

NetworkNature.eu

The one-stop-resource for nature-based solutions

Bettina Wilk

Senior officer for green infrastructure, nature-based solutions and biodiversity

ICLEI Europe





Network
Nature

Gathers resources,
projects, best practices
and tools in one place
to support the nature-
based solutions
community

networknature.eu



Consolidate, support and expand a
community of practice

Upscale the use of NbS across science,
business, policy and practice

Raise awareness

= Maximise impact and spread of NbS



30 PROJECTS

678 PARTNERS

57 COUNTRIES

EUR 282M

NBS IN CITIES

CLIMATE AND WATER RESILIENCE

[Connecting Nature](#)
[Grow Green](#)
[Urban GreenUP](#)
[UNaLab](#)

INCLUSIVE URBAN REGENERATION

[CLEVER Cities](#)
[EdiCiNet](#)
[ProGIneg](#)
[URBINAT](#)

INTERNATIONAL RESTORATION AND REHABILITATION OF URBAN ECOSYSTEMS

EU-CHINA:
[CLEARING HOUSE](#)
[REGREEN](#)

EU-CELAC:
[CONEXUS](#)
[INTERLACE](#)

IMPROVE WELL-BEING AND HEALTH

[EUPOLIS](#)
[GO GREEN ROUTES](#)
[IN-HABIT](#)
[VARCITIES](#)

NEW NBS GOVERNANCE, BUSINESS, FINANCING MODELS AND ECONOMIC IMPACT ASSESSMENT TOOLS

[NATURVATION](#)
[NATURE4CITIES](#)

HYDRO-METEOROLOGICAL RISK REDUCTION

[OPERANDUM](#)
[PHUSICOS](#)
[RECONNECT](#)

INSURANCE VALUE OF ECOSYSTEMS

[NAIAD](#)

INTER-RELATIONS BETWEEN CLIMATE CHANGE, BIODIVERSITY AND ECOSYSTEM SERVICES

[DRYvER](#)
[FutureMARES](#)
[MaCoBioS](#)
[PONDERFUL](#)

NBS MULTI-STAKEHOLDER DIALOGUE PLATFORM

[Think Nature](#)
[NetworkNature](#)

ECOSYSTEM RESTORATION

[AMBER](#)
[MERCES](#)

NEW PROJECTS START IN 2021 ON CARBON NEUTRAL CITIES AND IMPROVED AIR QUALITY, WATER SECURITY AND ECOLOGICAL QUALITY IN CITIES AND ON RESTORING BIODIVERSITY AND ECOSYSTEM SERVICES.

NbS Cluster Taskforces

H2020 NbS projects and future Horizon Europe NbS projects work on several key transversal topic areas

Data and knowledge sharing

Integrated Assessment Framework

Governance, Business and Finance Mechanisms

NBS Communicators

Co-creation and governance

FEATURED CASE STUDIES...

CASE STUDY



Ntakata Mountains Project

The Ntakata Mountains Project aims to protect 216,944 ha of threatened forest by developing Village Land Forest Reserves (VLFRs) with local communities.

CASE STUDY



River Meuse project

The so-called Border Meuse or "Grensmaas" Project has three main objectives: reduce flood risk, healthier and more diverse nature, and the commercial benefit of both gravel extraction and nature-...

CASE STUDY



Community-based mangrove forest restoration in Kenya

The project proposes an integrated people-centered approach, with a particular focus on women, to address the triple crisis – poverty, climate change, and nature – at the local level.

EXPLORE CASE STUDIES

Measuring and Improving Urban Tree Vitality and Ecosystem Service Provisioning in Leuven through Inoculation with Ectomycorrhizal Fungi (URBANMYCOSERVE)

The aim is (i) to provide an assessment of the EcM community and functional group composition of urban trees, and of its environmental drivers, using next generation sequencing techniques; (ii) to relate specific EcM, or functional groups of EcM, to tree health, and tree ecosystem service delivery and resilience, using advanced noninvasive spectral and physiological sensing technology, diameter growth measurements, and urban biophysical modeling; and (iii) to develop and test (in situ & ex situ) a dedicated EcM-inoculum to improve urban tree health, and ecosystem service delivery and...



READ MORE >

Managing urban Biodiversity and Green Infrastructure to increase city resilience in Ghent (UrbanGaia project)

The aim is to develop a realistic framework of indicators to evaluate, manage and develop performant Urban Green-Blue Infrastructure (U-GBI) in cities and intensively managed landscapes. UrbanGaia explicitly focusses on analysis of ecological and socio-economic features of the many existing GBIs. The evaluation of one the green axis of the ecological network in Ghent will serve as a case study for the framework of indicators. Furthermore, policy, governance and management practices of U-GBI are analyzed to identify innovative approaches to GBI implementation and usage.



READ MORE >

26 case studies / search term „resilience“



EVENT

We Value Nature's Biodiversity Training: Concrete steps & approaches to conducting a biodiversity-inclusive natural capital assessment

Wednesday, 1 December 2021 - 13:30 to 16:00

Webinar



ENABLING NATURE-BASED HEALTH SOCIAL CARE THROUGH KNOWLEDGE ALLIANCES

EVENT

Enabling nature-based health and social care through Knowledge Alliances

Wednesday, 1 December 2021 - 15:00 to 18:00

Online event



EVENT

Public-private coherence for natural capital accounting

Wednesday, 1 December 2021 - 16:00 to 17:00

Webinar

EVENTS CALENDAR

Events

October 2021



Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	1	2
3	4	5	6	7	8	9
Adaptation Futures 2020 Monday, 4 October 2021 to Friday, 8 October 2021 Hybrid						
Nature-based Solution			Webinar series: Building Natural Connections - Banking on bio-resilience Wednesday, 6 October 2021 - 15:00 to 16:30 Online	A novel typology for urban forests as nature-based solutions - workshop Thursday, 7 October 2021 - 8:15 to 11:15 online		
10	11	12	13	14	15	16
Innovate4Cities 2021 Monday, 11 October 2021 to Friday, 15 October 2021 Virtual						
GoGreenRoutes Autumn School on Nature for Health: A Shared Agenda May						
The European SDG Summit for climate action & a just transition Monday, 11 October 2021 to Thursday						
19th European Week of Regions and Cities Monday, 11 October 2021 to Thursday, 14 October 2021 Onli						
Biodiversity for climate protection and a green recovery Monday, 11 October 2021 - 16:30 to 18:00 Online		Empowering wellbeing and health through nature: inspiring good practices and initiatives across Europe Tuesday, 12 October 2021 - 14:30 to 16:00 online		Webinar series: Building Natural Connections - Unlocking social value Wednesday, 13 October 2021 - 15:00 to 16:30 Online		Ecosystem Services Valuation Database Launch webinar Thursday, 14 October 2021 - 13:30 to 15:30 Online
				Delivering Successful Green Roofs in Mediterranean and Semi-arid Climates Thursday, 14 October 2021 - 16:00 to 17:00 Online		
17	18	19	20	21	22	23

Resources on NBS and resilience

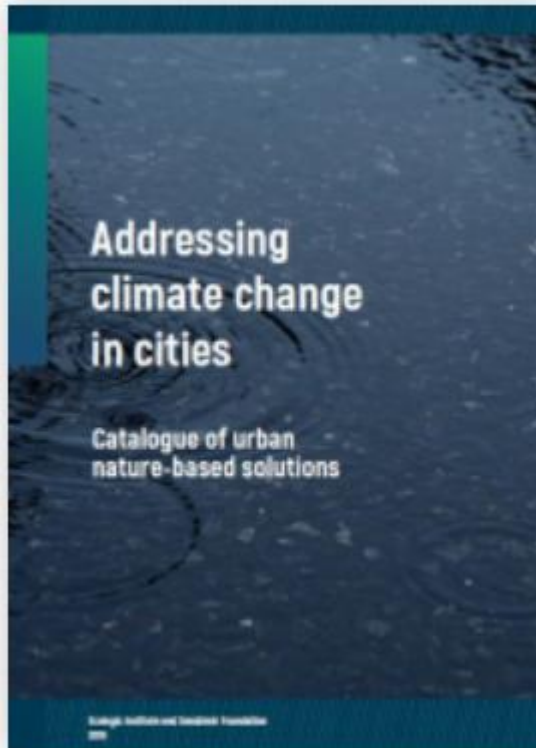


Tackling the climate and biodiversity crises in Europe through Urban Greening Plans: Recommendations for avoiding the implementation gap

To systematically bring nature back to cities, the EU Biodiversity Strategy calls upon cities with over 20,000 inhabitants to develop Urban Greening Plans (UGP) by the end of 2021. UGP present a unique opportunity for the systematic integration of urban green infrastructures in urban planning

ENGLISH

MORE



Addressing climate change in cities

Catalogue of urban nature-based solutions

Catalogue of urban nature-based solutions

Focusing on addressing climate change, this catalogue presents a wide selection of NBS that exemplify high climate mitigation potential and applicability across a range of urban contexts. the publication is written in an accessible manner and can be used to introduce various audiences to the concept, applications and benefits of urban nature-based solutions.

<https://networknature.eu/nbs-resources>



<https://www.umweltbundesamt.de/theme/n/klima-energie/klimafolgenanpassung/anpassung-auf-eu-ebene#die-europaischen-anpassungsstrategie>



Nature-based Solutions for Flood Mitigation and Coastal Resilience

Analysis of EU-funded projects

Independent Expert Report

Nature-based solutions for flood mitigation and coastal resilience: Analysis of EU-funded projects

This document summarises outcomes relating to flood mitigation and coastal resilience from the report 'Nature-based Solutions: State of the Art in EU-funded Projects' (Wild et al. (Eds.) 2020) prepared through the EC's Valorisation of NBS Projects Initiative. EU research and innovation projects

ENGLISH

MORE

<https://op.europa.eu/en/publication-detail/-/publication/d6e80dca-d530-11ea-adf7-01aa75ed71a1/language-en>

Nature 4 Cities Platform

Technical solutions, methods and tools to empower urban planning decision making and address the contemporary environmental, social and economic challenges that European Cities are facing

Designed for



**Policy makers
& public urban planners**



Urban professionals
(advisory services, landscape companies and architects, suppliers etc)



Civil Society
(inhabitants and local organizations)

at all stages of a NBS project



**CREATE A NBS
PROJECT**



**ASSESS A NBS
PROJECT**



**IMPLEMENT A NBS
PROJECT**

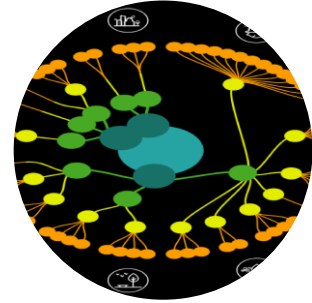


Design a NBS



**CREATE A NBS
PROJECT**

Get knowledge and
inspiration to choose the
**right NBS to match
your needs.**



Discover Nature Based Solutions

and the challenges
they help addressing
with our interactive
NBS explorer with
extensive factsheets
on each NBS



Discover inspiring projects and choose your NBS

with our
Geocluster4NBS and
pre-selection tool



Diagnose your city's trends

Ecological continuity,
biodiversity, proximity
of inhabitants to a
park, ... analyze your
city and identify the
best place to
implement your NBS
project

Assess a NBS



Assess the impact of your NBS for urban resilience, for the environment and on socio-economic features.
Assessing your NBS project allows you increase your chances of meeting your goals



Diagnose your assessment needs

Find the best methods and tools to evaluate and solve your city's urban challenges



Assess your project

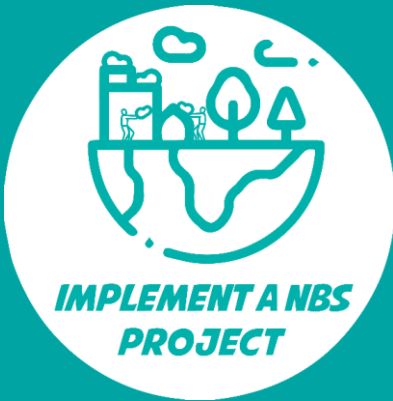
Environmental assessment: Assess the impact of the NBS during all its lifecycle

Urban benefits assessment: Foresee the best place for your NBS by evaluating how it will affect its surroundings

Socio-economic assessment: Estimate the socio-economic benefits, co-benefits and costs of a NBS project



Implement a NBS



Once your project ready to be launched, you still need to build a governance and economic model and to follow your project day by day



Get knowledge and skills to implement your project

with our implementation models handbook

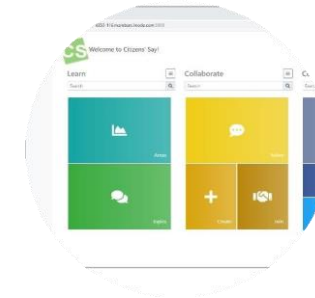
implementation models database

step-by-step guide to build inclusive projects



Find the most suitable Business, governance and financing model

with our Implementation models pre-selector



Involve citizens in your project

With our NBS participation tool

CLOSING THE IMPLEMENTATION GAP

Handbook for the Implementation of NBS

1

Future proof investments?
nature-based solutions and
climate change
Risk-based Asset Management



2

Creating demand for
investments in nature-based
solutions

Governance structures for
collective investments



3

**Creating markets for
implementing nature-
based solutions**

Market sounding +
blueprint for P3



Financing Framework for Water Security

Collaborative modelling protocols to structure bankable propositions

Download handbook



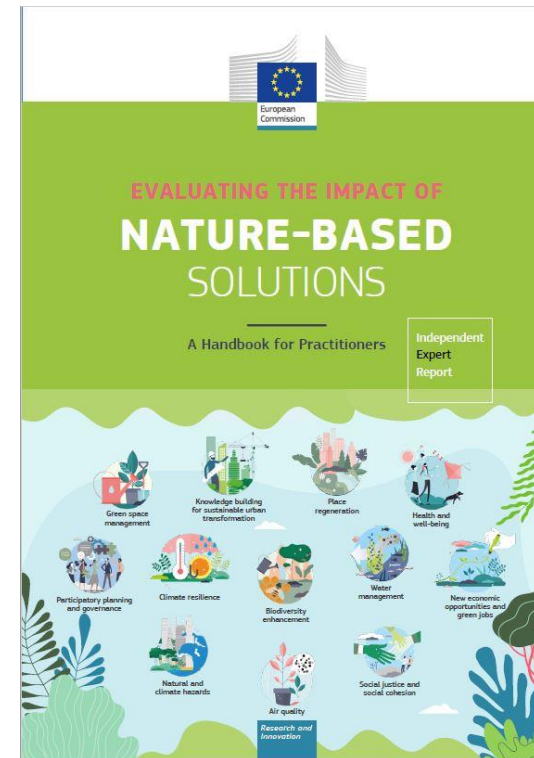
Monitoring & Evaluation of NBS Impacts



- Collaboration between **17 EU-funded projects and related programmes** to develop [*Evaluating the Impact of Nature-based Solutions: A Handbook for Practitioners*](#) & [*Appendix of Methods*](#), + [*Summary for Policymakers*](#)

The [Handbook](#) serves as a **guide to development and implementation** of scientifically-valid **monitoring and evaluation plans** for the evaluation of NbS impacts

The [Appendix of Methods](#) provides a **brief description of each method**, along with guidance about the appropriateness, advantages and drawbacks of each in different contexts



Framework of common indicators and methods for assessing the performance and impact of diverse types of NbS:

- **A reference for relevant EU policies and activities**
- **Orients practitioners in developing robust impact evaluation frameworks for NbS at different scales**
- Comprehensive set of indicators and methodologies
- Key points highlighted in *Summary for Policymakers*

1. **Climate resilience: 5 + 31**
2. Water management
3. **Natural and climate hazards**
4. Green space management
5. **Biodiversity enhancement**
6. Air quality
7. Place regeneration
8. Knowledge and social capacity building for sustainable transformation
9. Participatory planning and governance
10. Social justice and social cohesion
11. Health and well-being
12. New economic opportunities and green jobs

Natural and climate hazards indicators

Table 4-3. Indicators related to Natural and Climate Hazards classified as structural (S), process focused (P) or outcome-based (O) indicators and their general applicability to different types of NBS

No.	Indicator	Units	Class	Applicability to NBS [†]		
				Type 1	Type 2	Type 3
RECOMMENDED						
5.1	Disaster Resilience	unitless	S	●	●	●
5.2	Disaster-risk informed development	unitless	S	●		
5.3	Mean annual direct and indirect losses due to natural and climate hazards	€	O	●	●	●
5.4	Risk to critical urban infrastructure	%	O	●	●	●
5.5	Number of people adversely affected by natural disasters each year	unitless	O	●	●	●
5.6	Multi-hazard early warning	unitless	S	●		

- Global policy (5.1, 5.2): These integrated indicators correspond to the way risk perception/culture is affected by the measure.
- Vulnerability (5.3, 5.4, 5.5)
- Hazard and threat (5.6)



NbS Hubs in EU Member States



WHY

- Create **long-lasting structures** for NBS uptake and mainstreaming;
- **Foster capacity building and knowledge exchange**, based on specific opportunities and challenges in hub regions
- **Build relationships** between national/regional/local partners; and **new partnerships for action**
- Create **nuanced understanding of benefits and risks** of NbS across climatic, geographic, ecological, political and economic contexts.

WHAT

NetworkNature will launch 6 NBS hubs until mid-2023

Two types of Nature-based Solutions hubs:

- 1) **European Regional Hub** - consisting of networks and actors in a geographic region from multiple Member States with similar planning or landscape contexts
- 2) **Member State Hub** - consisting of networks and actors from multiple regions within a Member State. A Member State Hub could develop into or be a participant in a European Regional Hub.



NbS Hubs in EU Member States

NetworkNature offers:

- Individualised support, tailored to the needs of each hub
- One-on-one support to set up and launch a hub
- Advice on communication and outreach campaigns
- Promotion of Hub's NBS activities, policy developments, achievement across Europe and internationally
- Networking and connection with an extensive network of experts from different disciplines and sectors
- Custom profile on the NetworkNature web platform

Hubs commit to:

- Organising and hosting a 'launch' event
- Fostering multi-level, vertical, collaboration between cities, regions, and national governments
- Providing peer-to-peer learning opportunities
- Sharing insights, reports, case studies, guidance and other documents on NbS with NetworkNature
- Involving the general public in NbS actions
- Participate in NetworkNature events



NbS Hubs in EU Member States

How to set up a hub?

Contact Anna Bruen, anna.bruen@iclei.org for an initial conversation

OR

Fill out and submit the [Expression of interest form](#)

- [Networknature.eu](https://networknature.eu)
- ✉ hello@networknature.eu
- 🐦 [NetworkNatureEU](https://twitter.com/NetworkNatureEU)
- 🌐 [NetworkNature](https://www.linkedin.com/company/networknature)
- ▶ [NetworkNature](https://www.youtube.com/channel/UC...)



Network Nature

Pooling resources for the nature-based solutions community



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 887396.

The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein.



NBS resources

Nature-Based Solutions Handbook

Good general overview of NBS

Concept; classification; multiple benefits; design; planning and implementation; policy landscape



NATURE-BASED SOLUTIONS HANDBOOK

Edited by
Giorgos Somarakis
Stavros Stagakis
Nektarios Chrysoulakis



This handbook has been developed in the framework of ThinkNature project that has received funding from the European Union's Horizon 2020 research and innovation programme, Call H2020-SC5-2016-2017 Greening the economy, under grant agreement No 730038.

Urban Nature Atlas

1,000 NBS case studies across Europe, search urban NBS categories (i.e. outdoor green, parks or semi-natural green areas, derelict areas), filter for challenges aligned with SDG <https://una.city/>



Select Key Challenges Select Nature-based Solutions Global focus on Climate i

Show projects

Search 🔍

Advanced Filter i

Challenges addressed Nature-based solutions

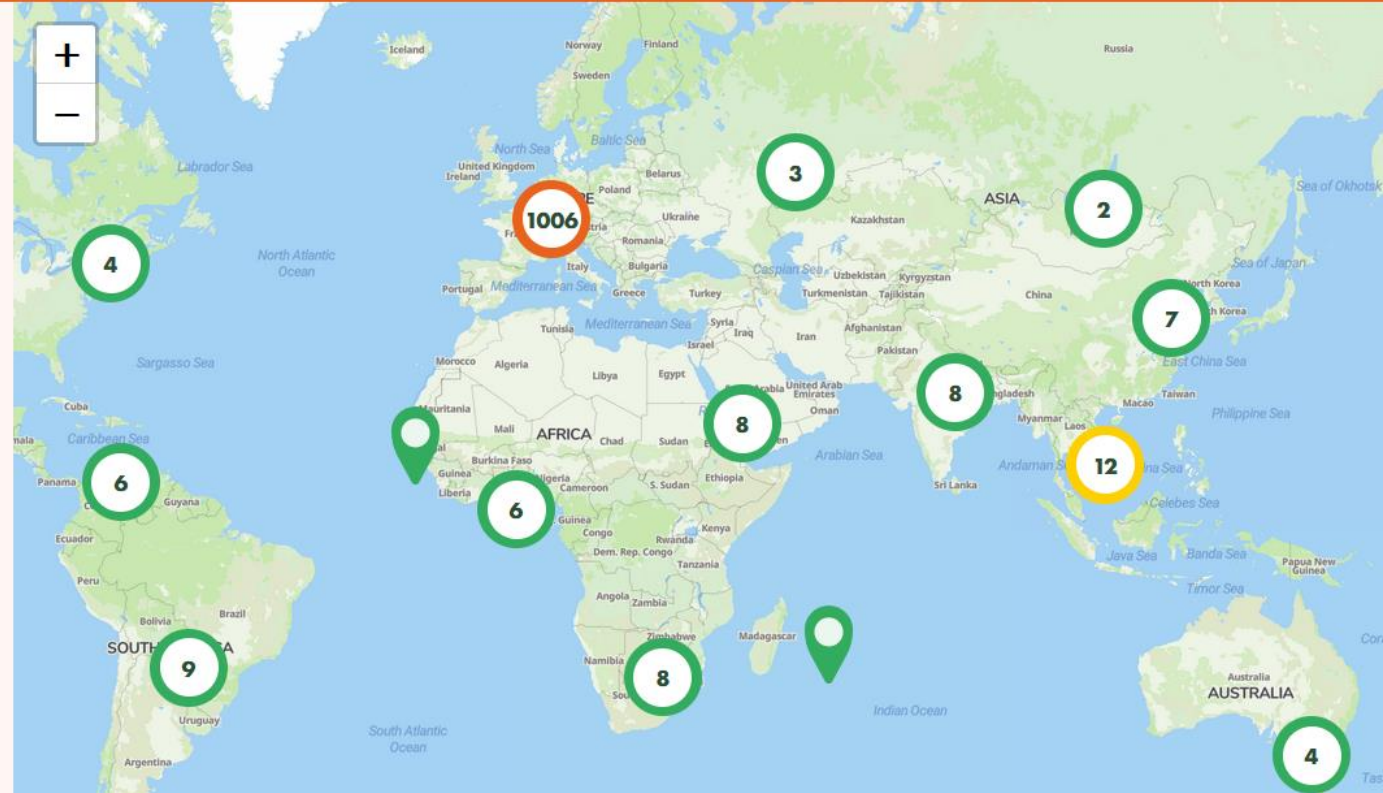
Region Country City Focus

Management set-up Initiating organisation

Project cost Type of financing sources

Social impacts Environmental impacts

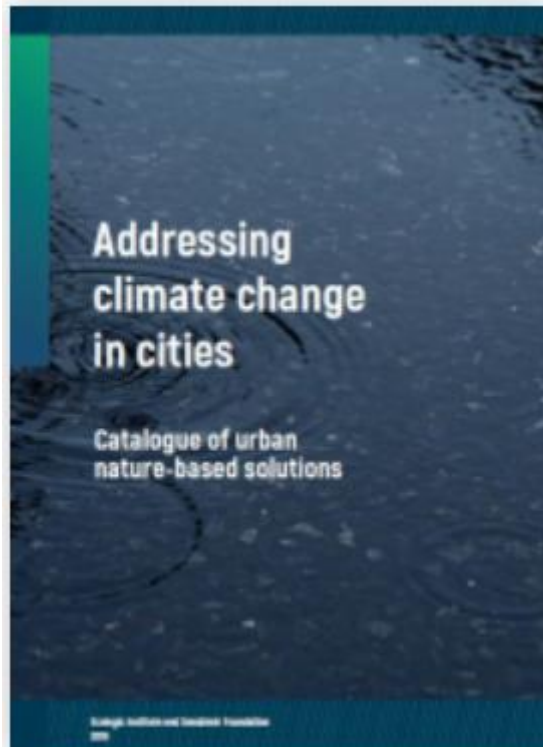
Presence of formal monitoring system



Technical NBS resources

[Technical handbook of NBS \(UnaLab\)](#)

The handbook provides accurate, detailed information on the full range of potentially applicable nature-based solutions (NBS) to support urban climate and water resilience, their anticipated or demonstrated performance and their limitations.



[Catalogue of urban nature-based solutions](#)

Focusing on addressing climate change, this catalogue presents a wide selection of NBS that exemplify high climate mitigation potential and applicability across a range of urban contexts. The publication is written in an accessible manner and can be used to introduce various audiences to the concept, applications and benefits of urban nature-based solutions.





Figure 7. An infiltration trench in East Norriton, United States (left) and Podkowa Leśna, Poland (right).

1.4. Infiltration trenches

Overview

Space requirement

The area of the infiltration trench should allow for infiltration through the trench bottom within 24 hours for medium sized rain; maximum drainage area: less than 5 ha (Dublin, 2019)

Place of application

Near playing fields, recreational areas or public open spaces

Mitigation benefits

Cooling and insulation	
CO ₂ sequestration	
Renewable energy production	
Use of low-carbon materials	✓
Promotion of sustainable behaviors	

Costs (€)

Construction costs depend on the depth, geometry and soil/geology conditions of the infiltration trench; they amount to around 70–90 EUR/m³ stored volume; maintenance costs range approximately between 0.25–4 EUR/m² (surface area)/year (NWRM, 2019)

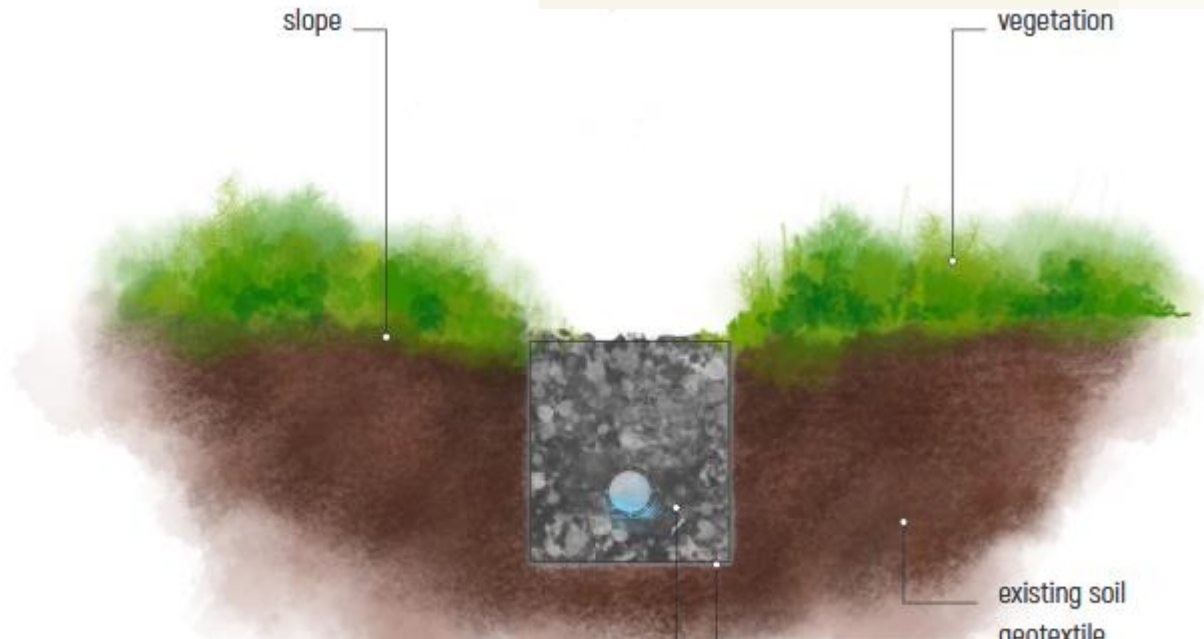
Urban challenges addressed

Air pollution	✓
Heat island effect	
Water scarcity	✓
Rainwater drainage/runoff	✓
Flood resilience	✓
Ecological connectivity	
Urban upgrading	✓
High energy use	

Technical details

In general, an infiltration trench should consist of the following features:

- a topsoil layer of minimum 15 cm with vegetation or gravel (Pennsylvania, 2006);
- a layer of coarse aggregate wrapped in unwoven geotextile (on the top, sides and bottom). The void ratio should be around 40 to 80 mm (NWRM, 2013);
- a continuously perforated pipe underneath, set at a minimum slope (Pennsylvania, 2006);
- a sand filter (or fabric equivalent) at the very bottom (Minnesota, 2015).



Maintenance

It is essential to conduct regular maintenance, including removing litter and debris, inspecting for clogging and trimming any roots that could cause blockages (NWRM, 2013). The catch basin and inlets require inspection and cleaning at least two times per year. In addition, the vegetation

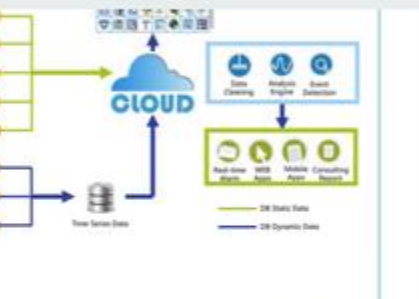
should be kept in good condition and bare spots should be repaired as quickly as possible (Pennsylvania, 2006). For the first few months after construction, the site should be inspected after every big storm to make sure the infiltration trench is stabilised and functioning (Minnesota, 2015).

Potential challenges

Potential challenges	Solutions
Construction limitations: cannot be used near buildings and when contaminated groundwater is present, are ineffective on steep slopes, loose or unstable areas (MW, 2017)	Preparation of geotechnical reports to inform the design and modelling process; during construction, ensure that heavy equipment (including vehicles) does not excessively compact the proposed infiltration area (Minnesota, 2015)



Network
Nature



Clean Water Solution

The management of water allows fact that of crucial importance water, or wastewater, is essential for the city to guarantee all water urban social security ported by the using rights.

SCORE IMPACT



Clean Water Solution



CERAMIC GREEN WALL

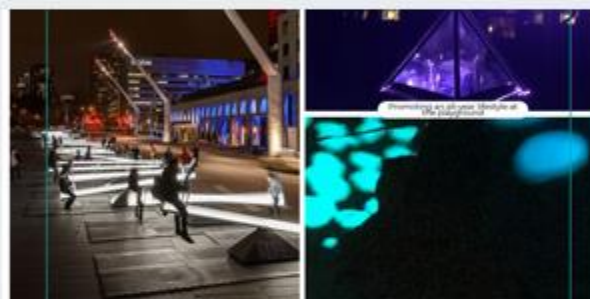
It is a 3D printed ceramic green wall composed by 3D printed ceramic pots that contain soil, plants and a biophotovoltaic system. This system harvests the energy produced by bacteria living near the plants' roots. The system is equipped with automatic irrigation and includes sensors detecting the moisture in the soil, minimizing therefore irrigation. If vegetables are planted in it, it can also be used as a vertical vegetable garden.

The green wall can be specifically designed and adapted to different spaces, local needs and climatic conditions. In this sense, it provides several urban ecosystems services, such as energy production, porous surface enhancement in cities (helping to avoid flooding), air quality enhancement, and ventilation. All in just one solution!

SCORE IMPACT



Ceramic Green Wall



LIGHT MANAGEMENT / ADAPTIVE LIGHTING

Ensuring traffic safety for all traffic participants in the dark/diminish hours depending on the geometry of the street/walkway/cycle, the reflection properties of the surfaces and the traffic participants' traffic conditions. Support of public safety and crime prevention. Better street lighting is an effective crime prevention measure that can reduce crime by about 20% by preventing criminal offenses and to reduce the fear of physical attacks. Increase of attractiveness of the public spaces and of the quality of life. This requirement refers to the particular appearance and effect of public areas at night and as a show (scenaria).

SCORE IMPACT



Light Management / Adaptive Lighting



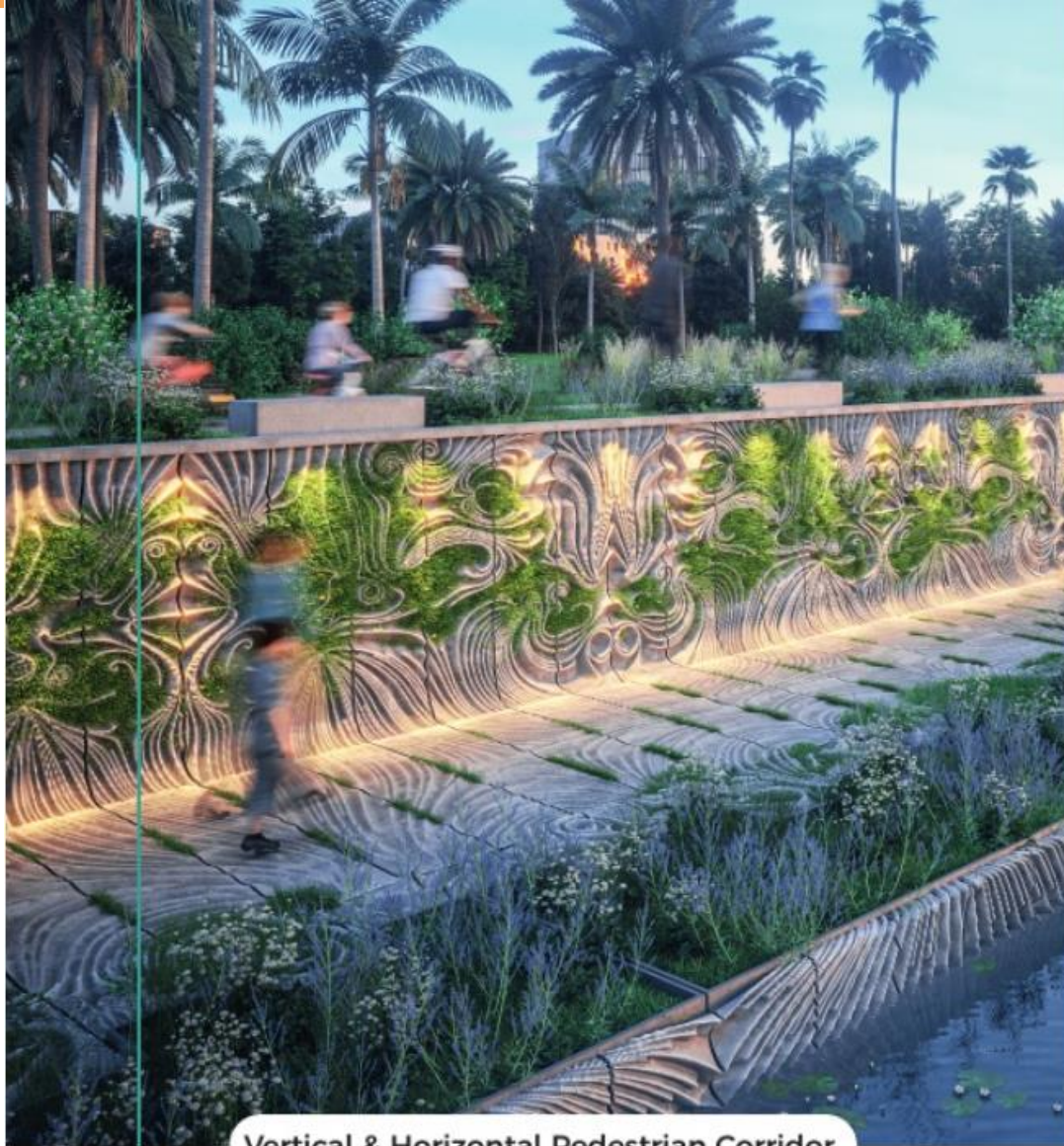
WOOD STRUCTURE

The wood structure is a multi-use modular pavilion prepared to support several activities on public space, as elderly markets, illuminated storage rooms, winter gardens or just a place to hangout on a specific place. From simple spatial ideas and the production of a low-tech constructive module, this rhythmic porticoed construction is adaptable to the wills of the local community and the actual contextual features, building flexible and illuminated constructions that can help densely low defined vacant public spaces.

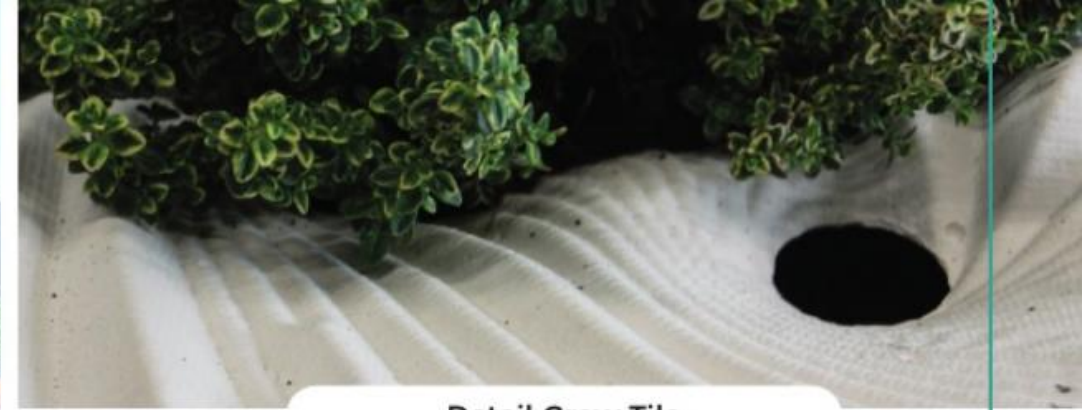
SCORE IMPACT



Wood Structure



Vertical & Horizontal Pedestrian Corridor



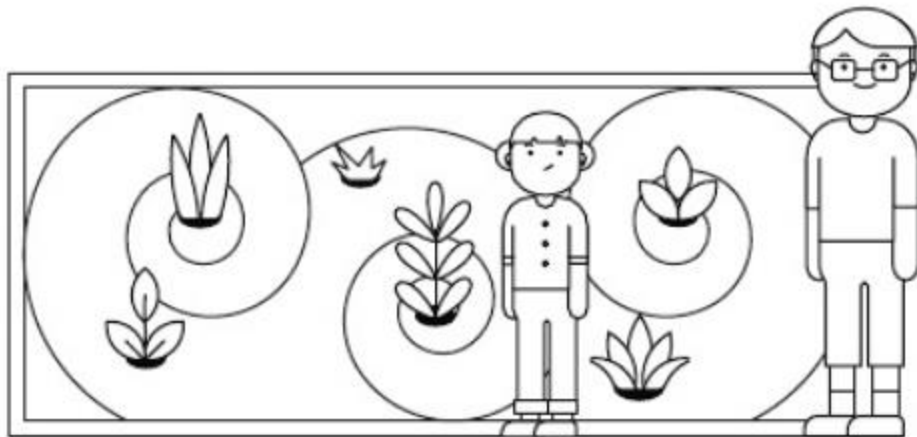
Detail Grow Tile



Detail 2: Grow Tile

GROW TILE

The GrowTile can be customized and implemented on horizontal or vertical surfaces. It aims at creating optimal environmental conditions for plants to live in urban environment, thanks to its design, minimizing maintenance operations.



SCORE IMPACT



TECHNOLOGICAL SOLUTIONS

DEVELOPER: IAAC

Resources for NBS financing

NBS Business Model Canvas

The Nature-Based Solutions Business Model Canvas is an easy-to-use tool to help you develop and capture in a visual format the business model of your NBS (planning, capital investment, operation)

Key Activities	Key Resources	Value proposition	Key Partners	Beneficiaries
			Governance	
Cost Structure		Cost Reduction	Capturing Value	

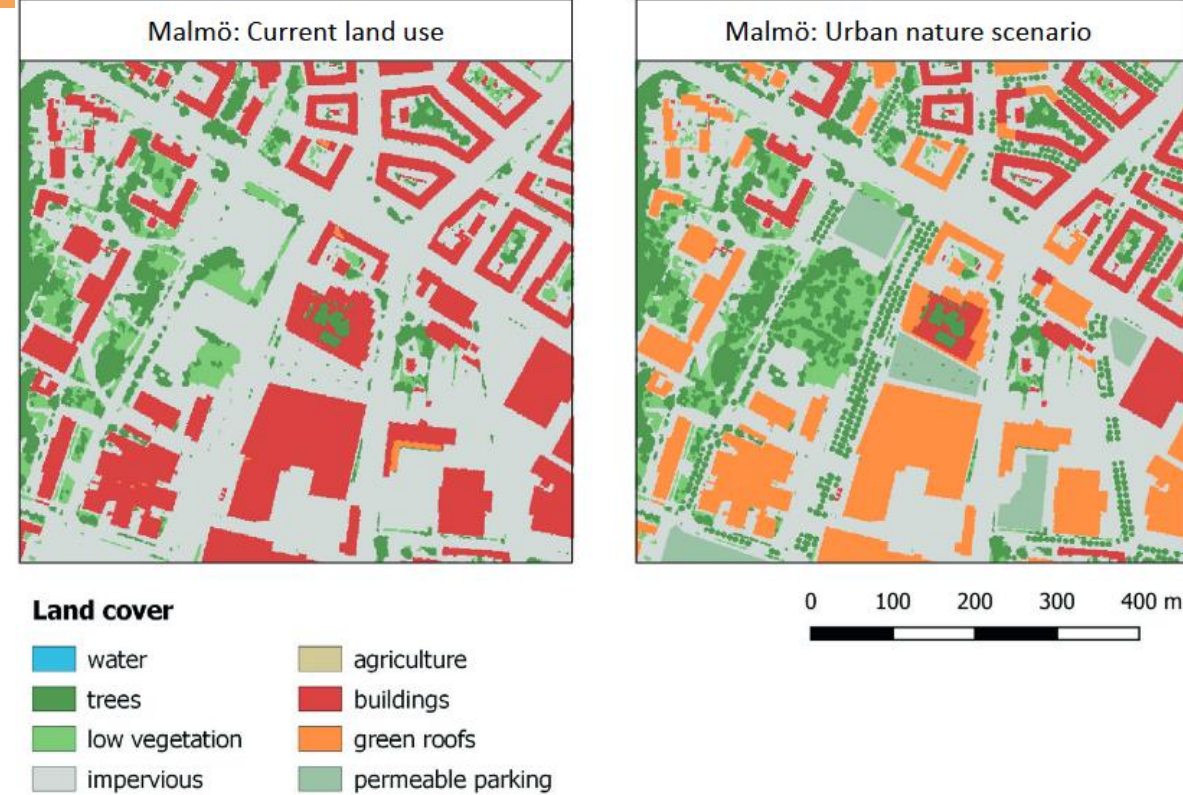
Nature-Based
Solutions
Business Model
Canvas
Guidebook



Open Access digital maps

Assess benefits of NBS

- **Quantify benefits** of NBS for 1) heat mitigation, ii) carbon storage, and to iii) water run-off retention, plus
- **Two different scales:**
 - i) a European-scale assessment, including 775 major European urban core areas and associated hinterlands (i.e. Functional Urban Areas, FUA), and ii) a more fine-grained city-scale assessment for three selected cities (Malmö, Barcelona and Utrecht)
- **6 scenarios for different NBS**, such as green roofs, parks, street trees, permeable parking areas



Read the [brief](#) for more information and check out the [Urban Nature Navigator](#) - a tool that helps you to assess the contributions that different nature-based solutions can make to meeting urban sustainability challenges and to identify the nature-based solutions which fit your needs the best.

[Naturvation-navigator.com](https://naturvation-navigator.com)
<https://networknature.eu/naturvation>



Resources for NBS financing

Business Model Puzzle for urban NBS – a dialogue tool

The NATURVATION puzzle is a dialogue tool for understanding what values can drive the realization of an urban nature-based solution, and which stakeholders may be willing to pay for this value. It presents eight different business models for urban NBS which explain which value propositions can drive funding of NBS: The **Business Model Puzzle material** is suitable for one group of about 4-5 people;



Local stewardship model
Roadside tree concept, Leipzig
Square meter for butterflies, Edinburgh



Green education model
School gardens, Győr
Belvedere College Urban Farm, Dublin



Risk reduction
Isar plan, Munich
Atlantis Water Fund Pilot, Cape Town

Play the puzzle in three steps:

1. Choose a type of nature-based solution or a specific case



2. Identify the value it creates, for whom ('puzzle')

NBS types/cases

Who values what?	Economic benefits	Environmental benefits	Social benefits	Cultural benefits
Public spaces (streets/parks, local or national, delivered by national government)				
Private urban environments (and urban agriculture and working farms, providing green benefits to industry)				
Local authorities' responsibility (public or non-profit)				
Citizens & local communities				

3. Mix and match nature-based solution business models



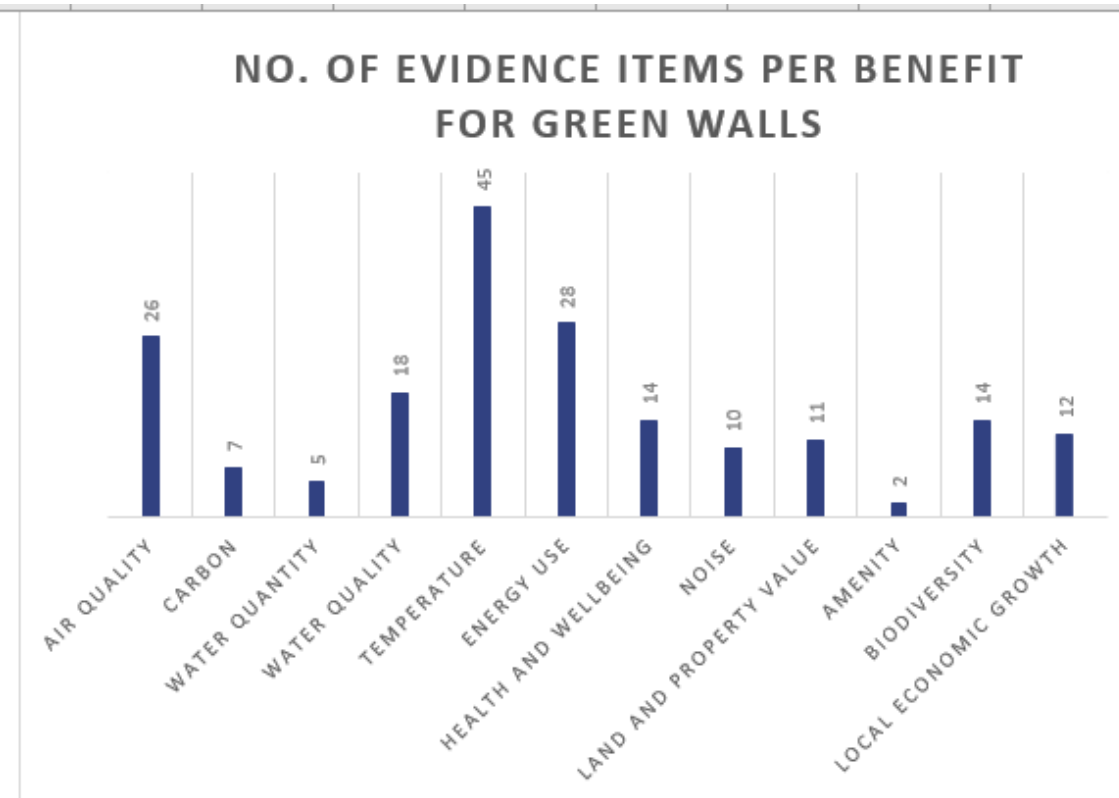
NBS impact assessment (1)



NBS evidence base

Developed by the IGNITION project, central evidence repository covering multiple benefits of: green roofs, green walls, sustainable drainage systems, green spaces and street trees

Benefit	No. of evidence items	Evidence item %	No. of evidence sources
<u>Air quality</u>	26	14%	16
<u>Carbon</u>	7	4%	3
<u>Water quantity</u>	5	3%	2
<u>Water quality</u>	18	9%	4
<u>Temperature</u>	45	23%	20
<u>Energy use</u>	28	15%	18
<u>Health and wellbeing</u>	14	7%	12
<u>Noise</u>	10	5%	8
<u>Land and property value</u>	11	6%	9
<u>Amenity</u>	2	1%	2
<u>Biodiversity</u>	14	7%	9
<u>Local economic growth</u>	12	6%	8
Total	192		111



Resources for NBS financing

NBS Business Model Canvas

The Nature-Based Solutions Business Model Canvas is an easy-to-use tool to help you develop and capture in a visual format the business model of your NBS (planning, capital investment, operation)

Key Activities	Key Resources	Value proposition	Key Partners	Beneficiaries
			Governance	
Cost Structure		Cost Reduction	Capturing Value	

Nature-Based
Solutions
Business Model
Canvas
Guidebook



Resources for NBS financing

Business Model Puzzle for urban NBS – a dialogue tool

The NATURVATION puzzle is a dialogue tool for understanding what values can drive the realization of an urban nature-based solution, and which stakeholders may be willing to pay for this value. It presents eight different business models for urban NBS which explain which value propositions can drive funding of NBS: The **Business Model Puzzle material** is suitable for one group of about 4-5 people;



Local stewardship model
Roadside tree concept, Leipzig
Square meter for butterflies, Edinburgh



Green education model
School gardens, Győr
Belvedere College Urban Farm, Dublin



Risk reduction
Isar plan, Munich
Atlantis Water Fund Pilot, Cape Town

Play the puzzle in three steps:

1. Choose a type of nature-based solution or a specific case



2. Identify the value it creates, for whom ('puzzle')

NBS types/cases

Who values what?	Economic benefits	Environmental benefits	Social benefits	Cultural benefits
Public spaces (streets/parks, local or national, delivered by national government)				
Private urban environments (and urban development initiatives, including green buildings & activity)				
Local authorities' responsibility (public & residential services)				
Citizens & local communities				

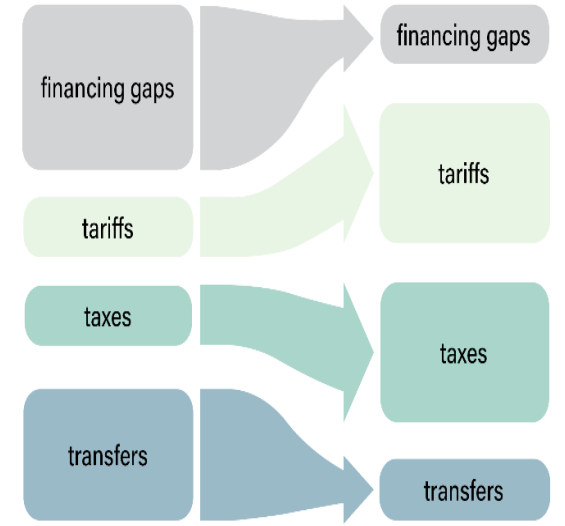
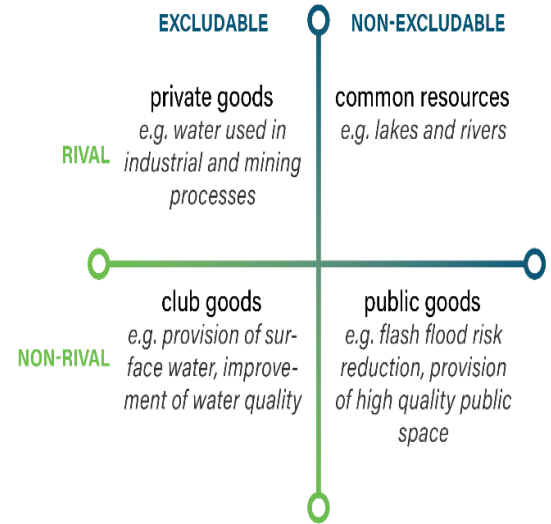
3. Mix and match nature-based solution business models



Financing Framework Building Blocks

1. Mode of governance
2. Funding Strategy
3. Financing Strategy
4. Procurement Strategy

Type of economic good > Modes of governance



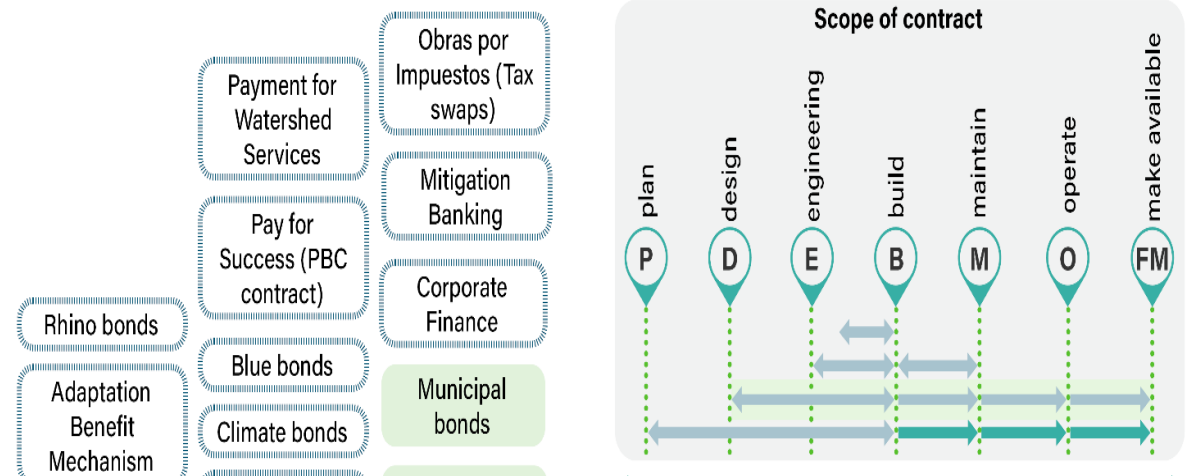
3. Develop Financing Strategy

4. Develop Procurement Strategy

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NAIAD project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 730497.



Typology of NBS implementation arrangements

Public project procurement

Public commissioner develops a project and tender it in the market through traditional or PPP/ Performance-based contracts

Water stewardship

Private company invest and commissions a 3rd party to implement watershed conservation measures to reduce their water risks

Collective investment schemes

Entity that pool resources from different beneficiaries and invest them in a variety of NbS and hybrid measures

Environmental markets

An ecosystem service itself is marketed and sold as a commodity to a beneficiary (usually an institution rather than individual) in the context of a dedicated market, usually subject to oversight by a regulatory body

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Source: Handbook for the Implementation of Nature-based Solutions for Water Security (Altamirano et. Al 2021)

More resources on NBS

[NBS types and typologies \(from NBS H2020 projects and beyond\):](#)

[Catalogue of Nature-based solutions for urban regeneration](#)

[The UNaLab Technical Handbook of Nature-Based Solutions](#)

[The URBAN GreenUP Nature-Based Solutions \(NBS\) Catalogue](#)

[ThinkNature's Nature-Based Solutions Handbook](#)

[Online URBiNAT NBS Catalogue](#)

[Compendium of nature-based and 'grey' solutions, GrowGreen](#)

[Nature-based solutions for local climate adaptation in the Basque Country - Klimatek Project](#)

[Nature4Cities NBS multi-scalar and multi-thematic typology and associated database](#)

[Addressing Climate Change in Cities – Catalogue of urban nature-based solutions, Ecologic Institute](#)