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

Birgit de Boissezon,
Head of Unit: Sustainable Management of Natural Resources,
DG Research & Innovation
birgit.de-boissezon@ec.europa.eu

All (c) belong to the authors of the used material
Sendai Framework for Disaster Risk Reduction 2015-2030

PARIS 2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11
Related EU policies

WATER/RISK

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

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

Horizontally promoted in e.g. cohesion policy (2014-2020)
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/in dex.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
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 PPPPs 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