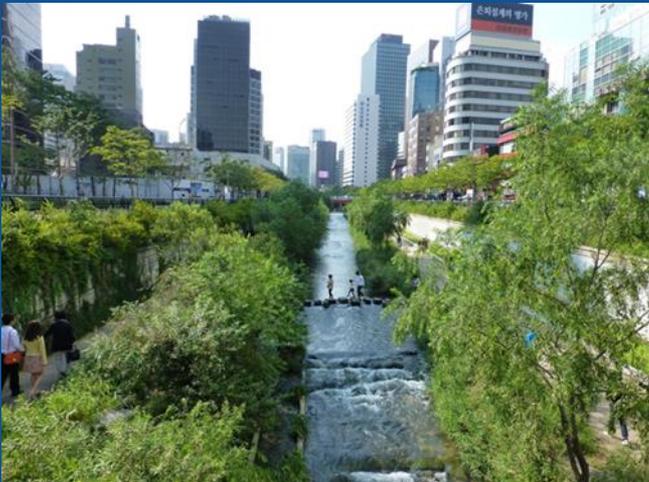




# European Research and Innovation on Nature-Based Solutions and Sustainable Cities

Knowledge Exchange Platform (KEP) Thematic Seminar



*Nurturing nature for  
sustainable cities and regions*

**29 May 2018**

**European Committee of the Regions**

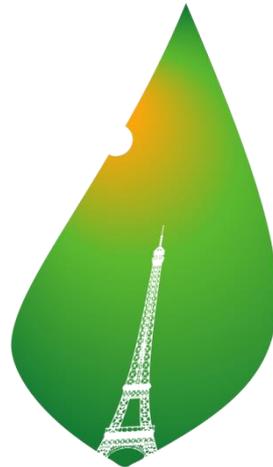
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European Commission



Sendai Framework for Disaster Risk Reduction 2015-2030



PARIS2015  
UN CLIMATE CHANGE CONFERENCE  
COP21·CMP11



# Related EU policies



Horizontally promoted in e.g. **cohesion policy** (2014-2020)

## WATER/RISK

The **Water** Framework Directive (2000) - in revision, Floods Directive (2007); Towards better environmental options and flood management (2009); Policy document on NWRM (2014); EU contribution to Sendai framework for **DRR** (2015)

## CLIMATE/ENERGY

The EU **Adaptation** Strategy - in revision (2013); Accelerating **Clean Energy** Innovation (2016) and an EU strategy on Heating and Cooling (2016)

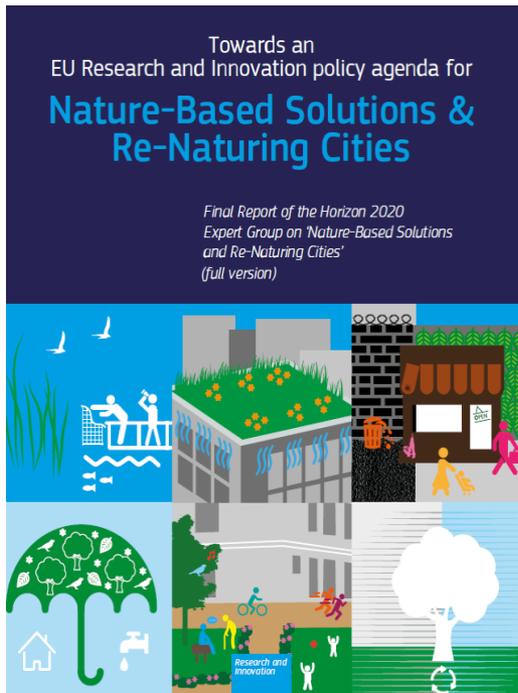
## ENVIRONMENT/NATURE

The **EU Green Infrastructure Strategy** (2013); **Action Plan for People, Nature and the Economy** (2017)

## URBAN

Urban agenda for the EU (eg. EU **Urban partnership** on sustainable land use and NBS; **Urban Innovative Actions** Call 2018)

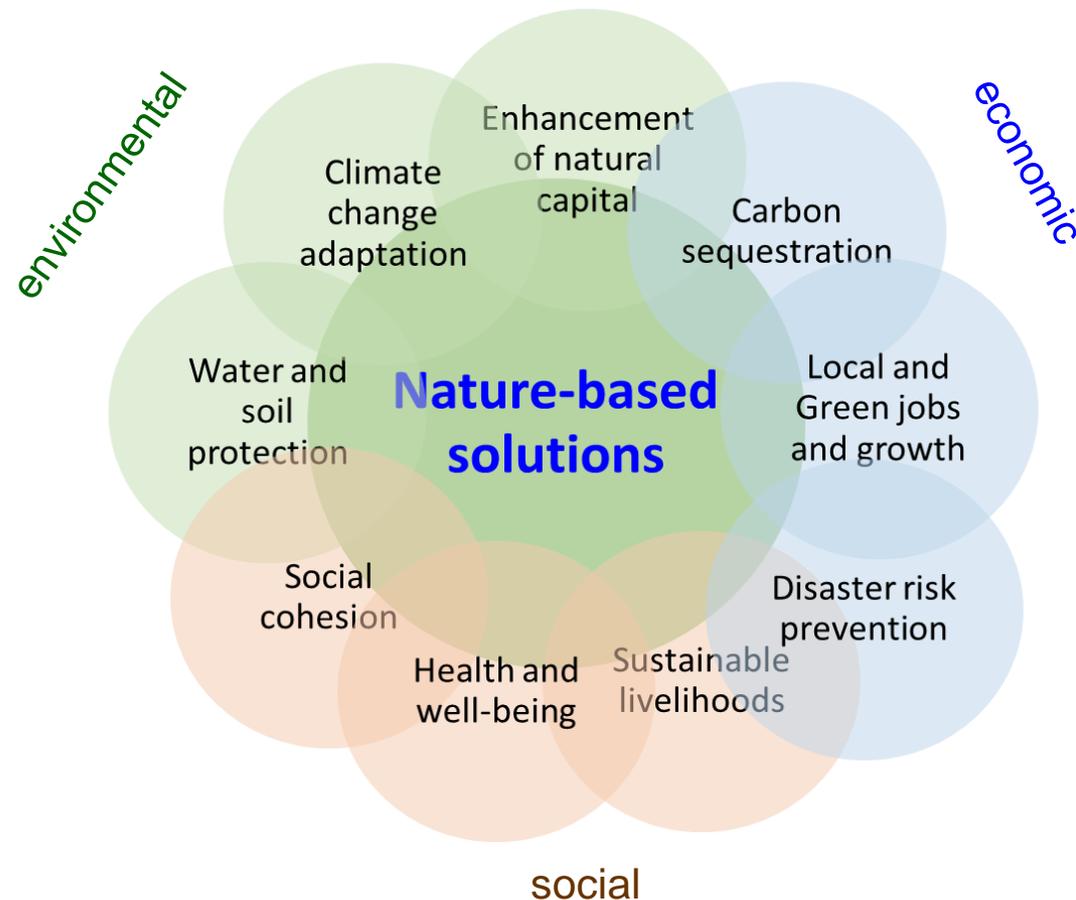
# Nature-based solutions – EC definition



- > Living solutions that are inspired and supported by nature, which are efficient and cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience
- > Solutions that bring more nature and natural features and processes into cities, landscapes and seascapes, through locally adapted and systemic interventions

<https://ec.europa.eu/research/environment/index.cfm?pg=nbs>

How can NBS deliver on wellbeing of the citizen and enhance the quality of the 18% of Natura 2000 areas located in urban areas?



## ***EU R&I policy: Nature-Based Solutions roadmap***

1. Enhance the framework conditions for NBS at EU policy level
2. Develop a European community of innovators through awareness and engagement ([ThinkNature](#)).
3. Provide the evidence and knowledge base for nature-based solutions ([Oppla](#), [EKLIPSE](#)).
4. Advance the development, uptake and upscale of innovative nature-based solutions through systemic innovation and co-design, co-development, co-implementation of solutions and leverage of funding (large demos).
5. Mainstream nature-based solutions within the international R&I agenda.

*Consultation upcoming*



**SCC-02-2016: Demonstrating innovative nature-based solutions in cities (water and climate resilience)**

*To provide a robust, EU-wide evidence base and develop a European reference framework on nature-based solutions: **projects CONNECTING Nature, GROWGREEN, UNALAB, URBAN GreenUP***

**SCC-03–2016: New governance, business, financing models and economic impact assessment tools for sustainable cities with NBS (urban re-naturing)**

*Enable the systemic integration of NBS into a sustainable urban planning, new governance, business, financing models and partnerships: **projects NATURVATION and Nature4Cities***

**SC5-09–2016: Operationalising insurance value of ecosystems**

*Promote the uptake of ecosystem-based approaches for disaster risk reduction and climate change and the exploration of the concept of the insurance value of ecosystems – **project NAIAD***

**SC5-10–2016: Multi-stakeholder dialogue platform to promote innovation with nature to address societal challenges**

*Establish science-policy-business-society interfaces to allow for continuous dialogue and interaction – **project Think Nature***

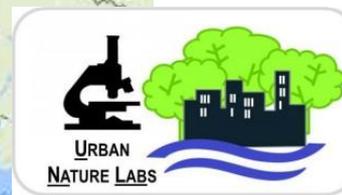
# 38 cities involved in 2017



- **CONNECTING:** Front runner (red), follower (light red)



- **GROWGREEN:** Front runner (green), follower (light green)



- **UNALAB:** Front runner (blue), follower (light blue)



- **URBAN GREEN UP:** Front runner (purple), follower (light purple)

# Research and innovation on business, finance and governance models and Economic Impact Assessment

*4 years projects in urban areas*

- > capture the multiple impacts & values of NBS for decision-making, including in spatial planning*
- > identify promising governance, business/finance and participation models*
- > leverage of investments and synergies between private and public action*

## **NATURVATION**

EU contribution: ~7.8Mill€

Case studies: Barcelona (ES), Győr (HU), Leipzig (DE), Newcastle (UK), Malmo (SE), Utrecht (NL)



## **Nature4Cities**

**EU Contribution:** ~ 7.5Mill€

**Case studies** : Milano (IT), Alcalá de Henares (ES), Ankara (TR) and Szeged (HU)



<https://www.nature4cities.eu/>

# Research and innovation on operationalising insurance value of ecosystems

## NAIAD: NAture Insurance value: Assessment and Demonstration

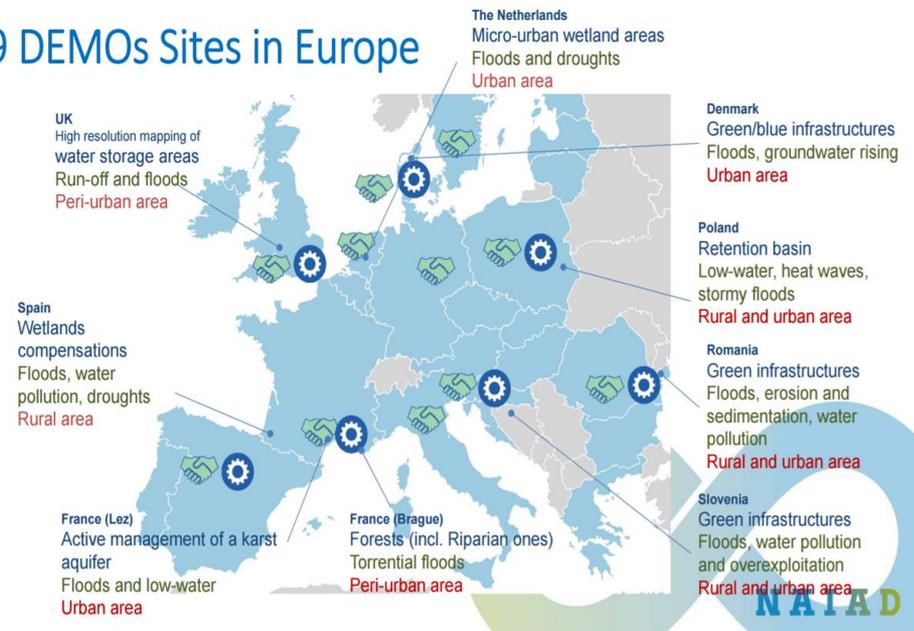
Aims to operationalise “Natural Assurance Schemes” to internalise the insurance value of ecosystem-based approaches for DRR and climate change and test in 9 demo sites

**EU Contribution:** ~ 5 Mill €

**Duration:** 3 years



### 9 DEMOs Sites in Europe





### **3 Large-scale demonstrators on nature-based solutions for hydro-meteorological risk reduction**

*5 years projects in rural and natural areas (mountains and coastal areas; at watershed/landscape scale) implementing NBS for hydro-meteorological risk reduction*

- *Comparing and providing evidence-base of green and blue/grey/hybrid solutions compared to grey solutions;*
- *Project size: at least 12 Mio € EC contribution*

### **4 Large-scale demonstrators on nature-based solutions for urban regeneration**

*5 years projects in cities and peri-urban areas implementing NBS to reduce crime and security costs and enhance health, wellbeing and social cohesion.*

- *Project size: at least 10 Mio € EC contribution*

## R&I Projects work together to jointly

- Establish a **common framework for nature-based solutions**: Taskforce on indicators (evaluation framework based on EKLIPSE IEF), Taskforce on common Knowledge repository and data management
- Develop **new business and governance models** and look into financial mechanisms, building the business case for NBS
- Build a NBS&Innovative cities **community of practice**, including the demo projects cities (38 cities spread across EU and even world wide), with the help of the NBS stakeholder platform THINK NATURE

### *First R&I Outcomes:*

- *Nature urban map and database with 1000 NBS case studies in 100 cities: Challenges addressed, Urban setting, Project cost, Initiating organisation, Management set-up, Type of financing (NaturVation project)*
- *Survey with 61 (re)insurance companies, new insights into the insurance industry role: move from ex-post to ex-ante NBS measures, new insurance products (parametric insurance) (NAIAD project)*



## **1. Innovation for sustainable and resilient cities**

- **Restoration of urban ecosystems and water (R&I)**
- **Well-being and health in cities (IA demos)**
- **Protocols and standards for green roofs/ walls (PCP/PPI tbc)**

## **2. Circular and regenerative cities**

- **Circular and regenerative cities (IA demos)**
- **Multi-stakeholder design platforms and PPPs for sustainable cities (other actions)**

## **3. Climate Action**

- **Carbon neutral cities and air quality (IA demos)**
- **Climate resilience of coastal cities (R&I)**
- **Climate, biodiversity and ecosystems (R&I)**
- **Climate change impacts on health (R&I)**
- **Climate and health (ERA-Net)**

## ***Future perspectives (I)***

- ***Strategic Research and Innovation Agenda*** for cities and communities:
  - *EU: Systemic urban innovation system approach, urban living labs, response to SDGs*
  - *Global Covenant of Mayors: energy-efficient buildings, renewables, e-mobility, adaptation*
  
- ***Horizon Europe***: *Mission oriented research on urban challenges?*
  
- ***Nature-Based Solutions Roadmap***: *Consultation after Summer*

## ***Future perspectives (II)***

- *CoR input and opinion related to Nature-Based Solutions?*
- *Uptake of best practices to the next Knowledge Exchange Platform event: a Peer to Peer Event hosted by a CoR member?*
- *Interest among CoR members for Public Procurement of Innovation or Pre-Commercial Procurement related to Nature-Based Solutions ?*
- *Last but not least ... continuing close cooperation with the CoR*