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Towards an EU Research and Innovation policy agenda for Nature-Based Solutions & Re-Naturing Cities

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The past: Investigating challenges i.e. soil contamination, floods, air pollution



The present: Delivering solutions to societal challenges



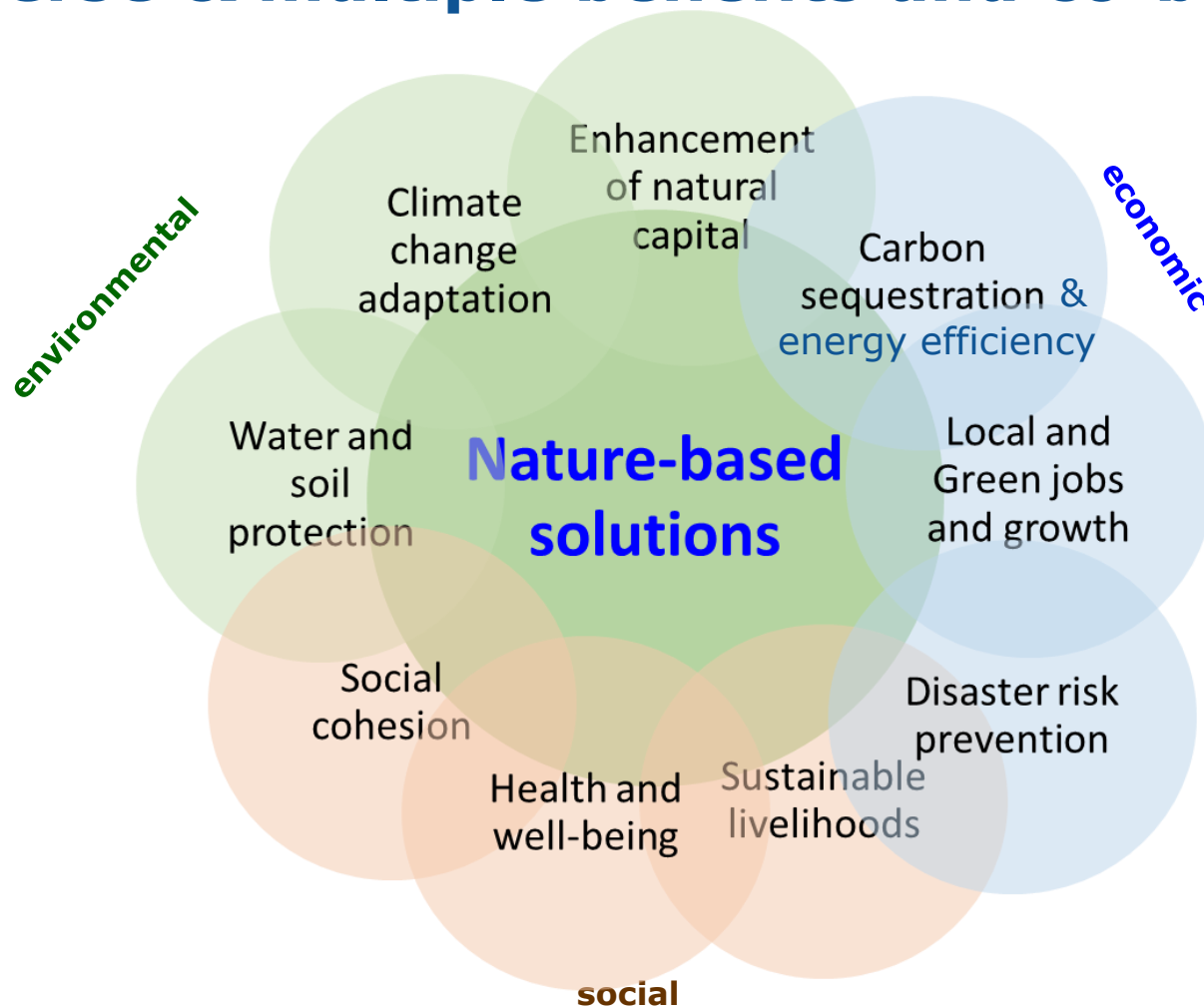
- Promote **Nature-based solutions** (NBS) to societal challenges and to enhance economic, environmental and social **sustainability** and **coherence** through:
 - "Innovating Cities with Nature" / "Re-naturing cities";
 - **Territorial resilience;**

Defining Nature-based solutions

- Solutions **inspired** and **supported by nature** that simultaneously provide environmental, social and economic **benefits** and help build **resilience**
- Solutions that bring **more nature**, natural **features** and **processes** into cities, landscapes and seascapes, through locally adapted, resource-efficient and **systemic interventions**
- A cost-effective response to today's major societal challenges, including climate change and ecosystem degradation



Diverse & multiple benefits and co-benefits





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Ruhr, Arnsberg, Germany

2007:

- **Artificial river banks**
- **Flooding**
- **Insurance damages**



2009:

- **Natural restoration of river banks**
- **No insurance damages**
- **Boosting the whole city**





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Seoul, South Korea 2000:

**Elevated highway (1968)
covering the
Cheonggyecheon creek**



2005:

- **Traffic underground**
- **Creek restored**
- **Prevents flooding**
- **Reduced heat by 5,9 degrees C°**
- **Green mobility**
- **Biodiversity and less pollution**
- **Tourist attraction**

Our main objective...invest in solutions (1/2)



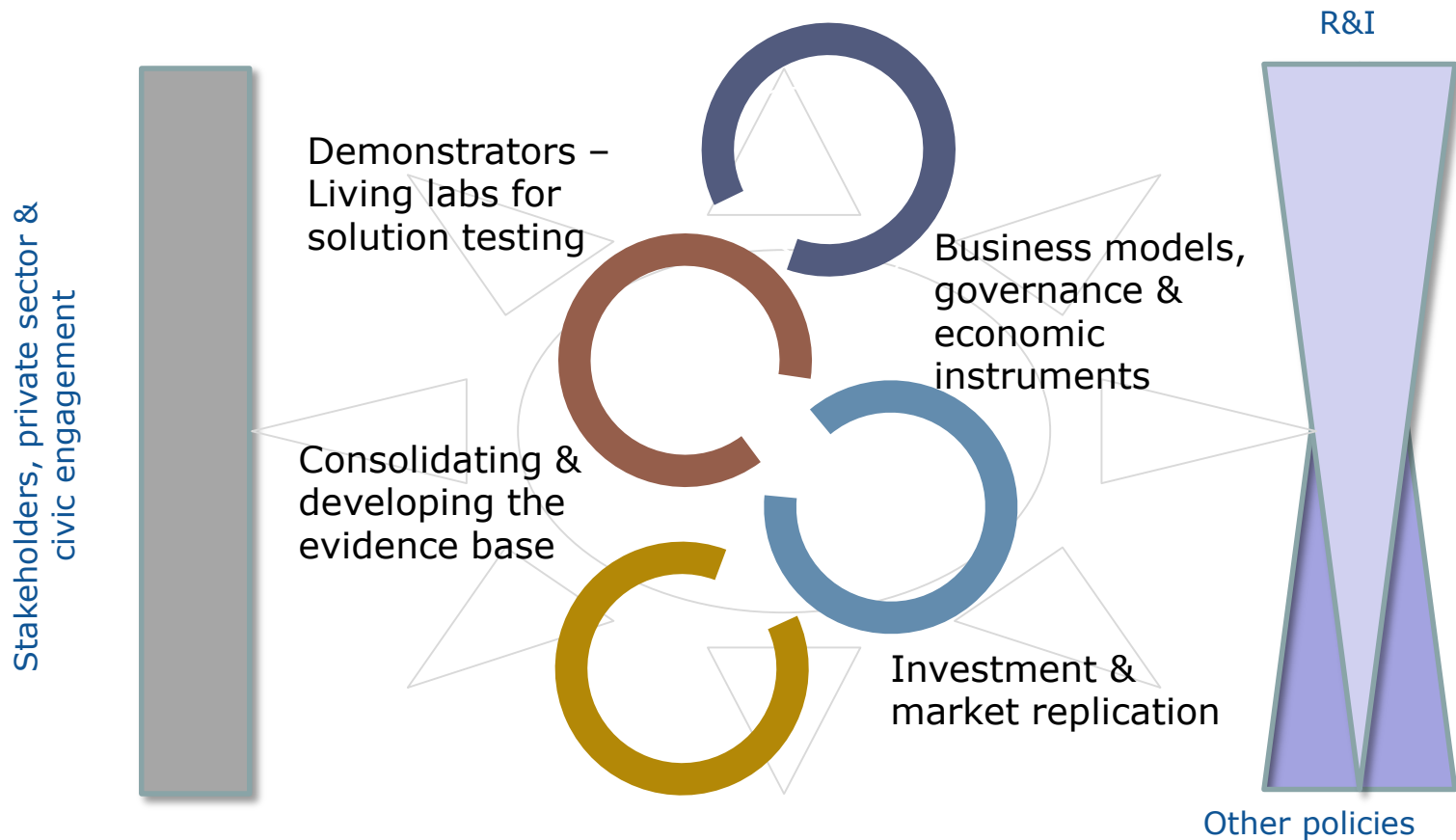
- EU-wide **evidence** about **cost-effectiveness** of NBS and **longer-term** social, economic, cultural and ecological **benefits**
- Promote **innovation** in **solutions** but also, in new **business**, **finance** and **governance** models and **social innovation** for **co-creation processes**
- Contribute to creation of a **global market** for NBS (supporting both supply and demand) and green growth and jobs

Our main objective...invest in solutions (2/2)



- Mobilise and leverage **new investments** (public & private sector)
- **Remove barriers** and **optimise** policy, regulatory and administrative **frameworks**
- Promote **international co-operation**

A systemic approach



H2020: 2016 topics

Cross-cutting call

'Smart and Sustainable Cities with NBS'



- ✓ SCC-02-2016: Demonstrating innovative nature-based solutions for **climate** and **water resilience** in cities (**IA**)
Project size: at least € 10 M;
Deadline: 8 Mar. 2016
- ✓ SCC-03-2016: New **governance**, **business**, financing models and economic impact assessment tools for sustainable cities with nature-based solutions (**RIA**)
Project size: at least 7,5 Mio €
Deadline: 8 Mar. 2016

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

- Large scale multi-stakeholder demonstration projects in cities acting as "**living lab**" and adopting **systemic approaches** (co-design, co-development and co-implementation)
- At least **2 'front-runner'** and **3 'follower' cities** from EU Member States, 'follower' cities also from international partners, notably Brazil and China
- **'Front-runner' cities commit** to invest, develop, demonstrate and document
- **'Follower' cities commit** to plan, during project implementation, similar initiatives in their context

SCC-03-2016: new governance, business, financing models and economic impact assessment tools for sustainable cities with nature-based solutions (urban re-naturing) (RIA)

- Develop new **governance, business and financing models**
- Methodologies, tools, strategies to:
 - **characterize** NBS (e.g. performance indicators, maintenance, design standards and protocols);
 - **assess** benefits/co-benefits, cost-effectiveness;
 - **replicate, upscale** and **contextualize** NBS;
 - **support decision making, co-creation** processes and **systemic integration** of NBS in sustainable urban and land use planning;

Project size: at least 7,5 Mio €

H2020: 2016 topics

Nature-based solutions for territorial resilience



Call 'Greening the economy':

- ✓ **SC5-09-2016**: Operationalising insurance value of ecosystems (**RIA**)
Project size: in the range of € 5 M;
Deadline: 8 Mar. 2016
- ✓ **SC5-10-2016**: Multi-stakeholder **dialogue platform** to promote innovation with nature to address societal challenges (CSA)
Project size: up to € 3 M;
Deadline: 8 Mar. 2016

SC5-09-2016: Operationalising insurance value of ecosystems (RIA)

- **Insurance value of ecosystems:** *sustained capacity of ecosystems to reduce or eliminate risks to human society and economic activities due to global change and/or natural hazards;*

Insurance value of ecosystems:

- Capacity for insurance **at present**;
- Adaptive capacity for **insurance in time** under global change;

Develop **methodologies** for:

- **quantification, qualification** and **valorisation**;
- **operationalization** and **mainstreaming** into **risk reduction** and **restoration strategies** and **insurance policies**;



SC5-10-2016: Multi-stakeholder dialogue platform to promote innovation with nature to address societal challenges (CSA)

- Establish a **platform** for **science, policy, business** and **society interactions** to underpin the implementation of **EU R&I policy initiative on NBS and cities re-naturing**;
- **Support** the creation of **EU-wide evidence repository** and a **European reference framework** for NBS and speed up their market up-taking;
- **Facilitate** the development of **committed partnerships** for testing and deploying NBS;
- **Identify** NBS **users' needs** for **further Research and Innovation**;
- Mainstream **knowledge** into **practice**;

More Information:

- **HORIZON 2020**
<http://ec.europa.eu/programmes/horizon2020/>
- **Research Participant Portal**
<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>
- **Partners search on CORDIS**
<https://cordis.europa.eu/partners/web/guest>
- **EU R&I on Nature-Based Solutions**
http://ec.europa.eu/research/environment/index_en.cfm?pg=nature-based-solutions
- **Experts report on NBS and Renaturing cities:**
<https://ec.europa.eu/research/environment/pdf/renaturing/nbs.pdf>



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Thank you!

Any question, comment or
inspirational thought is welcome!

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