



Ecologic Institute

Science and Policy
for a Sustainable World

Nature-based solutions in European policy: A framework for enhancing local action

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Ecologic Institute

ERRIN Blue Economy WG Meeting – 5 October 2023



Nature-based solutions (NbS)

“Solutions to societal challenges that **are inspired and supported by** nature...

...cost effective, **simultaneously provide** environmental, social and economic benefits and help build **resilience**...

...bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through **locally adapted, resource-efficient and systemic** interventions.

...must **benefit biodiversity** and support the delivery of a range of ecosystem services.”

- **European Commission (2015)**

“Actions to **protect, conserve, restore, sustainably use and manage** natural or modified terrestrial, freshwater, coastal and marine ecosystems...

...address social, economic and environmental challenges effectively and adaptively

...**simultaneously providing** human well being, ecosystem services and **resilience** and **biodiversity** benefits.”

- **UNEA resolution (2022)**

Related concepts. Distinct histories.

Ecosystem-based adaptation

Green & blue infrastructure

Nature-based infrastructure

Ecosystem-based approaches

Ecological engineering

Natural water retention measures

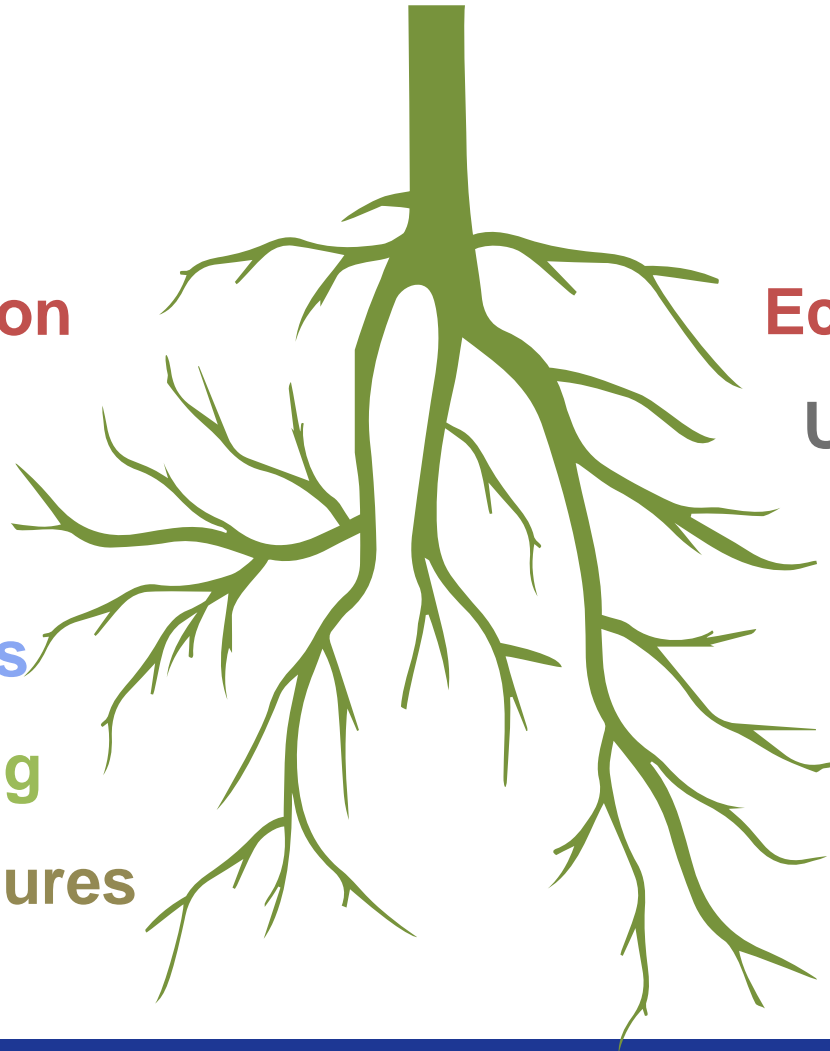
Ecosystem-based mitigation

Urban green

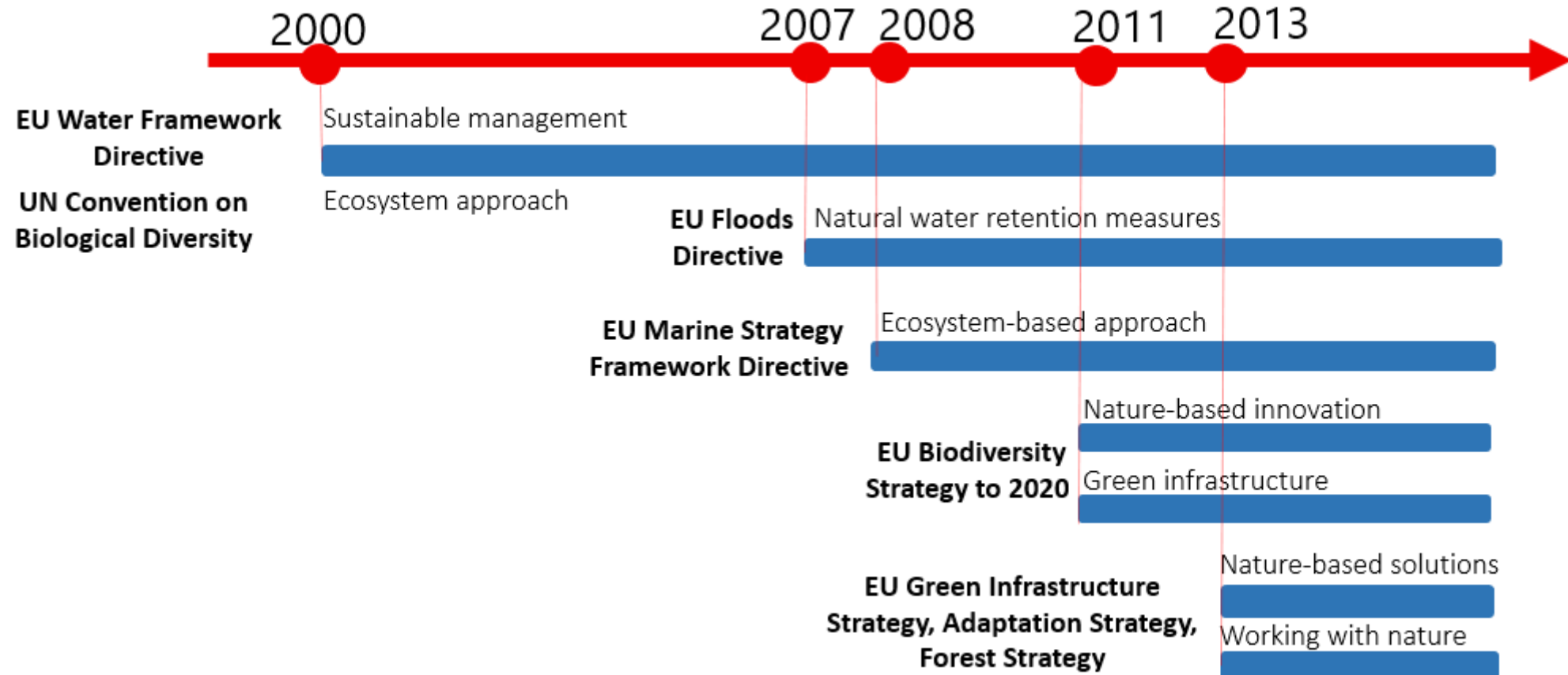
Ecosystem-based
disaster risk reduction

Sustainable management

Working with nature



Emergence in EU policy



Multifunctionality



Green space management



Knowledge building for sustainable urban transformation



Place regeneration



Health and well-being



Participatory planning and governance



Climate resilience



Biodiversity enhancement



Water management



New economic opportunities and green jobs



Natural and climate hazards



Air quality



Social justice and social cohesion

European Commission, DG RTD. 2021. *Evaluating the impact of nature-based solutions: a handbook for practitioners*,

NbS for water management



Select resources: NbS for urban (waste)water management



ABOUT THE ATLAS

Welcome to the Urban Nature Atlas! It contains almost 1000 examples of Nature-Based Solutions from across 100 European cities.

Use the **Quick Search by icon** (to the right of the map) or the **Advanced Search** (below the map) to identify the projects fitting your interests.

The map will be updated to display the results of your search, and a list of all relevant projects is displayed below. Click on the title of projects for further information.



QUICK SEARCH BY ICON

KEY CHALLENGES

- CO2
- Star
- Bank
- Bar chart
- Person
- Leaf
- Heart
- Recycling
- Water
- Handshake
- Water drop

URBAN SETTING

- Lightbulb
- Plant
- People
- Water
- House
- Waves
- Plant

PROJECT COST

- €
- €€
- €€€
- €€€€
- €€€€€
- €€€€€€



<https://niches-project.eu/>










<https://multisource.eu/>



<https://nice-nbs.eu/>

Key EU policies supporting NbS

European Green Deal

						
Biodiversity	Forests	Land use and forestry	Water and Marine	Agriculture	Climate change	Disaster risk reduction
<ul style="list-style-type: none"> · Biodiversity Strategy for 2030 Restoration Law Nature Directives Pollinators Initiative 	Forest Strategy	<ul style="list-style-type: none"> LULUCF Regulation Soil Strategy 	<ul style="list-style-type: none"> · Water Directive · Floods directive Marine Strategy Framework Directive 	<ul style="list-style-type: none"> Common Agricultural Policy Farm to Fork Strategy 	<ul style="list-style-type: none"> Strategy on adaptation to climate change EU Climate Law 	Action Plan on the SFDRR 2015-2030

Urban










Urban Agenda for the EU

Source: adapted from European Environment Agency, 2021 – Report 01/2021

<https://www.eea.europa.eu/publications/nature-based-solutions-in-europe>

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Urban



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EU Biodiversity Strategy for 2030

Urban Greening Plans

EU Restoration Law (proposal)



EU Biodiversity Strategy to 2030



What's new or significant?

- ▶ NbS essential for emission reduction and climate adaptation / disaster risk reduction
- ▶ Ecosystem-based management approaches for conservation of marine resources
- ▶ Green infrastructure for urban cooling and mitigating impacts of natural disasters → Urban Greening Plans under Green City Accord
- ▶ Transformative change across all sectors, requiring NbS promotion
- ▶ Increased investment in natural capital and unlocking of at least EU 20 billion / year for nature (also from EU climate action budget)
- ▶ Creation of EU Restoration Law with binding targets (previously voluntary, focus more on maintenance)

EU Nature Restoration Law (proposal)



- ▶ Focus on large-scale restoration of degraded ecosystems, particularly to capture and store carbon and minimize natural disaster impacts
- ▶ Aims to restore "at least 20% of the EU's land and sea areas by 2030 and all ecosystems in need of restoration by 2050" (Article 1)
- ▶ "Restoration goes hand in hand with protection and maintenance [...] to ensure that the condition of ecosystems does not deteriorate before or after restoration"
- ▶ Calls for measuring and monitoring the binding targets, with evaluations set for 2030 and 2040

Content of the NRL proposal

Area-based restoration targets



Article 4

- Restoration of terrestrial, coastal and freshwater ecosystem



Article 5

- Restoration of marine ecosystems



Article 6

- Restoration of urban ecosystems



Article 7

- Restoration of the natural connectivity of rivers and natural functions of the related floodplains



Article 9(4)

- Restoration of agricultural ecosystems – drained peatlands under agricultural use

Source: IEEP

Content of the NRL proposal

Indicator-based restoration targets



Article 8

- **Restoration of pollinator populations**
 - Reverse the decline of pollinator populations by 2030 and achieve thereafter an increasing trend



Article 9

- **Restoration of agricultural ecosystems**
 - Grassland butterfly index; Stock of organic carbon in cropland mineral soils; Share of agricultural land with high-diversity landscape features until 2030
 - Common farmland bird index



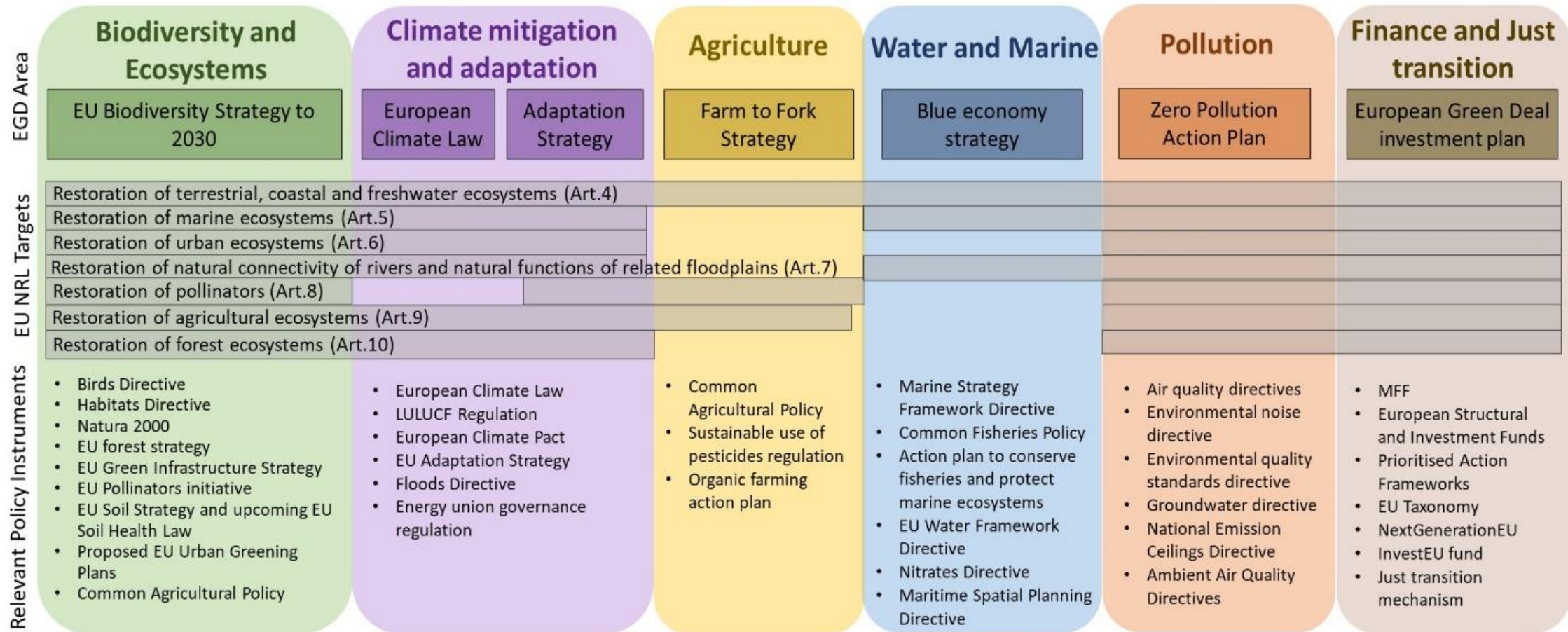
Article 10

- **Restoration of forest ecosystems**
 - Deadwood; share of forests with uneven-aged structure; forest connectivity; common forest bird index; stock of soil organic carbon in forest land

Source: IEEP

CONTENT of the NRL proposal IV

Contribution of the NRL to other EU environmental policies



Abbreviations: **EGD**: EU Green Deal, **NRL**: Nature Restoration Law, **MFF**: Multiannual Financial Framework

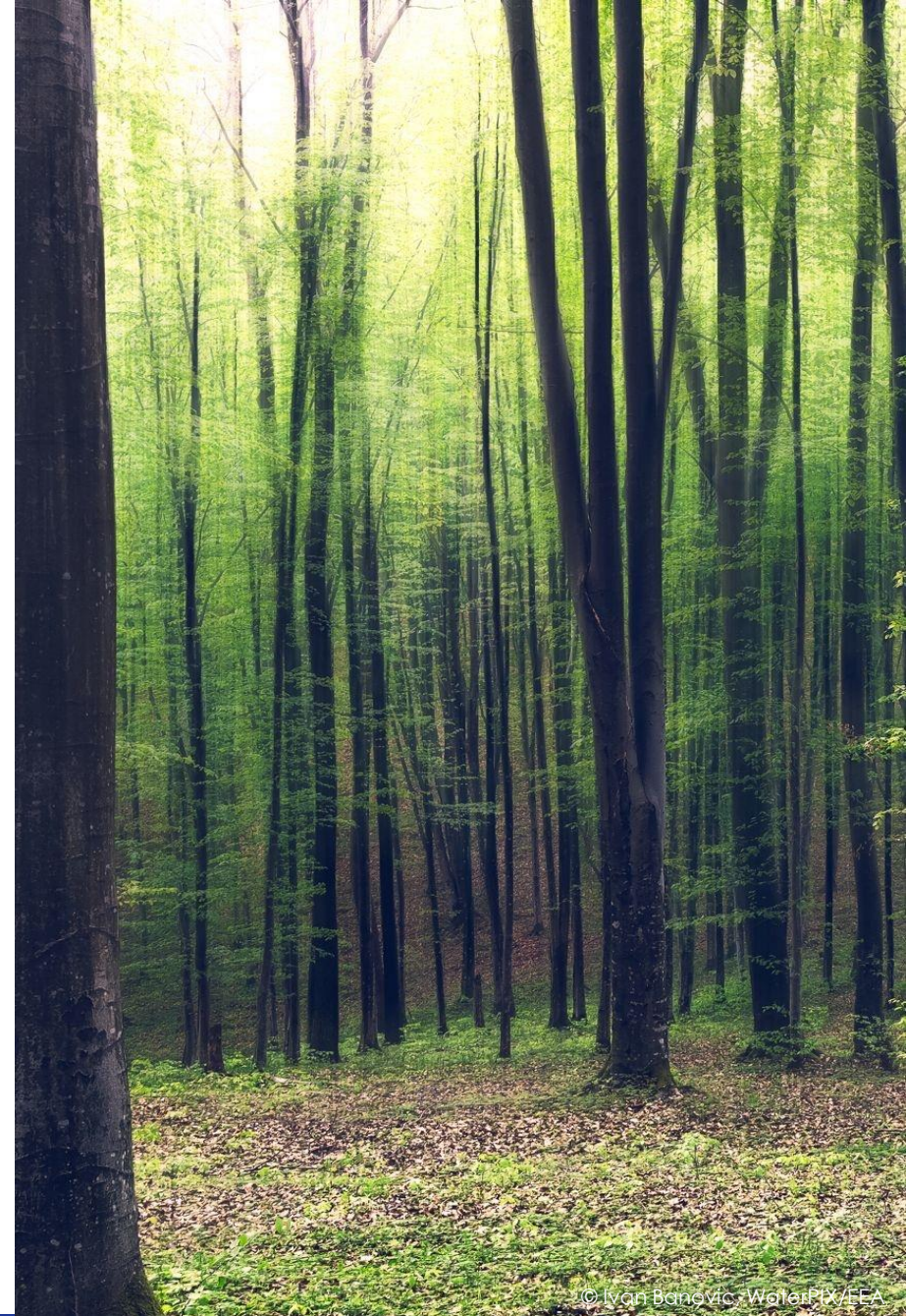
Source: IEEP

EU Forest Strategy for 2030

- ▶ Emphasis on balance between protection, restoration and sustainable management
- ▶ Multifunctionality to protect biodiversity, reduce GHG and support climate neutrality
 - value for society, economy, environment (*'nature-based wellbeing services'*)
- ▶ Closer-to-nature forestry and forest management

Shortcomings?

- ▶ Absence of an EU forest law; Member States to do as they wish
- ▶ Lacking NbS references / support



EU Adaptation Strategy

- ▶ Long-term vision for EU to become a **climate-resilient society**, adapted to the unavoidable impacts of climate change by 2050

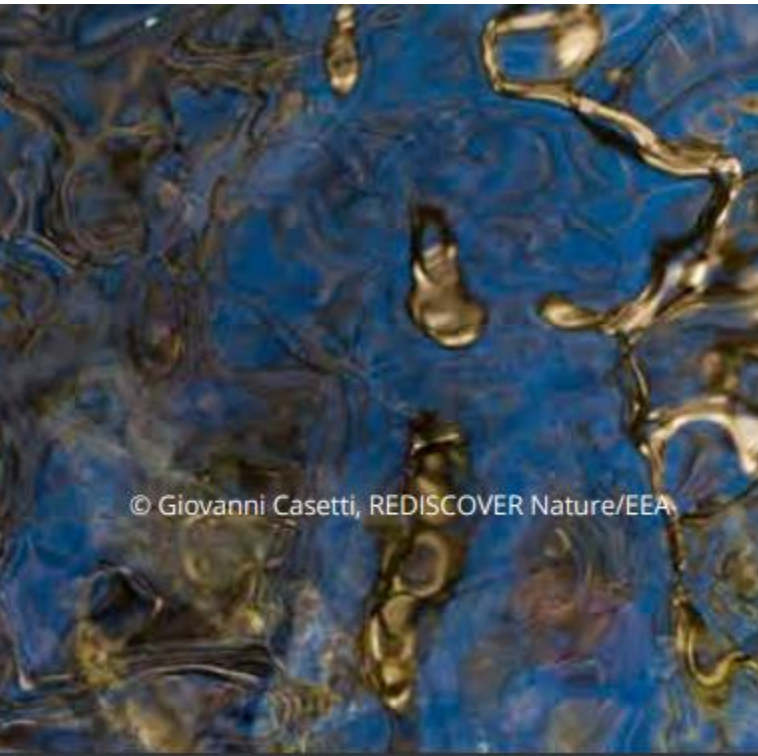
Increased focus on ...

- ▶ **Systemic / integrative and transformative** approach across policy fields and governance levels
- ▶ NbS for adaptation as one of three cross-cutting priorities (including for coastal protection) due to **cost efficiency** and **multiple benefits**
- ▶ Explicitly recognizes GBI & sustainable management / ecosystem-based mgmt
- ▶ Development of adaptation strategies on regional and local level, including the implementation of solutions (moving from *planning* to *action*)



- ▶ Aims to stimulate urban growth, liveability and innovation and tackle social challenges as well as promote cooperation between Member States, cities, the COM, and other stakeholders
- ▶ Focus is on **vulnerability assessments, climate resilience and risk management** (including the social dimension of climate change adaptation strategies)
- ▶ Priority themes include: climate change adaption; sustainable use of land and nature-based solutions
- ▶ Thematic partnership on Greening Cities: types of blue and green infrastructure; benefits of urban GI; integration of GI into other sectoral policies; implementaiton of GI

Floods & Water Framework Directives



© Giovanni Casetti, REDISCOVER Nature/EEA

- **FD:** implicit support for NbS (predating terminology; recognises value of NbS for water retention and mitigating catchment flood risk
 - **BUT limited adoption of NbS/green infrastructure** by authorities in practice (e.g. of relocating dykes, using floodplain forests) for sustainable flood management
- **WFD:** outlines need to protect, enhance, and restore functioning ecosystems and waterbodies to deliver multiple ecosystem services
 - **Sustainable water management** as a main objective
 - **NbS applied** as targeted land protection revegetation, riparian restoration, improved agricultural practices, wetland restoration and creation

Gaps and challenges



KEY BOTTLENECKS

Inadequate implementation

Lack of coherence

Non-binding nature

Lack of quantitative or measurable values

Inadequate allocation of investment

(Kopsiöker et al, 2021)

Opportunities for policy action



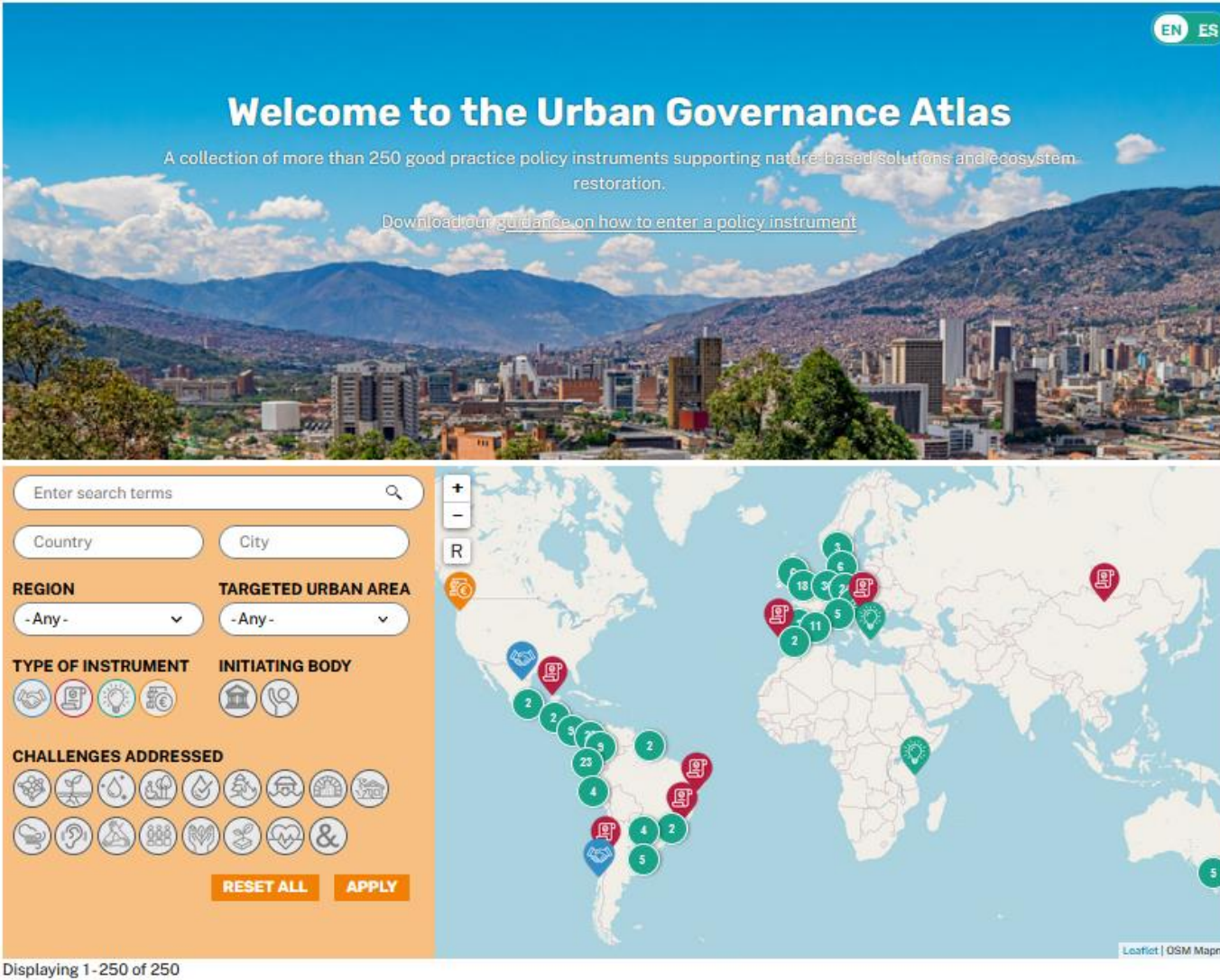
- ▶ Set ambitious and binding targets (as in Nature Restoration Law)
- ▶ Strengthen coherence between existing policies, indicators and objectives and accelerate implementation of key legal commitments
- ▶ Strengthen communication of NbS benefits and highlight synergies with climate and other goals
- ▶ Boost funding and introduce biodiversity-proofing and tracking in investments (e.g. InvestEU)
- ▶ Introduce standards for NbS (design/implementation) and use green public procurement for services
- ▶ Invest in pilot initiatives (e.g. demonstration projects)

From ambition to action

Translating EU policy into local NbS planning

Urban Governance Atlas (UGA)

A collection of more than **250 policy instruments** supporting nature-based solutions and ecosystem restoration



EN ES

Welcome to the Urban Governance Atlas

A collection of more than 250 good practice policy instruments supporting nature-based solutions and ecosystem restoration.

[Download our guidance on how to enter a policy instrument](#)

Enter search terms

Country City

REGION - Any - TARGETED URBAN AREA - Any -

TYPE OF INSTRUMENT INITIATING BODY

CHALLENGES ADDRESSED

RESET ALL APPLY

Displaying 1 - 250 of 250

Aims to:

- Foster **ecologically coherent, inclusive planning** for urban ecosystem restoration and green space planning
- **Inspire global action** through good practice instruments, including lessons learned
- Represent **diverse contexts** (institutional/geographic) – bottom up & top down

In a nutshell...

250
good practice
policy
instruments

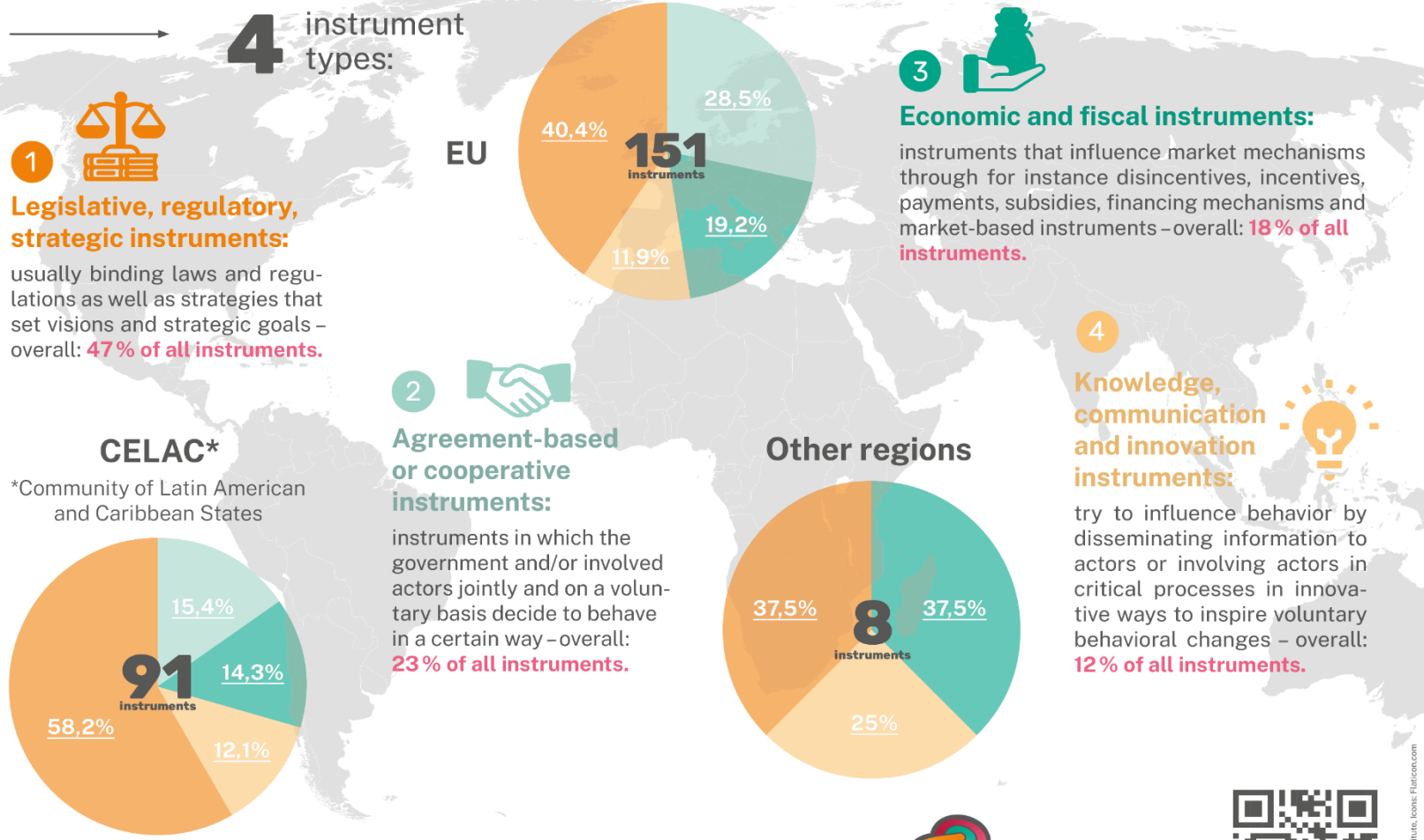
Co-created
by more than
48
organisations

Featuring
examples from
41
countries

Available in
& **English**
Spanish

Urban Governance Atlas

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Find out more about the methodology, findings, and how to contribute a new policy instrument at:

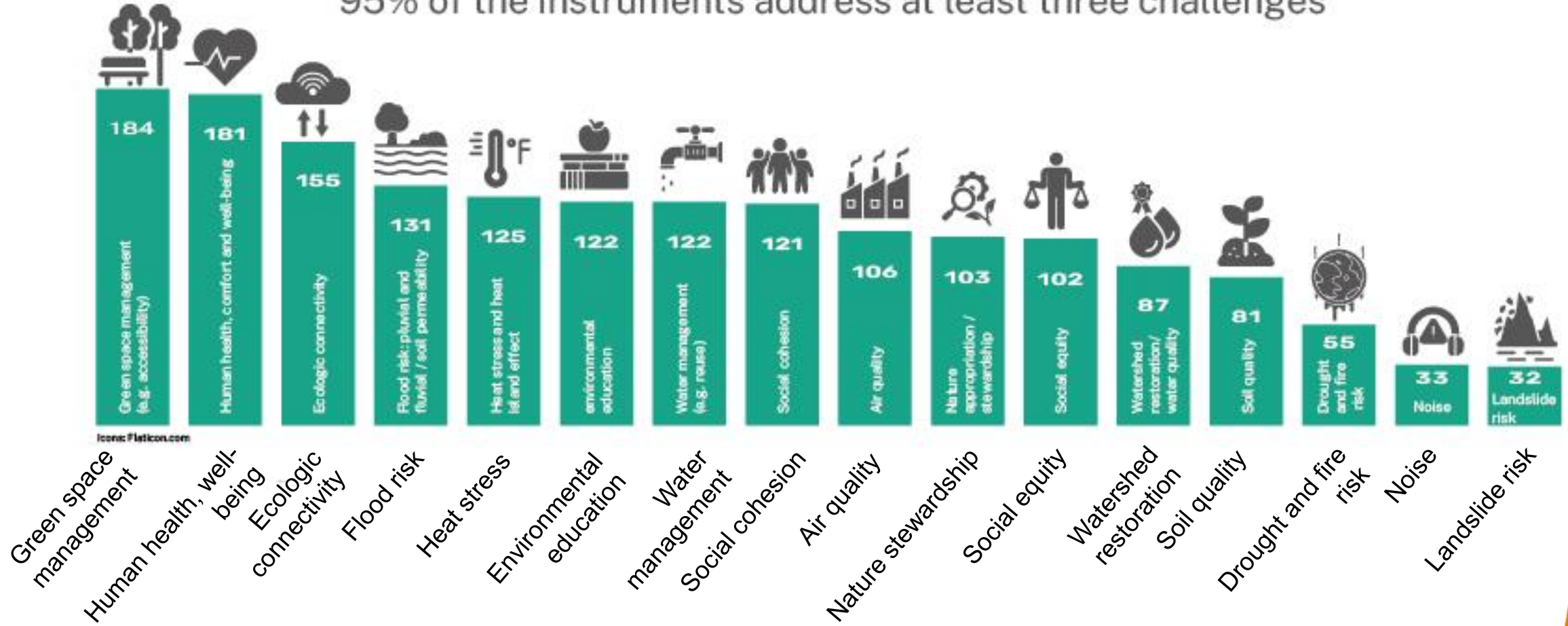
<https://www.interlace-project.eu/>
<https://interlace-hub.com/>



Layout: Ecologic Institute, Icons: Flaticon.com

Challenges addressed

95% of the instruments address at least three challenges



For example...

CHALLENGES ADDRESSED



Legislative, regulatory, and strategic



Blue Deal - Flanders

The Blue Deal is a voluntary action plan of the Flemish government in Belgium to combat water scarcity and drought. The main objective is...

Economic & fiscal



Tax for stormwater and meltwater - Rumia

In response to the growing problem of local floods and an overloaded sewerage system, the municipality of Rumia in Poland introduced a tax...

Agreement-based or cooperative



River Congost River Stewardship Agreement between the Catalan Water Agency and the City Councils of Canovelles, Les Franqueses del Vallès and Granollers.

The River Stewardship Agreement is a regional cooperation agreement that formalizes the collaboration between the Catalan Water Agency and...

Knowledge, communication & innovation



Calculation tool for water storage solutions - Eindhoven

The city of Eindhoven in the Netherlands provides all building projects with a digital calculation tool to calculate the amount of storage...



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Thank you!

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Urban Governance Atlas



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