NBS and urban greening to create climate resilient, liveable and just cities

- Anna Bruen, Senior Officer, Sustainable Resources, Climate, and Resilience, ICLEI Europe

Network Nature

What are nature-based solutions?

Network Nature

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With nature, for nature and us

NBS, Climate adaptation and resilience

Network Nature

A climate-resilient European Union in line with EU Green Deal and green transformation

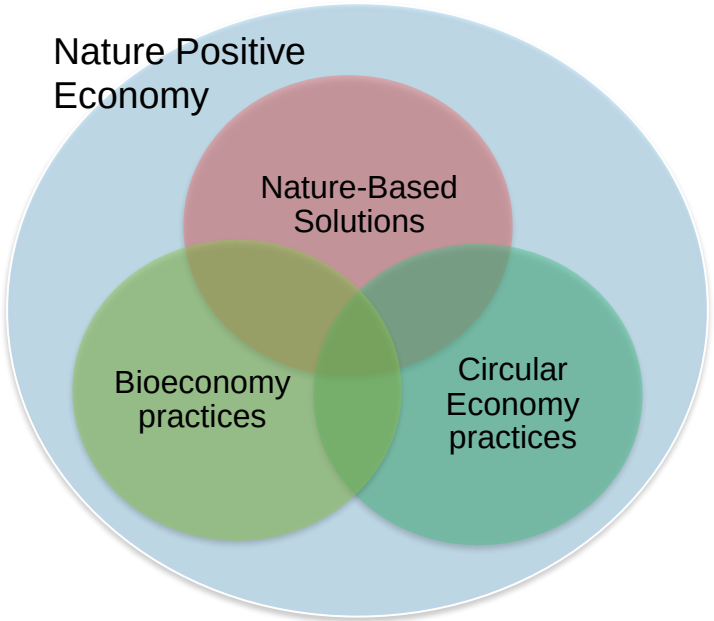
Achieving a climate-resilient society in a just and fair way by 2050

- NBS = **"no-regret" measures** (independent of climate scenarios) on a larger scale to increase climate resilience and contribute to multiple Green Deal objectives
- **NBS = essential for sustaining healthy water, oceans and soils.** They must play a bigger role in land-use management and infrastructure planning
- **Europe needs to leverage more investments in nature-based solutions** to generate gains for adaptation, mitigation, disaster risk reduction, biodiversity, and health.

Network Nature

''A nature positive economy is one in which businesses, governments and others, take action at scale to reduce and remove the drivers and pressures fuelling the degradation of nature, and work to actively improve the state of nature and the ecosystem services it provides.''

University of Cambridge, Institute for Sustainability Leadership



Contributions from 17 NBS projects and Authors:

Siobhan McQuaid, Esmee Kooijman, Daniela Rizzi, Thomas Andersson, Joanne Schanté

EU policy landscape and NBS

EU Biodiversity Strategy 2030

Conserve & protect

30% of land in Europe

30% of sea in Europe

Restore degraded ecosystems, by:

Increasing organic farming and biodiversity-rich landscape features on agricultural land

Halting and reversing the decline of pollinators

Restoring at least 25 000 km of EU rivers to a free-flowing state

Planting 3 billion trees by 2030

EU Nature Restoration Law

by 2050 ecosystems are restored, resilient, and protected.

Focus on urban ecosystems with sequenced targets

EU Forest Strategy 2030

Increase forest coverage in EU along ecological principles, improve resilience of EU forests

European Green Deal

a just and inclusive green transition** in the EU by tackling **climate and environmental challenges

https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC_1&format=PDF

EU Adaptation Strategy 2030 + EU Climate Law

Achieving a climate-resilient society in a just and fair way by 2050

- NBS essential for sustaining healthy waters, oceans and soils
- NBS as no-regret measures for building climate resilience
- Leverage more investments in NBS for multiple benefits

+

- **Mission on Climate Adaptation** (150+ cities and regions)
- **Mission on for climate neutral and smart cities by 2030** (100 cities)

EU Soil Strategy 2030

by 2050 all EU soils are healthy and more resilient

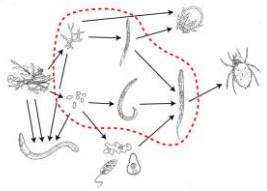
Framework & concrete measures for protecting, restoring and sustainably using soils

What does the this mean for cities?

https://networknature.eu/proposed-eu-nature-restoration-law-key-green-future

- Whole-of-government approach, including a strong role and mandate for local and regional authorities, with formalised governance structures and engagement processes
- Ecosystem restoration actions to prioritize in urban contexts (build on what is there, multifunctionality)
- Integration with local policy and planning frameworks (e.g. Urban Greening Plans, Master Plan)
- Stakeholder engagement with unusual suspects (e.g. Land owners, farmers)
- Public and private finance of ecosystem restoration

What does the EU Soil Strategy imply for cities?

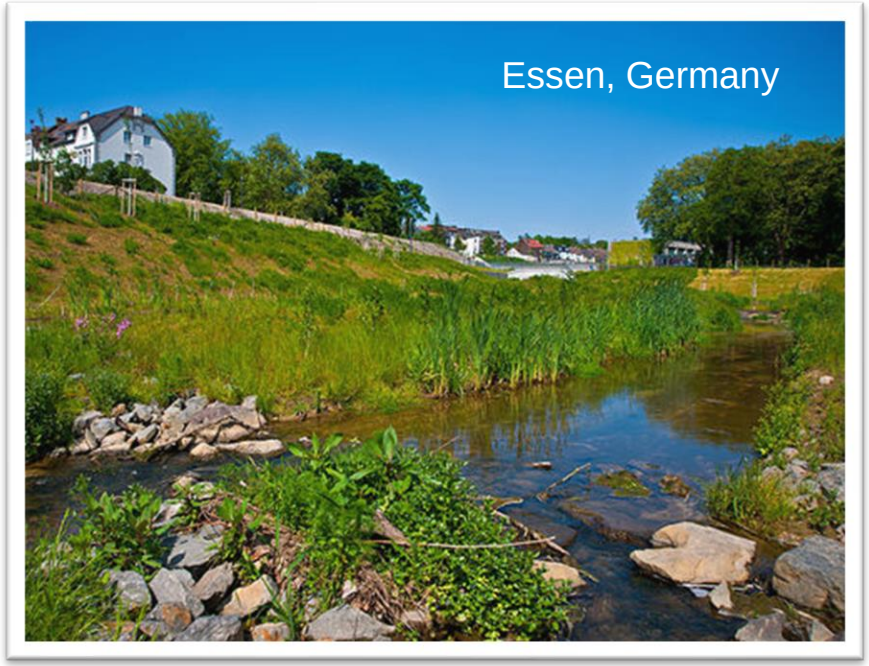


*"It has been estimated that about **60 to 70% of soils** in the EU are not healthy"*

*"**Sets out a framework and concrete measures** for protecting, restoring and sustainably using soils and that mobilises the necessary societal engagement and financial resources, shared knowledge, sustainable practices and monitoring to reach common objectives"*

*"By **2050**, all EU soil ecosystems are in healthy condition and are thus more resilient, which will require very decisive changes in this decade. This new vision for soil is anchored in the **EU biodiversity strategy for 2030** and the **Climate Adaptation Strategy**"*

"Soil Health Law legislative proposal by 2023"



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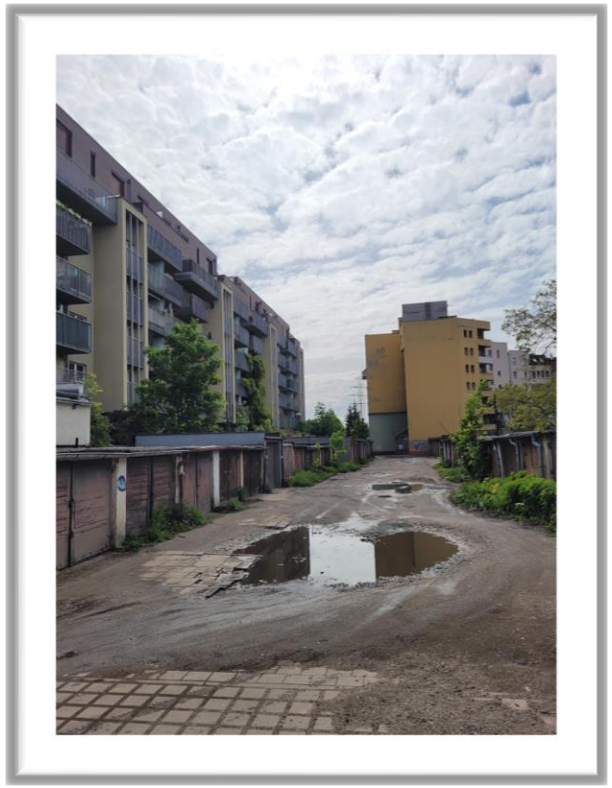


NetworkNature will expand the NBS community and provide support in implementing and amplifying nature-based solutions

Network Nature

Polish NBS Hub in WROclaw

WWF-UKRAINE TEAM

NBS ITALY HUB

NBS|HUB NATURE-BASED SOLUTIONS PORTUGAL

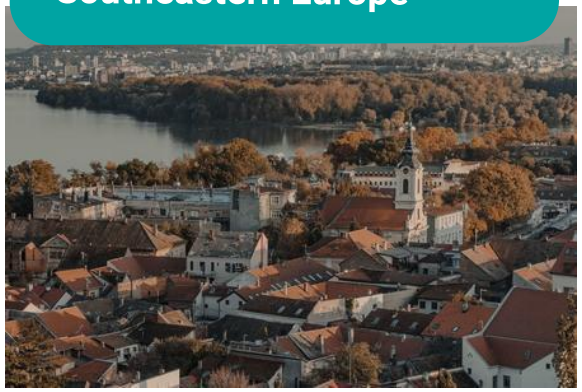
TeAM HUb.

UrbanByNature NBS Hubs - in Europe and beyond!

Network Nature

Flanders Hub, Genk, Belgium

Southeastern Europe



Caucasus Hub

Scottish Hub, Glasgow

Spanish Hub, A Coruna

- Brasil
- Korea
- China
- Latin America

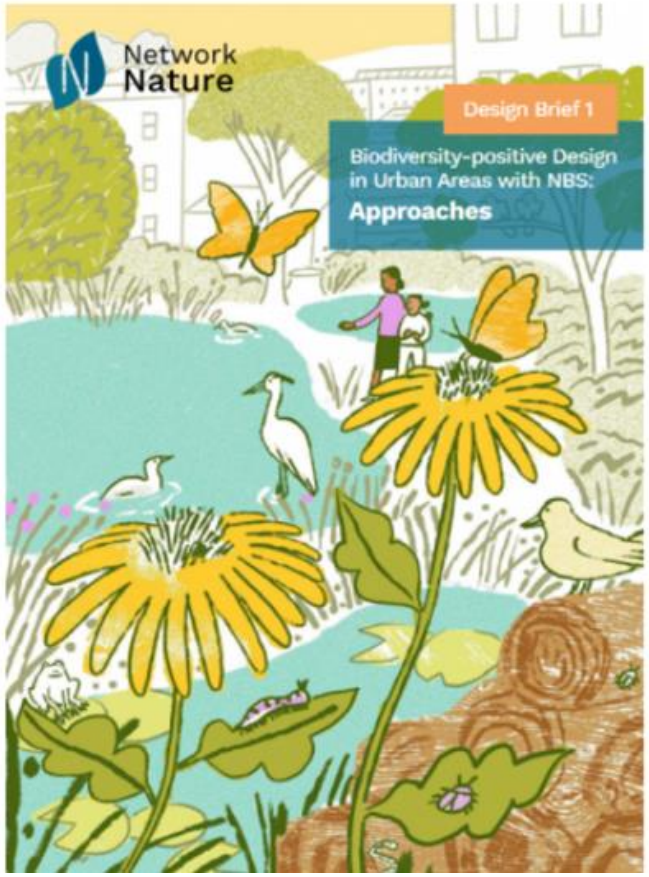
CLEVER Cities

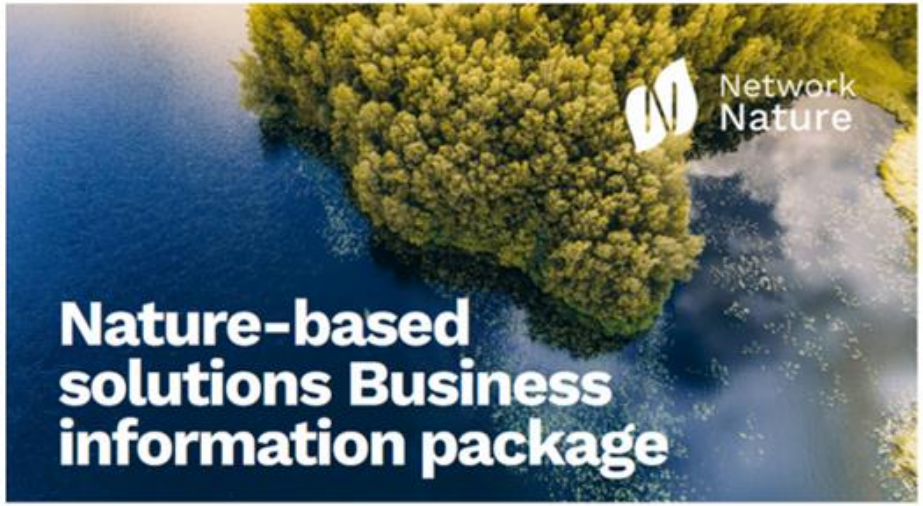
Connecting Nature

CONEXUS
Urban nature connects us

Location: Outside / In Europe

- Over 430 resources on NBS
- Over 500 case studies on NBS





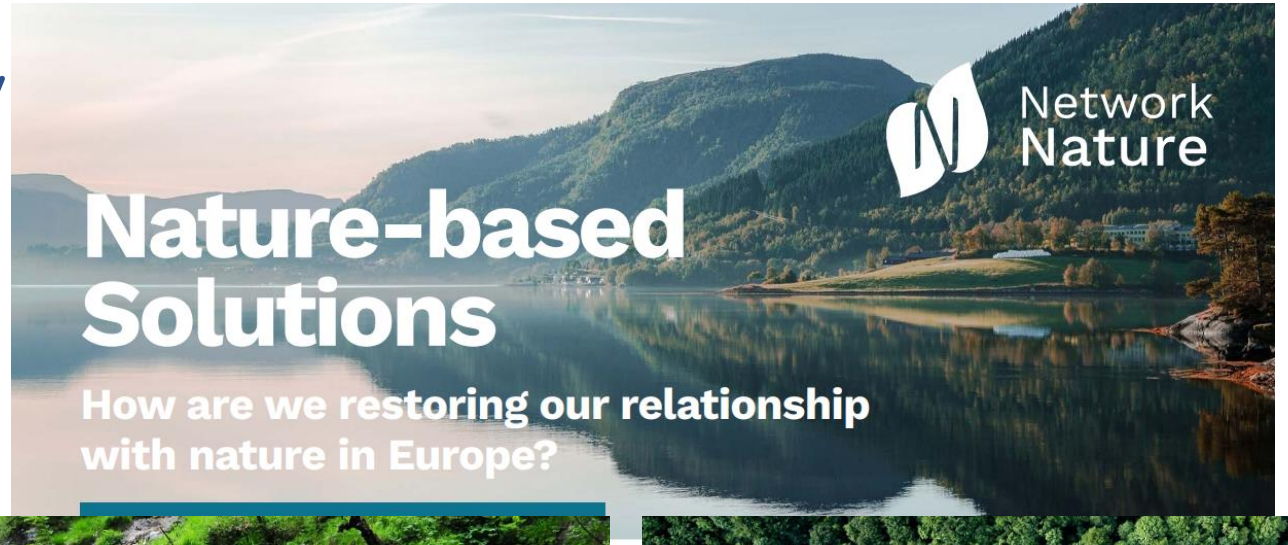
Factsheets

Network Nature

General public

Practitioners, infrastructure planners, developers

practitioners



This Factsheet explores common water-related challenges, such as water availability, quality, and management, their associated risks, and relevant policies, while proposing nature-based solutions as a paradigm shift. By outlining key benefits of using nature for an integrated and ecosystem-based water management approach, and best practices in different contexts and ecosystems, the factsheet demonstrates the potential of shifting away from conventional 'grey' solutions. Thus, it aims to provide practitioners, developers and policymakers with inspiration, resources and opportunities to increase the uptake of nature-based solutions

Who should read this?

Are you a practitioner, infrastructure planner, developer or engineer looking to tackle water-related challenges in non-conventional ways, using the power of nature? Are you a policymaker working on areas linked to nature-based solutions, namely environmental, climate, land and water policies? This factsheet is for you!

The Factsheet explores the potential of ecosystem restoration actions to halt and reverse the degradation of ecosystems. Building on the outcomes of the last NetworkNature semester theme on Nature-based solutions for Ecosystem Restoration, the factsheet provides an analysis of several restoration projects carried out in diverse ecosystems, and addressing multiple challenges. It concludes with a list of recommendations, resources and opportunities moving forward to ensure that restoration actions are put in place to successfully deliver on environmental, social and economic benefits.

Who should read this?

Are you a practitioner directly involved in, or thinking of starting, a restoration project but would like to find out more about what types of benefits can be achieved and what actions can best support effective restoration? This factsheet is for you!

Knowledge briefs

policymakers

Practitioners, policymakers

NbS Knowledge gaps

Network Nature

Themes	NBS gaps
Evaluation of NBS impacts	Evaluation of NBS costs and benefits
	Evaluating NBS effectiveness along different scales (temporal, spatial, social)
	Understanding social cohesion and environmental justice in NBS
NBS governance	Approaches and governance systems for NBS implementation
	Integrating NBS in planning and policy framework
NBS technical design	Technical references, design standards and guidelines
NBS capacity building	Awareness, communication & capacity building

NbS knowledge database

Network Nature

NBS Knowledge Database

Introduction to the database >

Displaying 1 - 100 of 699

RESOURCE TYPE - Any - | TYPE OF ENTITY - Any - | KEY THEMES - Any - | REGION - Any - | COUNTRY - Any - | LANGUAGE - Any -

SOsocietal CHALLENGES - Any -

SEARCH FOR PHRASE

Enter search terms:

RESET APPLY

Community- and Nature-Based Solutions for Integrated Urban Flood Risk Management : Mini Studios for Water-Sensitive Urban Design - A Handbook for Organizers and Facilitators

Main entity:
World Bank

Description: Globally, floods are the most frequent and damaging natural hazard. To help manage the impact of flooding on people and economies, the World Bank provides technical assistance, advisory services, and financing to its client countries through a range of resilient urban...

Scope:
Global

Nature-Based Solutions for Disaster Risk Management : Booklet (English)

Main entity:
World Bank

Description: Nature-based Solutions (NBS) that strategically conserve or restore nature to support conventionally built infrastructure systems (also referred to as gray infrastructure) can reduce disaster risk and produce more resilient and lower-cost services in developing countries. In the...

Scope:
Global

Protecting Albania's Marine and Coastal Biodiversity

Main entity:
UNDP

Description: UNDP and the Global Environment Facility support the Government of Albania's plans to double Marine Protected Areas, and improve their overall management. In close cooperation with national partners, this includes: - improving the legal and regulatory framework that supports...

Scope:
Europe

Wetlands for Disaster Risk Reduction

Main entity:
Ramsar Convention on Wetlands

Description: Along the coastline, wetlands act as a natural protective buffer. Inland, they act as a natural sponge, absorbing and storing excess rainfall and reducing flooding. During the dry season, they release the stored water, delaying the onset of droughts and reducing water shortages...

Scope:
Global

NetworkNature Policy Package

Network Nature

Local and regional policymakers, practitioners

Educators, policymakers, researchers, practitioners

NetworkNature Practitioners' Package

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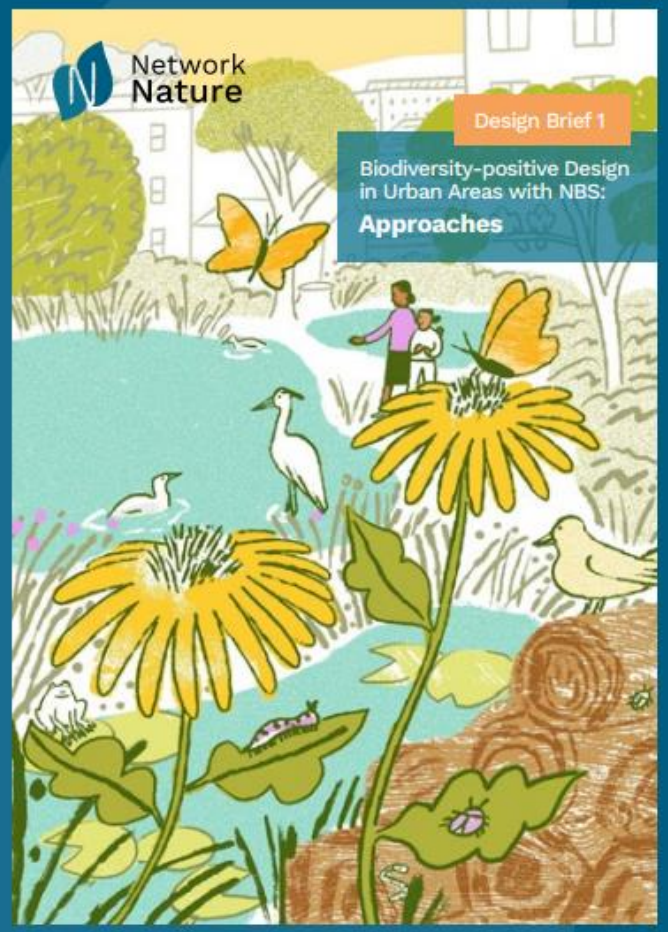
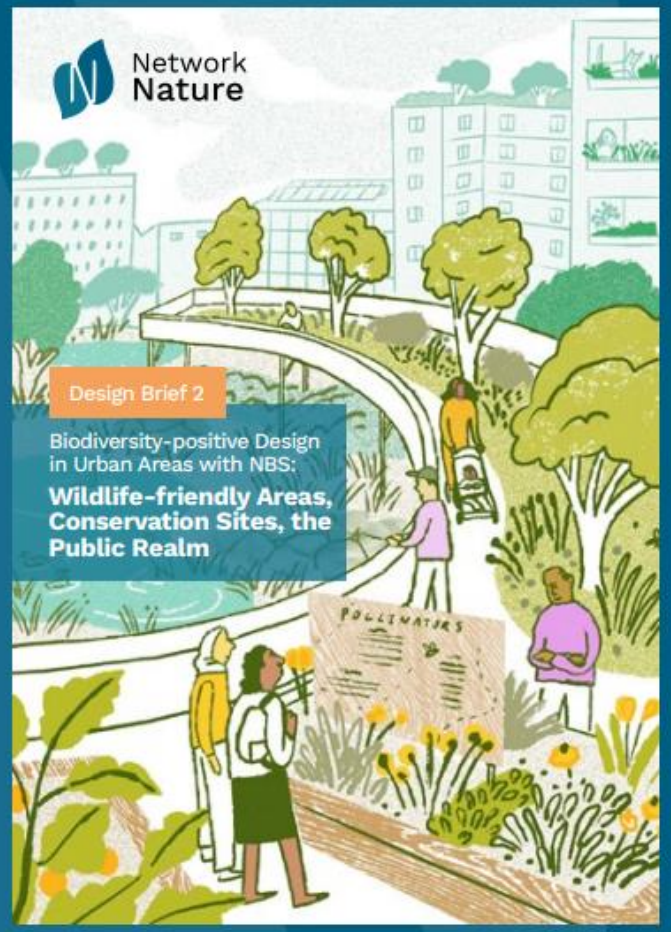
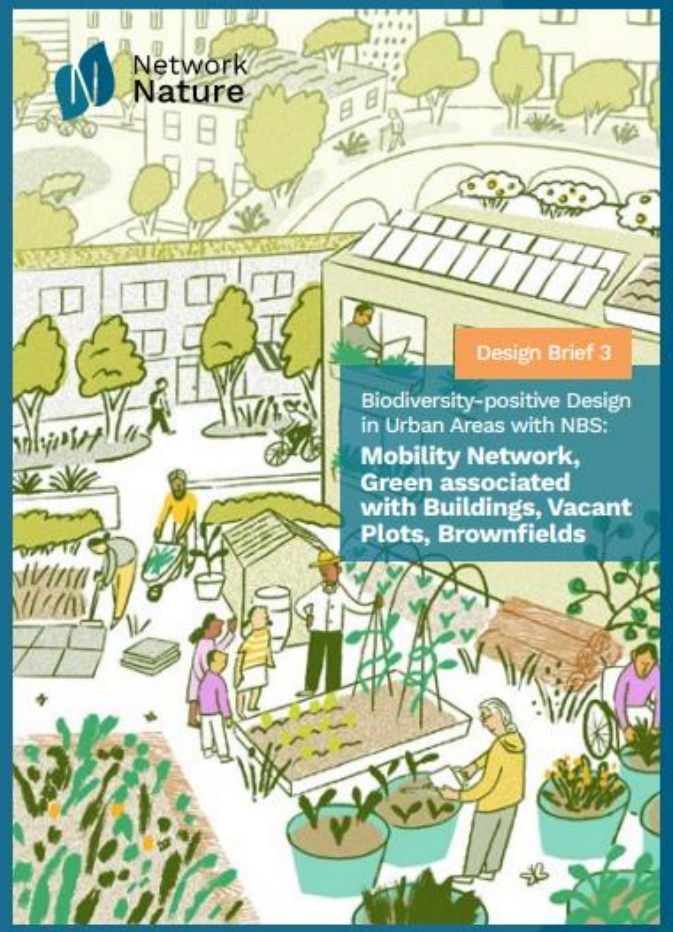
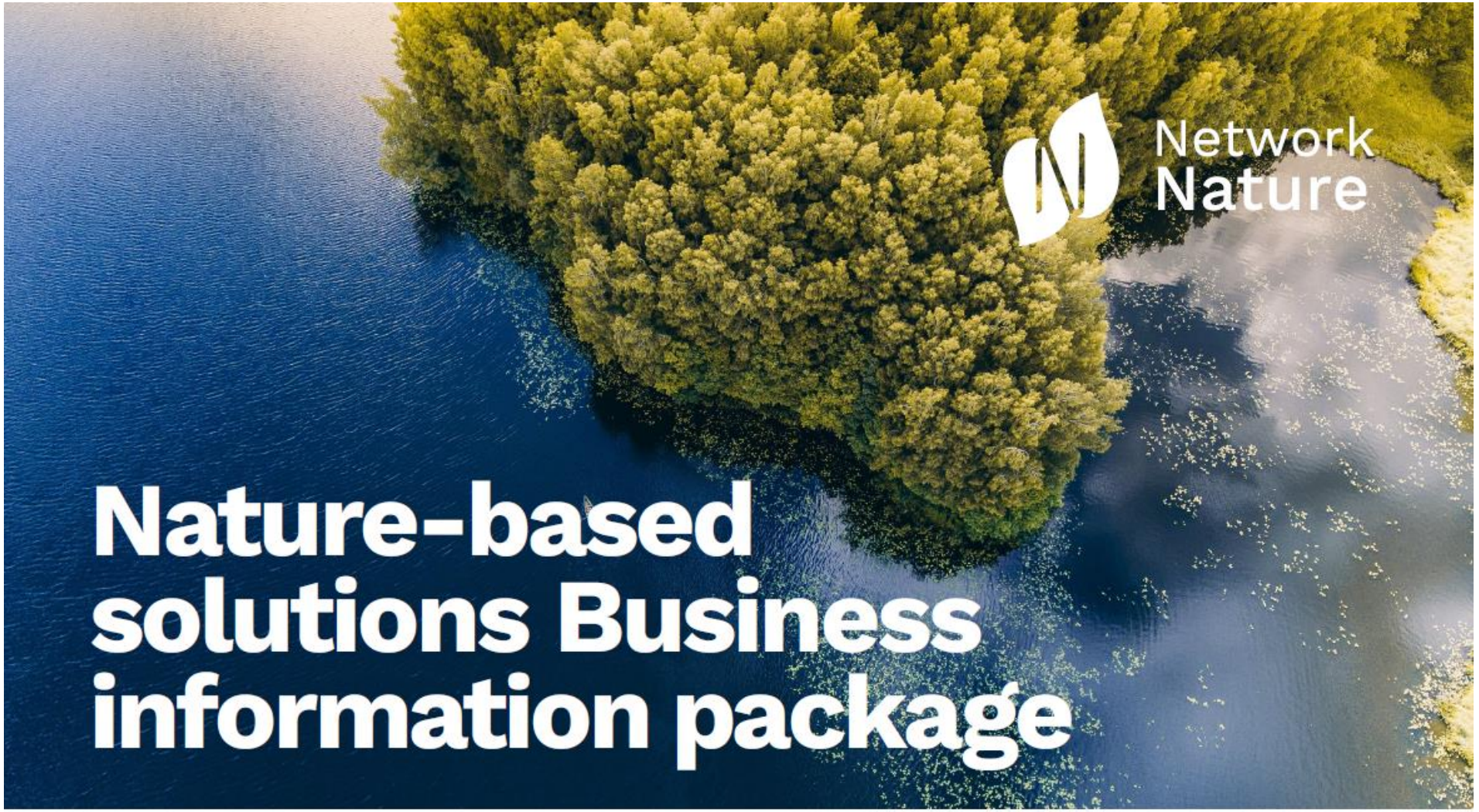






Practitioners, landscape managers, policy makers



Network
Nature

ICLEI
Local Governments for Sustainability
EUROPE

oppla

IUCN

biodiversa+
European Biodiversity Partnership

Steinbeis
Europa Zentrum
Enabling Innovators to Grow

Contents of the Business Package

1. **What are nature-based solutions and nature-based enterprises?**

   Clarifies the NBS and NBE concepts

2. **Examples of successful nature-based enterprises**

   Inspiring stories of NBE which made their way through

3. **Nature-based solutions as a business opportunity**

   Depicts an overview of key figures and trends

4. **Business models for nature-based solutions**

   Three business models canvases especially adapted for NBS

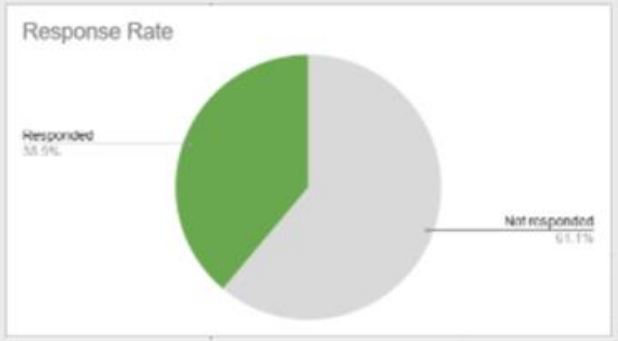
5. **What next? Where to start?**

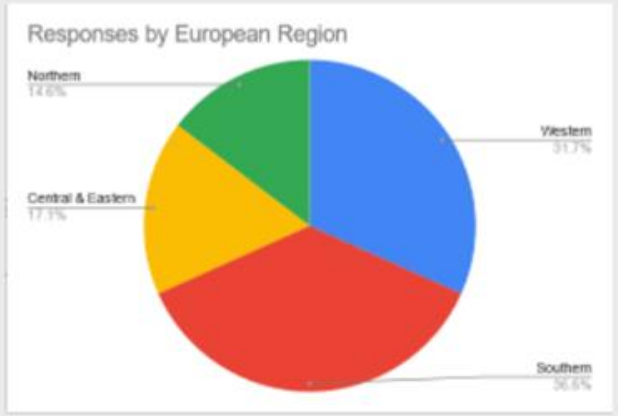
   Policy and legislation, networking platforms, funding and investment opportunities

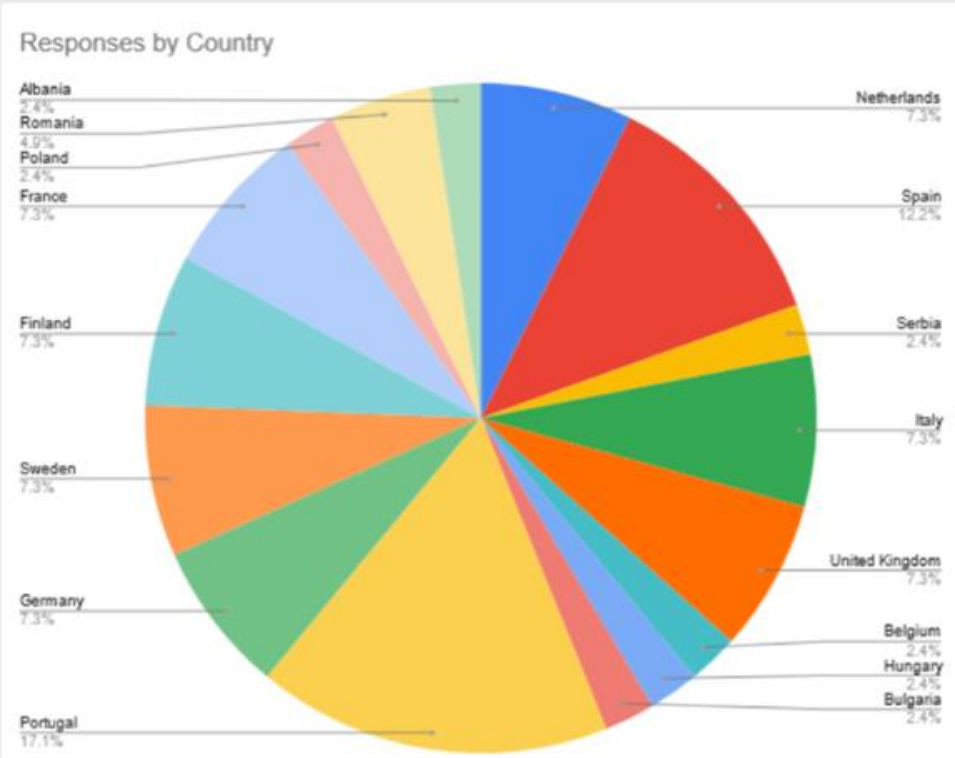
Urban Greening Plan
Guidance, toolkit, and platform

1. How was it developed?
2. What is in it?
3. How can cities use it?

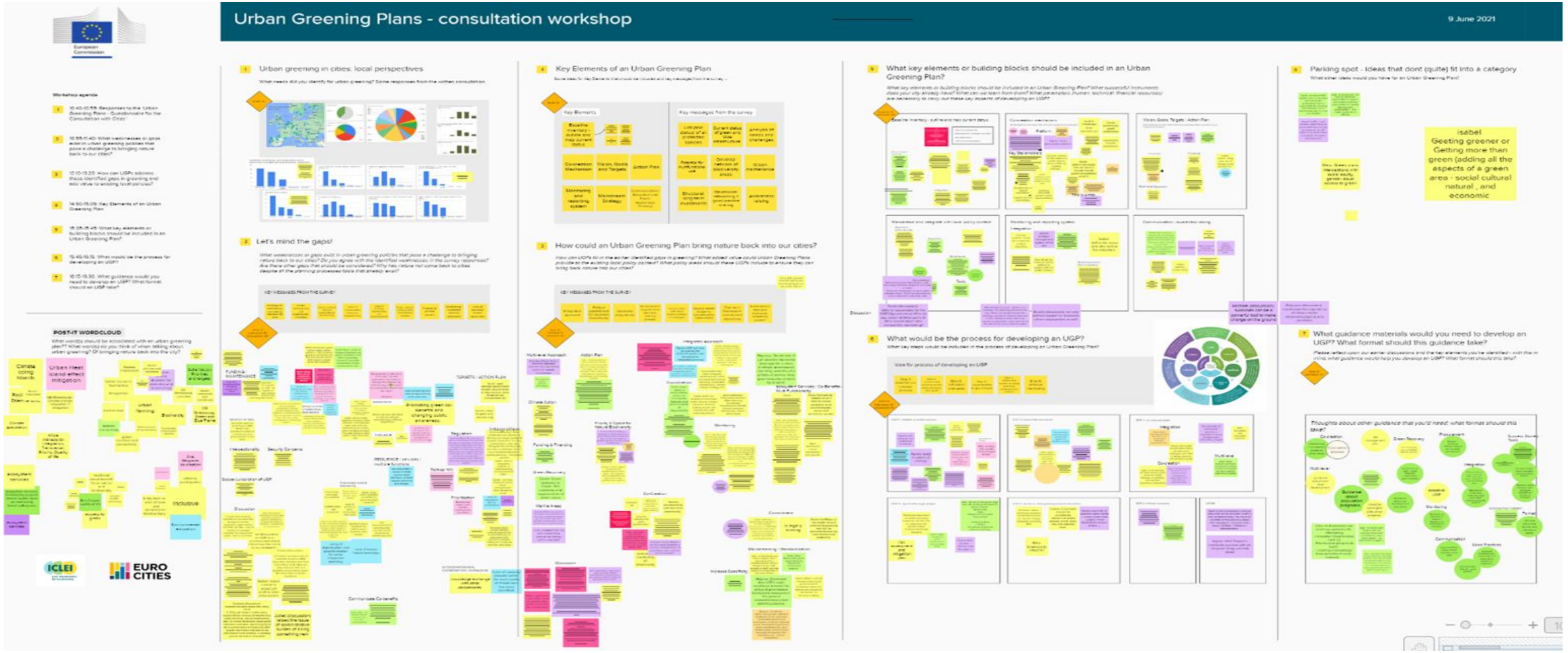
City Consultations



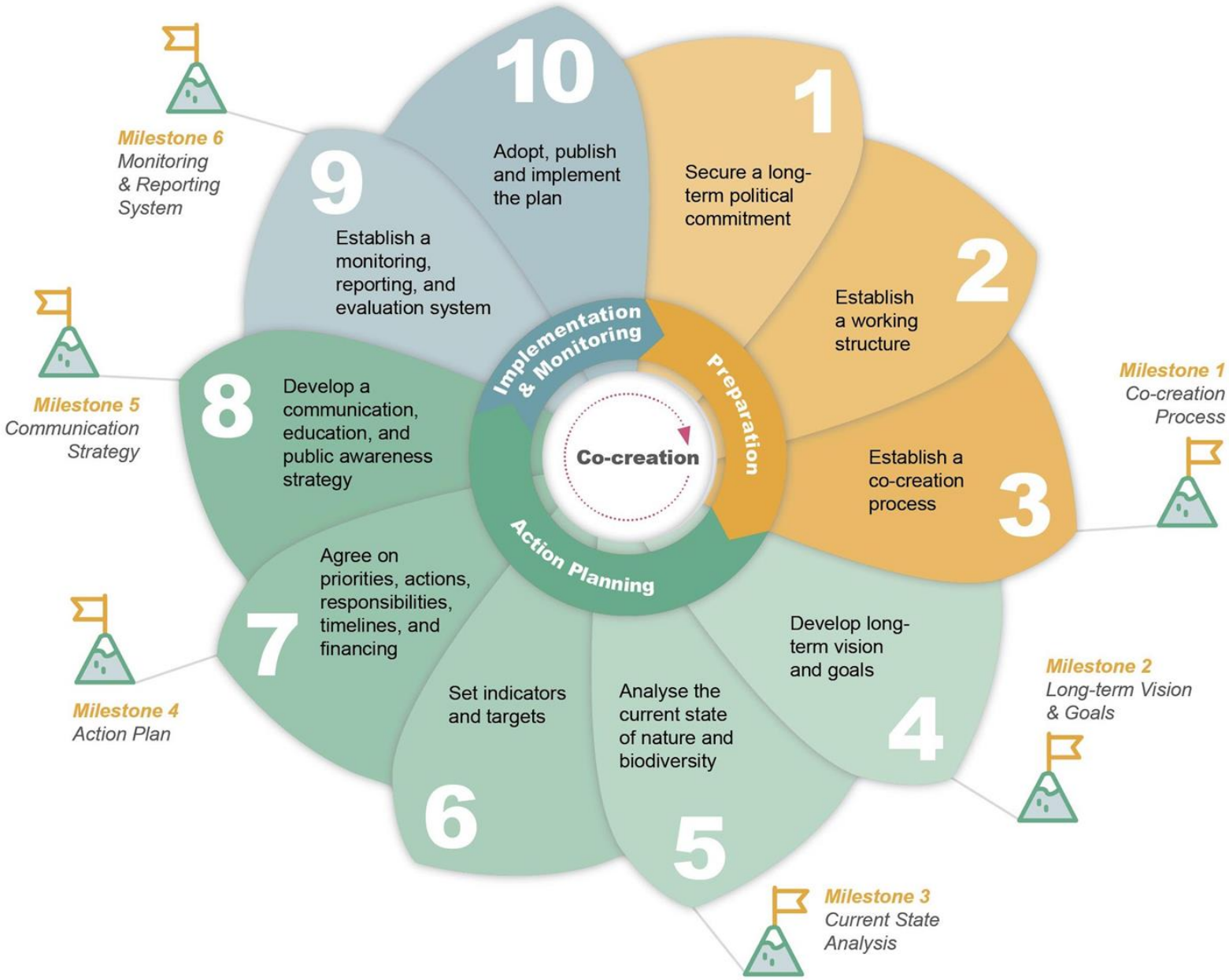




City Consultations



URBAN GREENING PLANS



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Urban Greening Plan Toolkit

- Support cities in the implementation of the Urban Greening Plans
- Structured around the phases and steps
- Tools ranging from EU level data to citizen-led initiatives
- Each tool includes an overview, ‘how to use’ and ‘alternatives’

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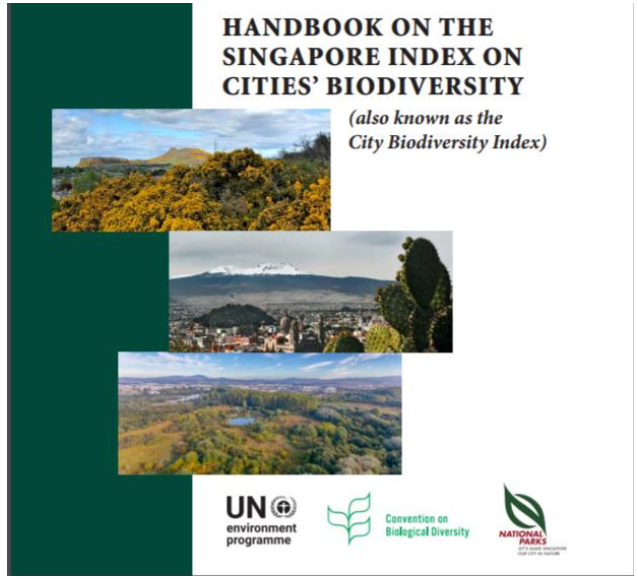
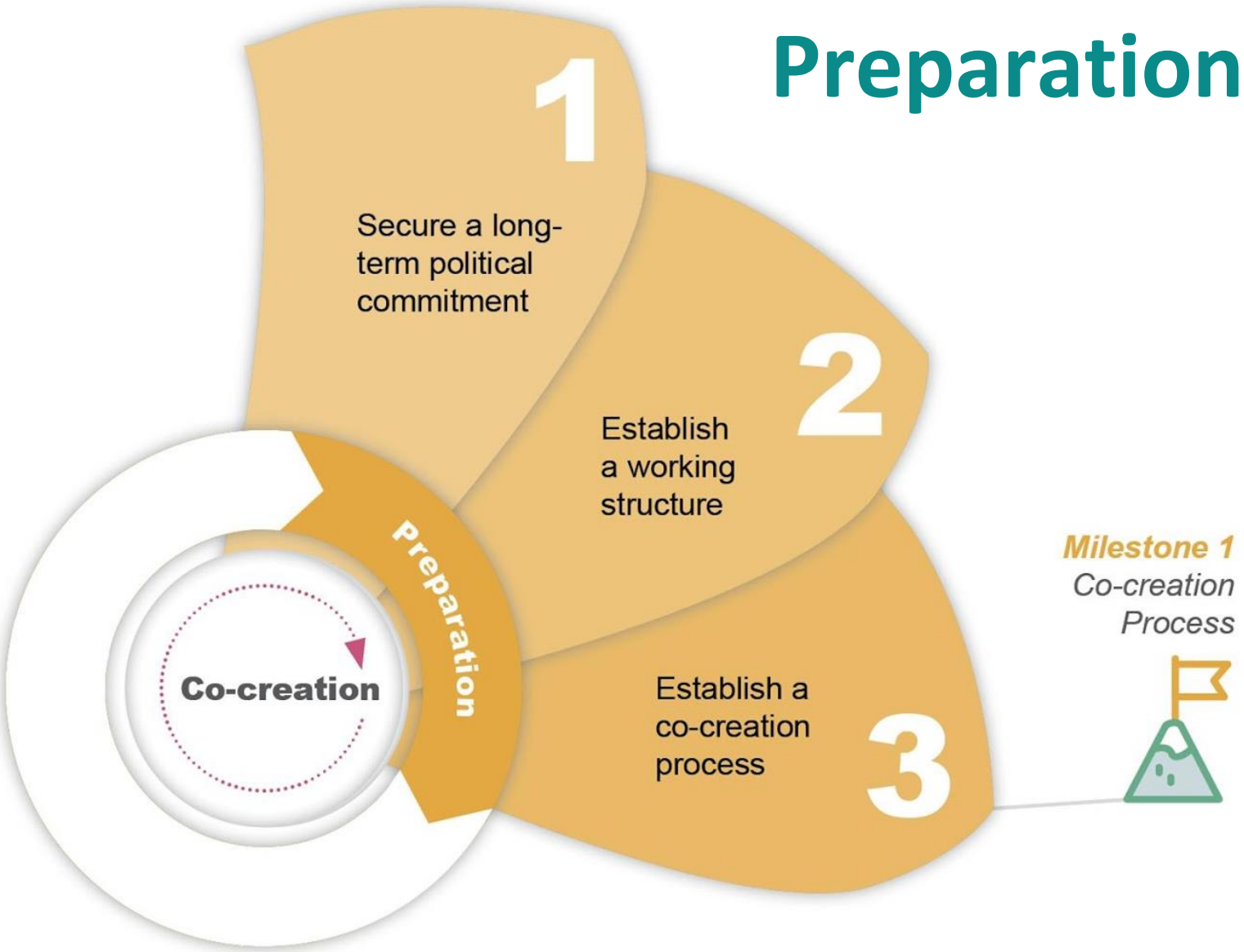


Preparation



Step 3: establish a co-creation process

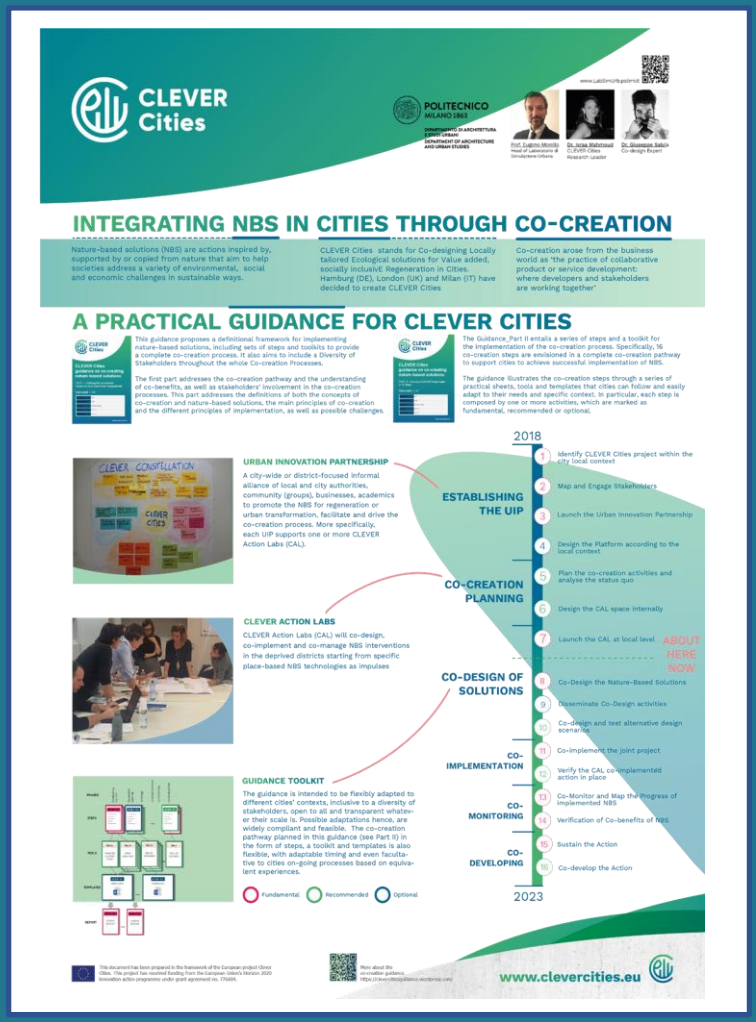
Tool: CLEVER Cities Guidance on co-creating nature-based solutions

What is the tool in a nutshell?

A two-part guide to creating a co-creation process; Part I focuses on understanding the importance of co-creation, **identifying and mapping stakeholders**, **involving** them in the process, and **monitoring** the co-creation process; Part II goes further into details with a **16-step guide with tools, templates and activities**.

What other steps would this tool be useful for?

- Co-creation process is carried out throughout the development of the Urban Greening Plan
- Especially useful in final steps, establishing a monitoring, reporting and evaluation system as this Part II provides guidance on co-monitoring and co-implementation.



Action Planning

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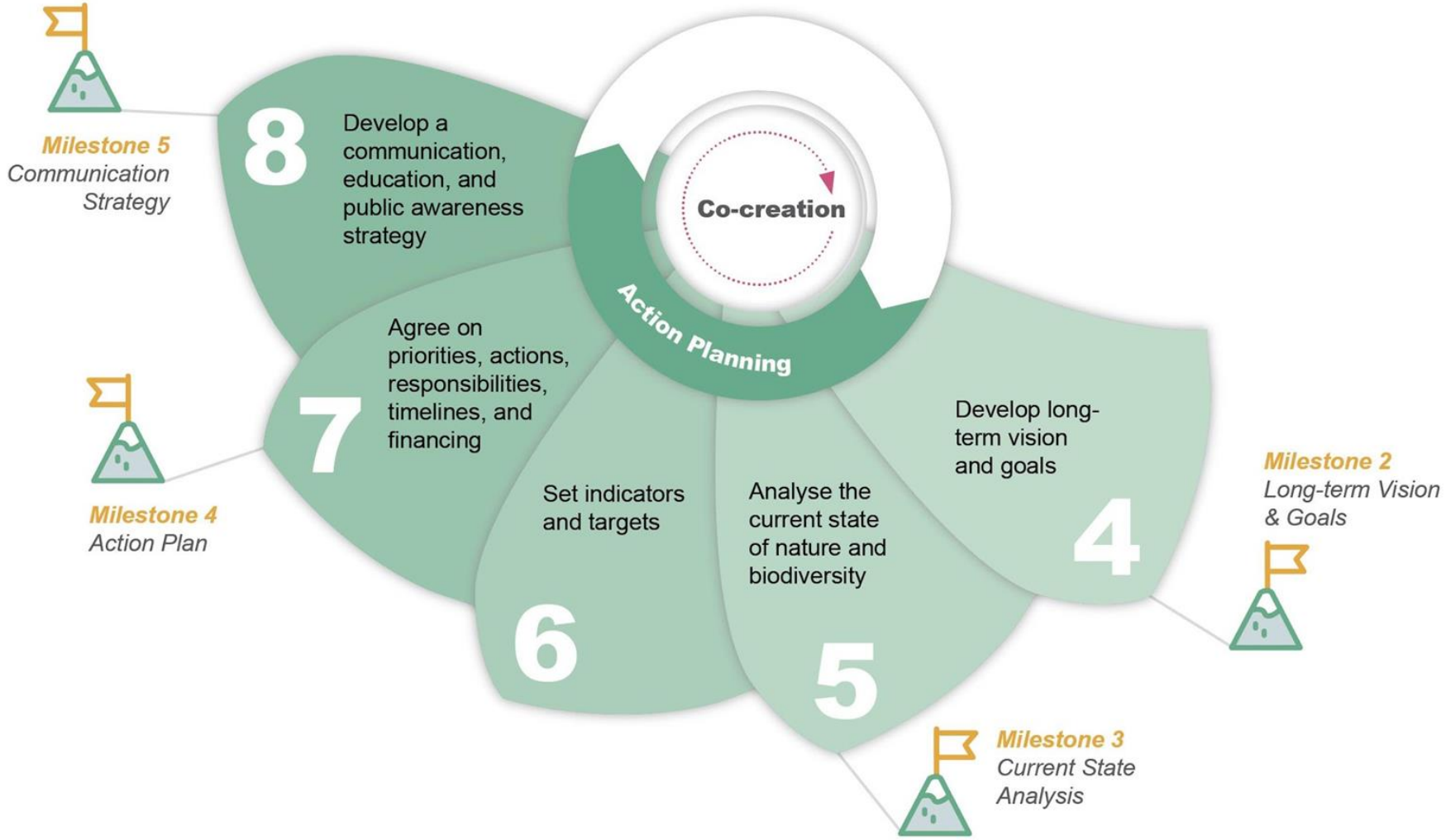

Step 5: analyse state of current nature and biodiversity

Tool: Copernicus land monitoring service Urban Atlas

What is the tool in a nutshell?
The Copernicus Land Monitoring Service provides satellite data through the Urban Atlas with comparable information on land use and land cover across Functional Urban Areas.

How can it be used?
There are many handy tools within this overarching service that can be used to analyse the state of nature within a city. The Urban Atlas provides pan-European comparable land cover and land use data covering a number of Functional Urban Areas (FUA). In 2012, an additional layer (Street Tree Layer - STL) was produced providing an overview of trees along roads, in parks and gardens.

Step 6. Indicators and targets

Tool: City Biodiversity Index

Also known as the Singapore Biodiversity Index

What is the tool in a nutshell?

The City Biodiversity Index is a self-assessment tool for cities to evaluate and monitor the progress of their biodiversity conservation efforts through a profile of the city and 28 indicators that measure native biodiversity, ecosystem services provided by biodiversity, and governance and management of biodiversity.

How can it be used?

The CBI includes indicators such as the change in number of native bird species, proportion of invasive alien species, accessibility to parks, and connectivity measures as well as budget allocated to biodiversity, imperviousness and number of biodiversity projects implemented in the city. Each indicator is assigned a scoring range between zero and four points, with a maximum score of 112 points. Cities will have to conduct a baseline scoring in the first application of the SI and conduct subsequent application every 3 – 5 years to allow sufficient time between applications for the results of biodiversity conservation efforts to materialise.

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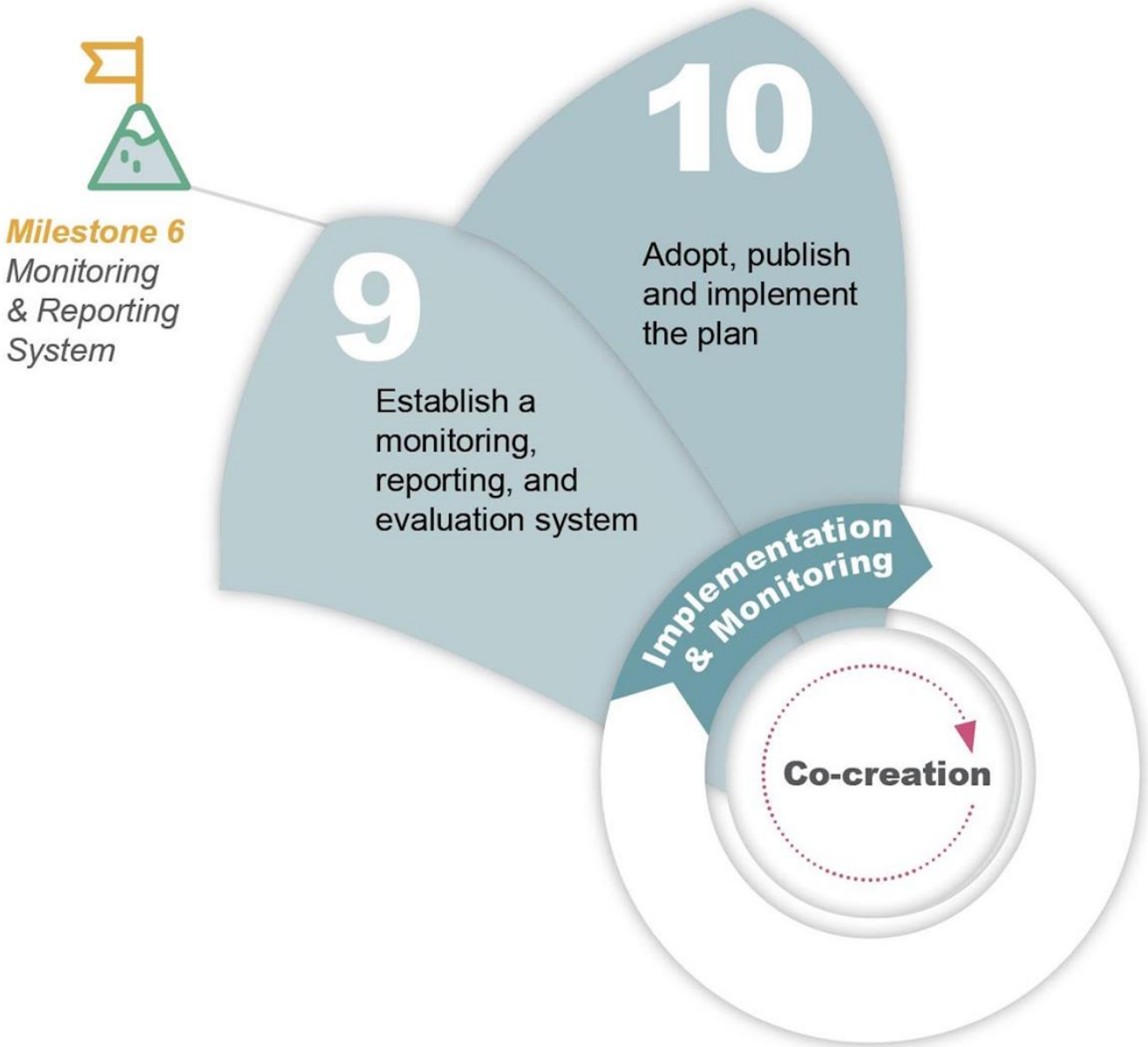
PART II – INDICATORS

Core Components	Indicators	Maximum Score
Native Biodiversity in the City	1. Proportion of Natural Areas in the City	4 POINTS
	2. Connectivity Measures or Ecological Networks to Counter Fragmentation	4 POINTS
	3. Native Biodiversity in Built Up Areas (Bird Species)	4 POINTS
	4. Change in Number of Vascular Plant Species	4 POINTS
	5. Change in Number of Native Bird Species	4 POINTS
	6. Change in Number of Native Arthropod Species	4 POINTS
	7. Habitat Restoration	4 POINTS
	8. Proportion of Protected Natural Areas	4 POINTS
	9. Proportion of Invasive Alien Species	4 POINTS
Ecosystem Services provided by Biodiversity	10. Regulation of Quantity of Water	4 POINTS
	11. Climate Regulation – Benefits of Trees and Greenery	4 POINTS
	12. Recreational Services	4 POINTS
	13. Health and Wellbeing – Proximity/Accessibility to Parks	4 POINTS
	14. Food Security Resilience – Urban Agriculture	4 POINTS
Governance and Management of Biodiversity	15. Institutional Capacity	4 POINTS
	16. Budget Allocated to Biodiversity	4 POINTS
	17. Policies, Rules and Regulations – Existence of Local Biodiversity Strategy and Action Plan	4 POINTS
	18. Status of Natural Capital Assessment in the City	4 POINTS
	19. State of Green and Blue Space Management Plans in the City	4 POINTS
	20. Biodiversity Related Responses to Climate Change	4 POINTS
	21. Policy and/or Incentives for Green Infrastructure as Nature-based Solutions	4 POINTS
	22. Cross-sectoral and Inter-agency Collaborations	4 POINTS
	23. Participation and Partnership: Existence of Formal or Informal Public Consultation Process Pertaining to Biodiversity Related Matters	4 POINTS
	24. Participation and Partnership: Number of Agencies/Private Companies/ NGOs/Academic Institutions/International Organisations with which the City is Partnering in Biodiversity Activities, Projects and Programmes	4 POINTS
	25. Number of Biodiversity Projects Implemented by the City Annually	4 POINTS
	26. Education	4 POINTS
	27. Awareness	4 POINTS
	28. Community Science	4 POINTS



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Implementation & Monitoring

Step 9. establish a monitoring, reporting and evaluation system

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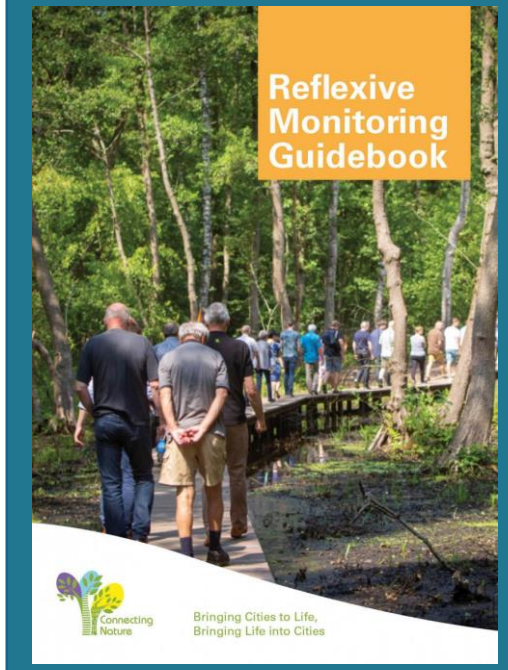
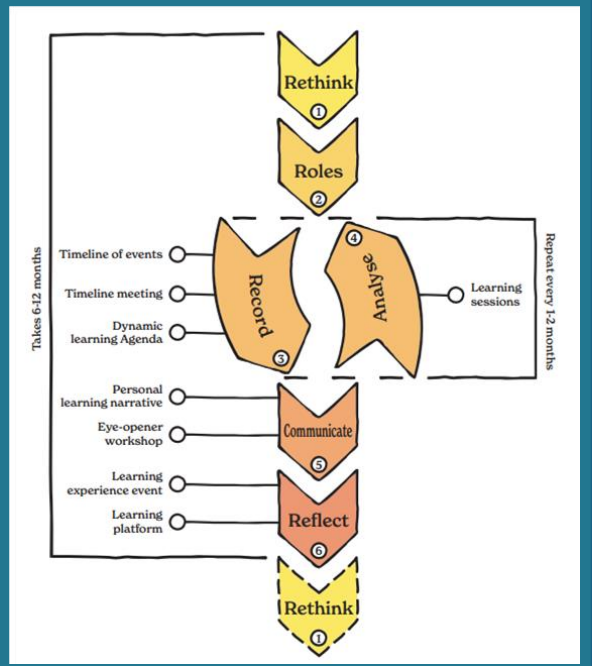
Tool: Connecting Nature Reflexive Monitoring Guidebook



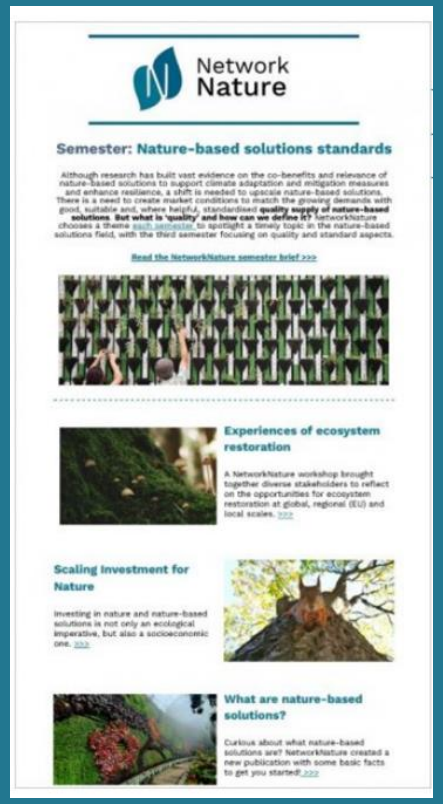


What is the tool in a nutshell?
The Guidebook provides a step-by-step guide to reflexive monitoring, an evaluation method that gives urban practitioners insight into the progress of their project in real time. It encourages proactive problem solving by addressing barriers and challenges as they arise, requiring participants to rethink the way they approach their task.

How can it be used?
This reflexive approach can be used to monitor and adapt the UGP according to changing circumstances, ensuring it is as effective as possible. Practically speaking, reflexive monitoring could be brought into the UGP development in the first phases in the creation of a working structure (step 2). In this initial step, reflexive monitoring could be discussed with colleagues as a method for developing an UGP that continually adapts to changing circumstances. During this step, cities can explore the purpose, benefits and process of reflexive monitoring and determine who will be responsible for the process.

Registered users can:

- Submit a case study
- Submit a resource
- Submit an event
- Receive bi-annual newsletter
- Join a hub



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Resources

Urban Greening Platform

NBS Hubs

Nature Based Solutions Made Easy – brochure

Policy brief: the proposed nature restoration law: what role for cities and regions?

Policy brief: integrating NBS in education to unlock transformative learning for sustainability

Design Briefs: **Biodiversity-positive Design in Urban Areas with NBS:**

- Biodiversity Positive Design in Urban Areas
- Wildlife-friendly Areas, Conservation Sites, the Public Realm
- Mobility Network, Green associated with Buildings, Vacant Plots, Brownfields

Factsheets and knowledge briefs

www.networknature.eu

THANK YOU!

ICLEI EUROPE

The ICLEI European Secretariat is based in Freiburg (Germany) with offices in Brussels (Belgium) and Berlin (Germany).

Anna Bruen

Senior Officer for Biodiversity and Sustainable Food Systems

Anna.bruen@iclei.org

iclei-europe.org

ICLEI_Europe

@ICLEI_Europe

@ICLEI_Europe

Networknature.eu

hello@networknature.eu

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What next? Where to start?

Summary of resources directed to NBE and companies interested in NBS

- **Networking platforms**
  - Help NBE to connect with partners across their value chains, stay up to date and to make their voice heard
    - Connecting Nature Enterprise Platform (Project Connecting Nature)
    - EdiCitNet Marketplace (Project Edible Cities Network)
    - European Rewilding Network (Rewilding Europe)

- **Funding opportunities**
  - Different financial instruments facilitate the start-up and scale-up of NBE
    - *Grants* from EU programmes such as Horizon Europe, LIFE programme, COST Actions or the European Regional Development Fund
    - *Loans, guarantees and equity* from EU institutions such as the European Investment Bank
    - *Crowdfunding* through the Nature Solutions Platform (Project REGREEN)