldbank.org/entities/publication/92e9d108-0c0a-4369-b22a-fba4ba850d1c.

World Wide Fund for Nature (2025). *Key Barriers to Advancing Climate Change Adaptation Through Nature-based Solutions: Policy and Governance Gaps*. Technical Policy Brief. https://www.worldwildlife.org/documents/342/58rwln003q_Technical_Brief_02_Policy_and_Governance_Gaps.pdf.

Appendix:
Overview of UNEP's Generation Restoration Cities

Source: UNEP 2026 (upcoming)

TABLE A1 | **UNEP'S GENERATION RESTORATION**

CITIES DISAGGREGATE BY CLIMATE FOCUS AS RELATED TO URBAN NBS AND FORESEEN FUTURE CO-BENEFITS

UNEP Generation Restoration Pilot Cities Pilot cities receive direct grants and technical support from UNEP to implement innovative pilot projects to catalyse restoration through NbS tailored to their local urban ecosystems. The description below provides an overview of the pilot project in each city.			
City and Country	**UNEP's support**	**Climate focus of the NbS Intervention** Mitigation, Adaptation, or Cross-Cutting	**Potential co-benefits** *Such co-benefits are envisioned should the cities' restoration effort via the project be sustained and further scaled systematically*
Dakar-Plateau & Theis, Senegal	**Objective(s)** Facilitate the development of a blue-green infrastructure network and a multifunctional greenbelt to control urban sprawl, support ecosystem connectivity and enhance local stakeholder collaboration for biodiversity protection across the Dakar Metropolitan Area. **Key achievements:** ► Successful establishment of a unique, multisectoral governance team consisting of members from diverse government institutions (environment and urban planning ministries), academia and civil society to oversee the proposed greenbelt and blue-green infrastructure project. ► Propagation at multiple scales and sectors of the concept and necessity of a multifunctional green belt in and around the Dakar/Thiès region as a means to control the direction of urban growth, protect existing green spaces, create new green spaces, and provide job opportunities for a green economy. ► Five priority "patches" of the future green wall were selected and co-designed through an iterative process by a team of Senegalese national experts and interdisciplinary researchers (national and international), specialists in urban planning and landscape architects, together with local populations from these areas.	**Adaptation**	► Clean air ► Clean water ► Cooling and thermal comfort in cities ► Habitat provision for local biodiversity

Dakar-Plateau & Theis, Senegal	▶ A prospectus was produced and is available to support the operationalisation of these plans, meaning the search for new partners and funding opportunities is moving forward. ▶ At the national level, significant headway has been made in achieving high-level political buy-in for the need to develop an ambitious and inclusive Dakar greenbelt that would guide environmentally friendly urban growth through the restoration and creation of blue-green infrastructure at the micro and macroscales.	**Adaptation**	▶ Clean air ▶ Clean water ▶ Cooling and thermal comfort in cities ▶ Habitat provision for local biodiversity
Douala, Cameroon	**Objective:** Enhance and rehabilitate mangrove ecosystems. Strengthen mangrove protection and restoration in Douala IV through improved planning, governance, financing, and community capacity-building to enhance biodiversity and reduce climate risks. **Key achievements:** ▶ 7,000 mangroves planted on a 3-hectare pilot site. ▶ More than 30,000 people were reached through awareness-raising and capacity-building activities with local community members. ▶ Development of a legal and institutional framework for participatory governance of mangroves ▶ A thorough diagnostic was carried out, and an action plan was put in place. ▶ 10,250 mangrove trees planted on a 3-hectare pilot site. ▶ More than 40,000 people were reached through awareness-raising and capacity-building activities with local community members. ▶ Development of a legal and institutional framework for participatory governance of mangroves	**Crosscutting**	▶ Coastal resilience ▶ Habitat provision for local biodiversity ▶ Provision of short-term employment for residents.
Kisumu, Kenya	**Objective:** Initiate ecosystem restoration along the river Auji for improvement of its habitat, protection of local species and breeding sites, and urban communities' wellbeing **Key achievements:** ▶ Development of a strategy for the Auji River cleanup ▶ Invasive species clearance. ▶ Plastic pollution clean-up. ▶ Planting of 140 trees and napier grass along a 3-kilometre stretch of the river. ▶ Establishment of a tree nursery and composting centre. ▶ 40,000 seedlings in the nursery. ▶ Engagement of over 350 community members. ▶ Training of 30 county staff	**Adaptation**	▶ Cooling and thermal comfort in cities ▶ Clean water ▶ Habitat provision for local biodiversity ▶ Provision of short-term employment for residents.

Kochi, India	**Objective(s):** Facilitate the ecological restoration of the Thevara–Perandoor (TP) canal, through community engagement and mainstreaming of NbS in existing funding, investment, and policy pipelines in the«city. **Key achievements:** ► Generation of a detailed restoration plan and essential diagnostic and baseline data informing project design. ► 55 schools participated in a "Know Your Canal" educational campaign ► Increased awareness and capacity building at local schools. ► Strengthened local community awareness on restoration practices	**Adaptation**	► Urban cooling ► Clean water ► Habitat provision for local biodiversity ► Human wellbeing ► Increase cultural value.
Manaus, Brazil	**Objective:** Strengthen coordination, governance and community engagement in urban ecosystem restoration through advancing urban agriculture using NbS. **Key achievements:** ► Development of an NbS and decision-support tool, the Municipal Urban Agriculture Application, which maps initiatives and identifies potential areas for new interventions. ► Female-majority, 29-member urban agriculture working group forming the basis of future governance, bringing together public administration, research, and civil society. ► Capacity building programme reaches over 200 community members and local leaders. ► Policy recommendations (Agricultura Urbana e Restauração de Ecossistemas em Manaus-Am 2025) to advance the urban and peri-urban agriculture (UPA) agenda in the city	**Adaptation**	► Strengthening of urban and peri agriculture systems ► Food security ► Human wellbeing ► Increase cultural value ► Urban cooling and thermal comfort
Mendoza, Argentina	**Objective:** Improve ecological connectivity and ecosystem restoration through two pilot sites, one for ecosystem restoration and one for the creation of a biological corridor. **Key achievements:** ► Establishment of a pilot restoration site at the Mountain Sports Park, and the creation of a biological corridor. ► Preliminary restoration work for both pilot sites, including detailed diagnostics, planning, small-scale planting, and invasive species removal, as well as monitoring and follow-up plans. ► Capacity building among local community members and county staff with over 2,000 residents engaged through workshops, planting events and citizen-science activities. ► Project integrated ecological restoration with social participation, showing how local governments, researchers, and communities can co-produce solutions	**Adaptation**	► Habitat provision for local biodiversity ► Human wellbeing ► Increase cultural value ► Provision of short-term employment for residents

Mexico City, Mexico	**Objective:** Enable ecosystem restoration by strengthening the implementation **Key achievements:** ► Establishment of two restoration operational centres that house tools and resources. ► Enabled two tequios, which are community service events centred on ecosystem restoration activities. ► Increased awareness and capacity building among local community members via training workshops. ► Creation of a dedicated website for the project served to increase visibility and expand the project's reach.	**Adaptation**	► Habitat provision for local biodiversity ► Human wellbeing ► Strengthening social cohesion ► Increase cultural value
Overstrand, South Africa	**Objective(s):** Rehabilitate and restore the Onrus wetland and set up conditions for broader restoration in the Onrus catchment area to enhance the preparedness and capacity of the municipality to mitigate against future climate change impacts on biodiversity, economy and society **Key achievements:** ► Actionable roadmap for restoring the Onrus system, including the estuary and wetland. ► Developed a replication guideline and innovative blended finance model to enable other municipalities to adopt similar approaches. ► Engaged local communities, landowners and NGOs through stakeholder workshops and awareness activities.	**Adaptation**	► Clean water ► Increase cultural value ► Habitat provision for local biodiversity ► Human wellbeing
Quezon City, Philippines	**Objective(s):** Enhance Quezon City's readiness and capacity to plan, implement and monitor NbS for biodiversity enhancement and climate resilience, and facilitate replication across cities in the Philippines **Key achievements:** ► Drafted a Biodiversity and Urban Ecosystem Restoration Masterplan to advance NbS throughout Quezon City. ► Identification and establishment of a restoration pilot site at the Payatas Controlled Disposal Facility. ► Developed training and communications materials on restoration among diverse populations. ► Increased awareness and capacity building among local community members and municipal staff on restoration practices	**Adaptation**	► Clean air ► Urban cooling and thermal comfort ► Habitat provision for local biodiversity

Samborondón, Ecuador	**Objective:** Restore mangrove ecosystems and provide policy recommendations for mangrove restoration. **Key achievements:** ► 6.000 mangroves planted on a hectare pilot site. ► Three workshops on mangrove restoration with 83 total participants were held. ► An additional 155.8 hectares were identified for future restoration work. ► Produced a legal and policy framework recommending the declaration of the Samborondón Historical Park as a protected municipal conservation area. ► Increased awareness and capacity building among local community members in mangrove conservation	**Adaptation**	► Habitat provision for local biodiversity ► Increase cultural value ► Coastal resilience ► Clean water
Sirajganj, Bangladesh	**Objective(s):** Create and maintain a river-side green corridor along the Katakhali Canal to provide recreational spaces for citizens, reduce urban heat and promote habitat for urban wildlife **Key achievements:** ► Development of a phased intervention plan to restore Sirajganj's Katakhali Canal ► Over 150 participants attended four feedback workshops to validate the intervention plan ► Two restoration workshops engaged more than 80 community members with hands-on restoration practices ► A horizontal exchange workshop promoted peer learning among participants from five municipalities. ► Public facing awareness programme on the importance of ecosystem conservation and restoration	**Adaptation**	► Clean water ► Increase cultural value ► Habitat provision for local biodiversity ► Urban cooling and thermal comfort

UNEP Generation Restoration Role Model Cities			
Role Model Cities are cities already with a strong track record of NbS and ecosystem restoration. They are selected to share their experience, innovations and lessons with the broader network of cities acting as champions of restoration. They help guide and inspire pilot cities, advocate for restoration action and strengthen global learning. The description below provides an overview of key achievements in NbS and ecosystem restoration of the role model cities.			
Cape Town, South Africa	**Objectives:** Cape Town has proven itself to be a leader in restoration, particularly in its advancement of innovative biodiversity strategies integrating nature conservation into city planning. Some examples are: ▶ Implementing tree planting and urban greening programmes to decrease urban temperatures. ▶ Removal of invasive species from water catchment areas to support the city's water security. ▶ Rehabilitation and restoration of the city's rivers and wetlands. ▶ The first municipality in South Africa to implement a spatial biodiversity plan. ▶ A policy framework to enhance, protect and manage Cape Town's natural and cultural resources for long-term prosperity. ▶ The Green Infrastructure Programme, which is a cross-departmental framework aimed at mainstreaming ecosystem services in urban development ▶ The Livable Urban Waterways project, which is rehabilitating waterways across Cape Town, using water-sensitive design, NbS and green infrastructure.	**Crosscutting**	▶ Habitat provision for local biodiversity ▶ Cooling and thermal comfort in cities ▶ Clean water and increased water security ▶ Increased cultural value
Glasgow, Scotland	**Objectives:** Glasgow leads in restoration through its numerous strategies and programmes that centre on NbS, embedding nature into city governance at multiple levels, including: ▶ Aiming to increase the level of tree canopy cover in the city to 20 per cent by 2034 ▶ Glasgow's Open Space Strategy sets out clear standards for open space provision and identifies where green areas are most needed. ▶ Advancing urban NbS through innovative planning tools like the Glasgow Environmental Digital Twin project ▶ The GALLANT project is to use Glasgow as a living lab to trial new sustainable solutions throughout the city ▶ Every Tree Tells a Story project seeks to foster a deeper connection between people and nature by collecting, recording and sharing stories about trees around Glasgow and other places.	**Adaptation**	▶ Cooling and thermal comfort in cities ▶ Habitat provision for local biodiversity ▶ Human wellbeing

Iloilo, Philippines	**Objectives:** Iloilo City is a leader at the forefront of ecosystem restoration through its management of coastal and marine ecosystems, including: ► Extending its mangrove protection efforts to about 80 hectares of riverside land. ► Since 2010, the city has planted more than 100,000 mangroves in various locations along the Iloilo River, covering about 70 hectares, and developed the 12 km-long Iloilo River Esplanade Corridor. ► The Iloilo River Esplanade Corridor restoration project involved targeted actions to reduce water pollution, support mangrove health, and improve access to green space	**Crosscutting**	► Clean water and increased water security ► Habitat provision for local biodiversity ► Human wellbeing
Kanazawa, Japan	**Objectives:** Kanazawa is a national pioneer in conservation policy, having conservation and restoration projects such as: ► The first city in Japan to enact a landscape conservation ordinance in 1968. ► Has implemented programmes to preserve degraded aged broadleaf and bamboo forests, using techniques such as wood thinning. ► Numerous efforts to rehabilitate the canal network, develop clean transportation services and promote sustainable tourism ► Restoring traditional Japanese gardens throughout the city, many of which were abandoned, destroyed or had fallen into disrepair.	**Adaptation**	► Increased cultural value ► Urban cooling and thermal comfort ► Clean water ► Groundwater recharge ► Habitat provision for local biodiversity
Montréal, Canada	**Objectives:** Montréal is a leader in restoration through its robust portfolio of restoration initiatives, including: ► Large-scale tree planting, which includes the planting and maintenance of 500,000 new trees by 2030, accompanied by a demineralization program to transform paved spaces for tree planting ► Implementation and maintenance of close to 50 microforest sites ► Restoration of 10 kilometres of riverbanks in various waterfront areas throughout the city ► "Sponge city" infrastructure to capture and absorb stormwater ► Soil remediation and phytotechnology demonstrations ► Major invasive species control programs, accompanied by seeding and planting of native plants ► Development of two large parks, one through the restoration of a decommissioned landfill site, and the second through the conservation and connection of a large nature area	**Crosscutting**	► Clean water ► Clean air ► Habitat provision for local biodiversity ► Cooling and thermal comfort in cities ► Human wellbeing
Paris, France	**Objectives:** Paris is proving itself to be a leader in building a vibrant and sustainable city with policies and initiatives such as: ► Over one third of Paris' area is composed of vegetation, including over 500 parks and over 600,000 trees, resulting in 23.58 per cent canopy cover ► The Paris Climate Action Plan 2024-2030, which outlines a strategy for carbon neutrality by 2050 ► Its 2025-2030 Biodiversity Plan provides key steps for biodiversity enhancement throughout the city ► Its OASIS programme aims to address extreme heat in Paris by creating green "oases" in over 130 schools throughout the city.	**Crosscutting**	► Groundwater recharge ► Cooling and thermal comfort in cities ► Habitat provision for local biodiversity ► Human wellbeing

São Paulo, Brazil	**Objectives:** São Paulo leads in restoration through extensive environmental protection and restoration of green spaces around the city, including: ▶ Major land acquisition effort designating 26 per cent of São Paulo's territory for environmental preservation ▶ São Paulo planted more than 310,000 trees between 2019 and 2024 ▶ As of 2024, there were 114 parks in the city, including 84 urban parks, 24 linear parks and 6 natural parks. ▶ Created over 300 rain gardens ▶ São Paulo has one of the world's largest payments for ecosystem services schemes	**Crosscutting**	▶ Habitat provision for local biodiversity ▶ Cooling and thermal comfort in cities ▶ Human wellbeing ▶ Groundwater recharge ▶ Job creation and employment
Seattle, United States of America	**Objectives:** The Green Seattle Partnerships model has transformed how Seattle Parks and Recreation approaches both ecological restoration and community programming. Efforts include: ▶ Restoration sites are located across 230 parks, ranging in size from less than an acre to over 500 acres. ▶ Provides paid job skills training for youth that integrates social and emotional curriculum, peer-to-peer learning, and ecological restoration skills building. ▶ Working extensively in local schools to introduce environmental stewardship programmes. ▶ The partnership supports Native livelihoods and culture alongside ecological restoration efforts.	**Adaptation**	▶ Clean air ▶ Urban cooling and thermal comfort ▶ Human wellbeing ▶ Job creation and employment ▶ Increased cultural value ▶ Social cohesion ▶ Habitat provision for local biodiversity
Toronto, Canada	**Objectives:** Toronto stands out as a Role Model City for its extensive restoration record and the way it has embedded ecological restoration into its urban planning frameworks. A few examples are: ▶ Its Pollinator Protection Strategy, which has the goal of protecting the more than 360 species of bees and over 100 species of butterflies and other pollinators within Toronto. ▶ A target to achieve 40 per cent canopy cover ▶ Toronto is engaged in various notable restoration projects, including the Don Valley Brick Works Park, the Humber Bay Butterfly Habitat, the Tommy Thompson Park, Beare Hill Park and the Meadoway	**Adaptation**	▶ Clean air ▶ Urban cooling and thermal comfort ▶ Habitat provision for local biodiversity ▶ Cooling and thermal comfort in cities ▶ Human wellbeing ▶ Groundwater recharge
Yangzhou, China	**Objectives:** Yangzhou leads in restoration through a variety of projects that centre on NbS, such as: ▶ Restoring 15.33 km2 of wetlands, ▶ In 2020, the natural wetland protection rate reached over 60 per cent. ▶ Adopting the "sponge city" model, which focuses on absorbing floodwater like a sponge. ▶ Transforming a former industrial waste site into the 1,013,000-square-meter ecological park called Sanwan Wetland Park ▶ The Maoshan landfill restoration project, which transformed a landfill site into a sports park and pet market.	**Adaptation**	▶ Clean water ▶ Clean air ▶ Urban cooling and thermal comfort ▶ Groundwater recharge ▶ Floodwater retention ▶ Human wellbeing ▶ Habitat provision for local biodiversity

UNEP Generation Restoration Role and Pilot Model Cities Four Cities were selected as both pilot and role model. The description below provides an overview of key achievements of each city in NbS and urban ecosystem restoration, as well as of the pilot projects supported by UNEP.			
Barranquilla, Colombia	Barranquilla has implemented a host of restoration projects in recent decades, showcasing their leadership, including: ► Rehabilitation work in Mallorquín Swamp and Puerto Mocho Urban Beach, planting 250,000 trees. ► Advanced the recovery of 16 kilometres of urban canal and channels network to reduce flooding, revive ecosystems and improve the city's microclimate. ► Planted more than 1.2 million trees, increasing vegetation cover by 15 per cent. ► Rehabilitated more than 250 public spaces through initiatives such as Todos al Parque. **Objective for pilot:** Initiate measures to conserve and restore León Creek, leveraging NbS to sustainably preserve and restore León Creek **Key achievements for pilot:** ► Developed a guide for implementing NbS in León Creek. ► Robust community engagement with 65 per cent women participants. ► Conditions, hydrological and hydraulic dynamics, and risk factors in a León Creek area, including topographic and bathymetric surveys, rainfall modelling, and community-informed flood studies. ► Developed a protection and conservation strategy for the remaining natural creek edges.	**Adaptation**	► Habitat provision for local biodiversity ► Urban Cooling and thermal comfort in cities ► Floodwater retention ► Clean water ► Clean air ► Human wellbeing ► Social cohesion
Curitiba, Brazil	Curitiba has implemented various noteworthy restoration projects, including: ► A robust urban and peri-urban agriculture programme, which has 208 vegetable gardens across the city. ► Planting of 550,000 trees with an annual target of 125,000 trees. ► Supporting green and hybrid infrastructure solutions such as green roofs, rain gardens, and permeable pavements. ► The ongoing restoration of the Reserva Hídrica do Futuro (Water Reserve of the Future). **Objective(s) for pilot:** Mobilise finance to restore urban ecosystems. Establish the foundations for innovative financing mechanisms and planning tools that connect local restoration initiatives to new sources of environmental revenue by strengthening urban and peri-urban agriculture.	**Crosscutting**	► Habitat provision for local biodiversity ► Cooling and thermal comfort in cities ► Floodwater retention ► Groundwater recharge ► Clean water ► Human wellbeing ► Job creation

Curitiba, Brazil	**Key achievements for pilot:** ▶ Detailed roadmaps for environmental asset projects in Curitiba ▶ A proposal for an updated and improved Biodiversity Index for Curitiba ▶ Mapping of degraded land in Curitiba ▶ Advanced innovative financing and planning tools	**Crosscutting**	▶ Habitat provision for local biodiversity ▶ Cooling and thermal comfort in cities ▶ Floodwater retention ▶ Groundwater recharge ▶ Clean water ▶ Human wellbeing ▶ Job creation
Istanbul, Türkiye	Istanbul has proved itself to be a leader in restoration, with decades of urban ecosystem restoration planning and experience, including: ▶ The city masterplan, Istanbul Vision 2050, which includes climate resilience, nature conservation, inclusive mobility, improved infrastructure and a more inclusive society. ▶ Development of an Urban Ecological Corridor Network. ▶ Several large-scale waterway and basin rehabilitation efforts, such as the Golden Horn Estuary, the Ayamama River, the Riva River, the Kurbağalıdere restorations and the Küçükçekmece Lake Restoration. ▶ Integrating garden infrastructure into urban planning through the creation of urban gardens and agricultural parks. **Objective for pilot:** Enhance the conservation of migratory bird species and improve ecological connectivity. **Key achievements for pilot:** ▶ A comprehensive overview of Istanbul's avifauna in a detailed report, including birds' functions in local ecosystems, emphasising the importance of Istanbul for migratory birds, and design recommendations for bird-friendly cities. ▶ Selection of three pilot area locations at Büyük Çamlıca Grove, Atatürk Urban Forest, and Yıldız Grove, and two indicator species.	**Adaptation**	▶ Floodwater retention ▶ Clean water ▶ Human wellbeing ▶ Groundwater recharge ▶ Habitat provision for local biodiversity

UN environment programme

copenhagen climate centre