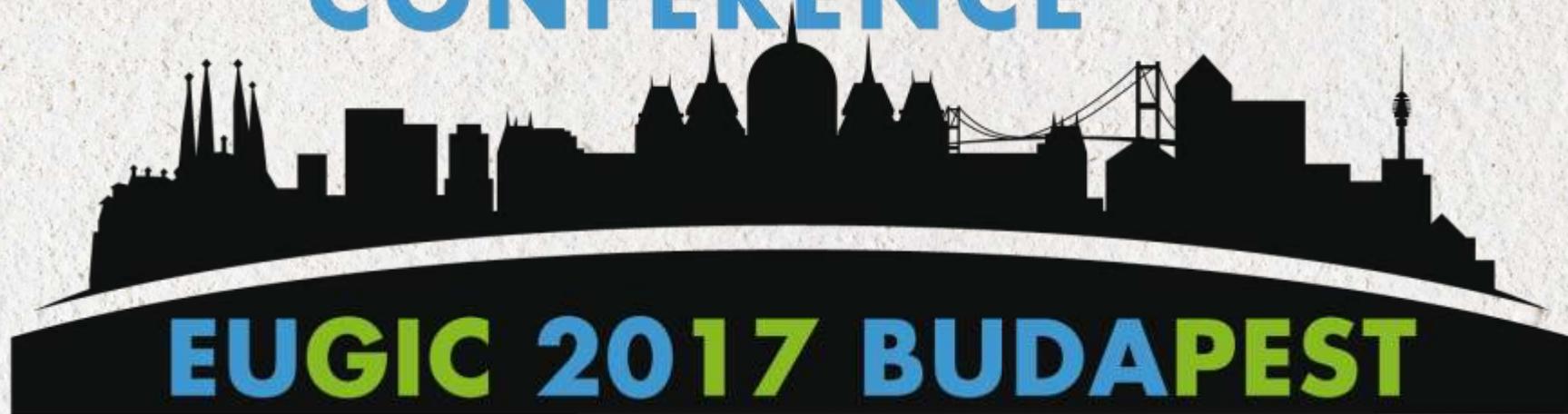


# EUROPEAN URBAN GREEN INFRASTRUCTURE CONFERENCE



**Celebrating Nature-Based  
Solutions for Cities!**

**29-30 November 2017**  
The Akvárium, Budapest

# SESSION 2 | Climate Change, Cities & Green Infrastructure

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Lead on nature-based solutions, DG Research & Innovation



# SESSION 2

**Ronan Uhel**

Head of Programme, Natural Systems & Sustainability, EEA

## **Strong nature for strong solutions**

**Green infrastructure benefits and urban policies: synergies and conflicts**

**Ronan Uhel - European Environment Agency  
EUGIC 2017 Budapest, 29-30 November**

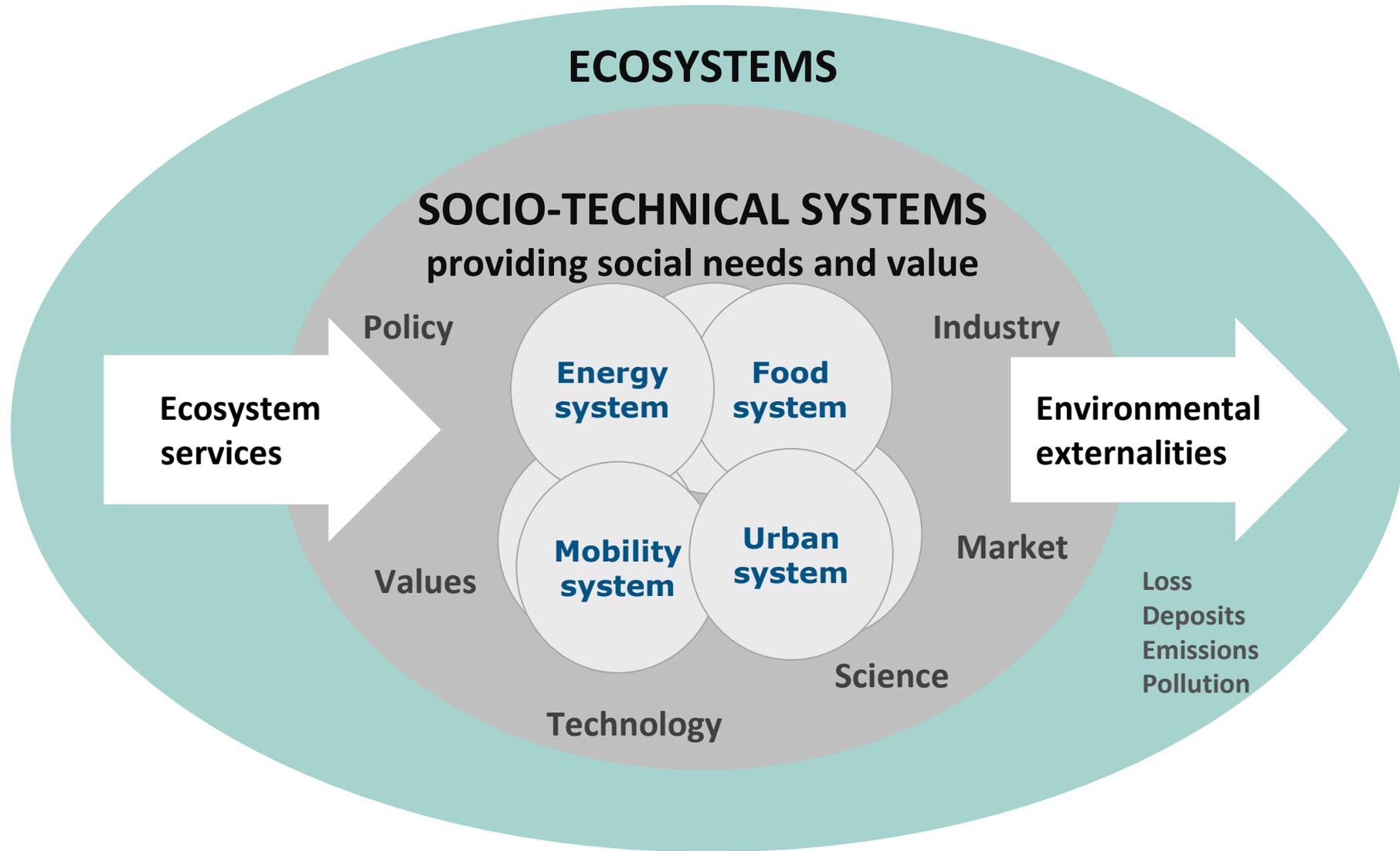


# Green Infrastructure? It enhances natural capital



Blackwall Reach Tower Hamlets, London

...it provides ecological, economic and social benefits through natural solutions – and is a key tool to sustainable spatial planning, urban design and development



Cities have an important role to play in the shift to fundamentally sustainable systems of production and consumption



**Protecting natural capital**



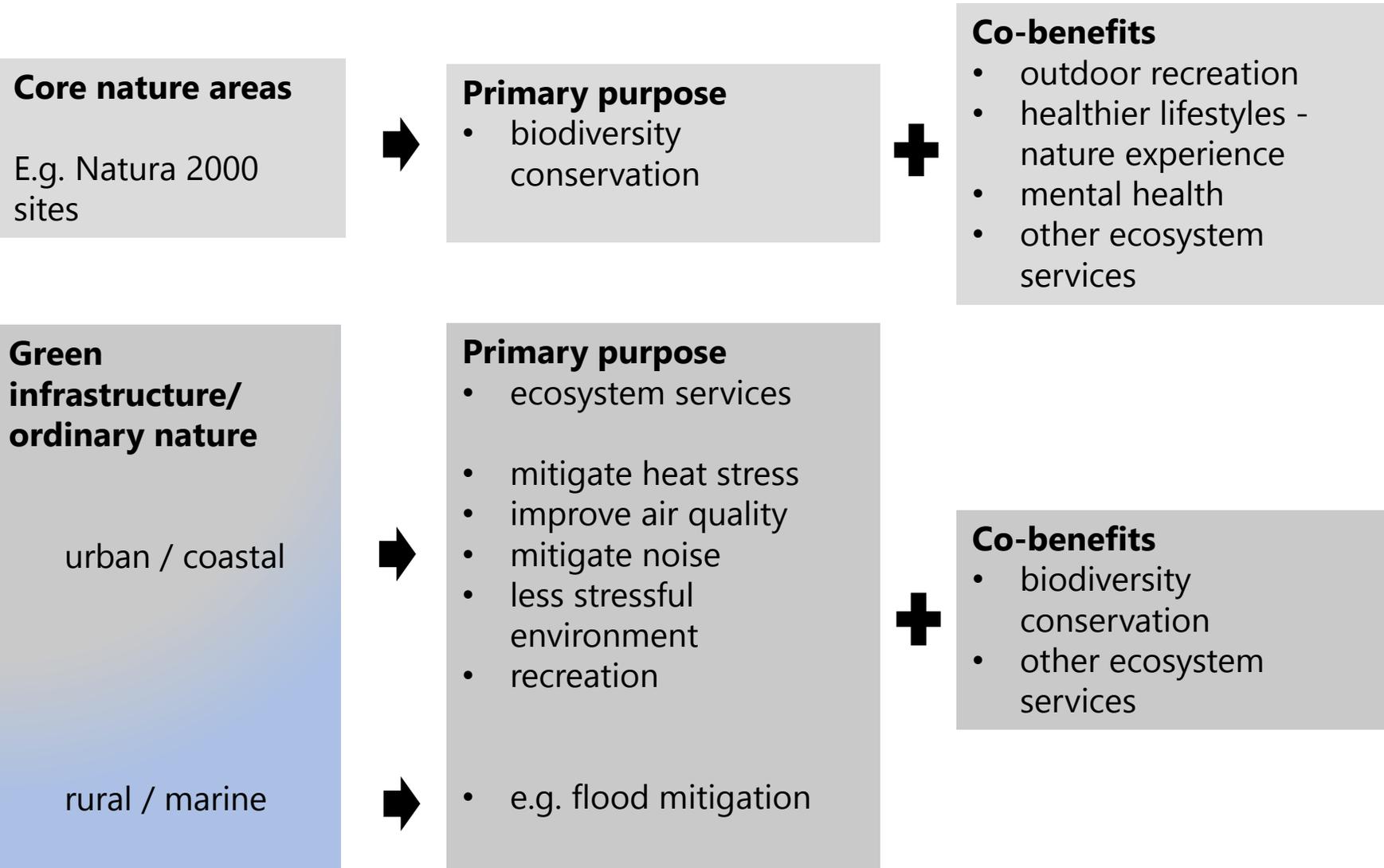
**Managing natural capital**



**Implementing  
the acquis**

**Reforming  
sectoral  
policies**

**Transitioning  
to a green  
economy**





1950 and 1960s' future  
planning



Today, 'green' cities are  
the reference



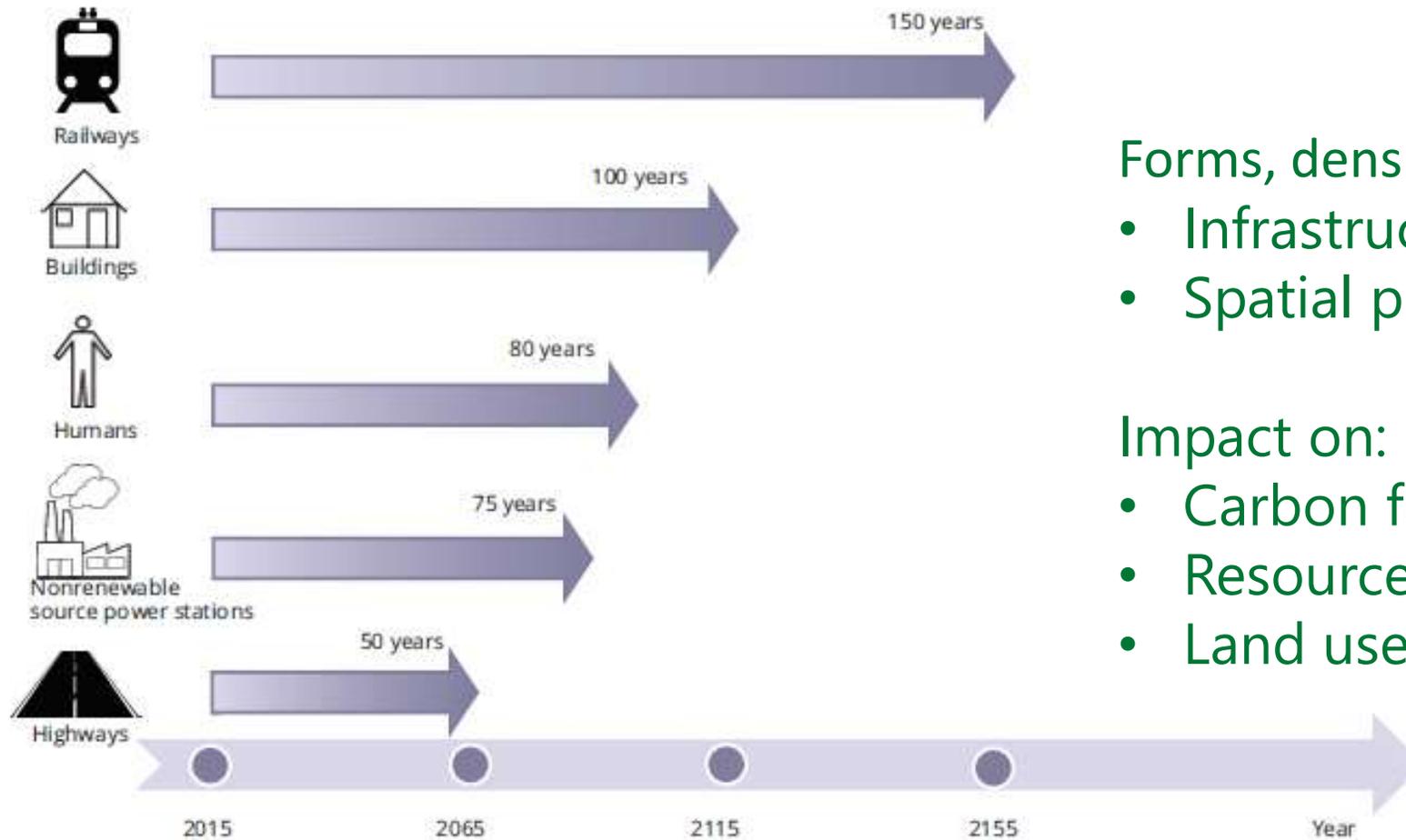
Challenge 1:  
Ecosystems



Challenge 2:  
Social systems



Challenge 3:  
The "grey"  
urban system



Forms, densities, extends

- Infrastructure
- Spatial planning

Impact on:

- Carbon footprint
- Resource use
- Land use

Cities can be “locked-in” to unsustainable consumption and production patterns for decades.

- Growing
- Aging
- Diversifying
- Inequalities



Values, behaviour, lifestyle, culture

Political system, institutions, legal system

Economic system

Knowledge

Engagement, participation

Local climate  
regulation

Carbon  
sequestration

Flood  
regulations



Ecosystem  
services

Economic/recrea-  
-tional value

Aesthetic  
values

Biomimicry is an approach to innovation that seeks sustainable solutions to human challenges by emulating nature's time-tested patterns and strategies (*Biomimicry institute, 2006*)

→ **Evaluate roles and limits of eco-innovation and technologies: what's the desired function?**



*WhalePower Corporation*



Heat



Water scarcity and droughts



Flooding



Bush fires

Images: Sekkha; Dr. Bernd Gross; D. Talukdar; Janurah





Up to 10°C difference between peri-urban and central areas.

100 m<sup>2</sup> of trees help reduce temperature by 1°C.

Green surfaces are 10°C cooler than artificial ones.

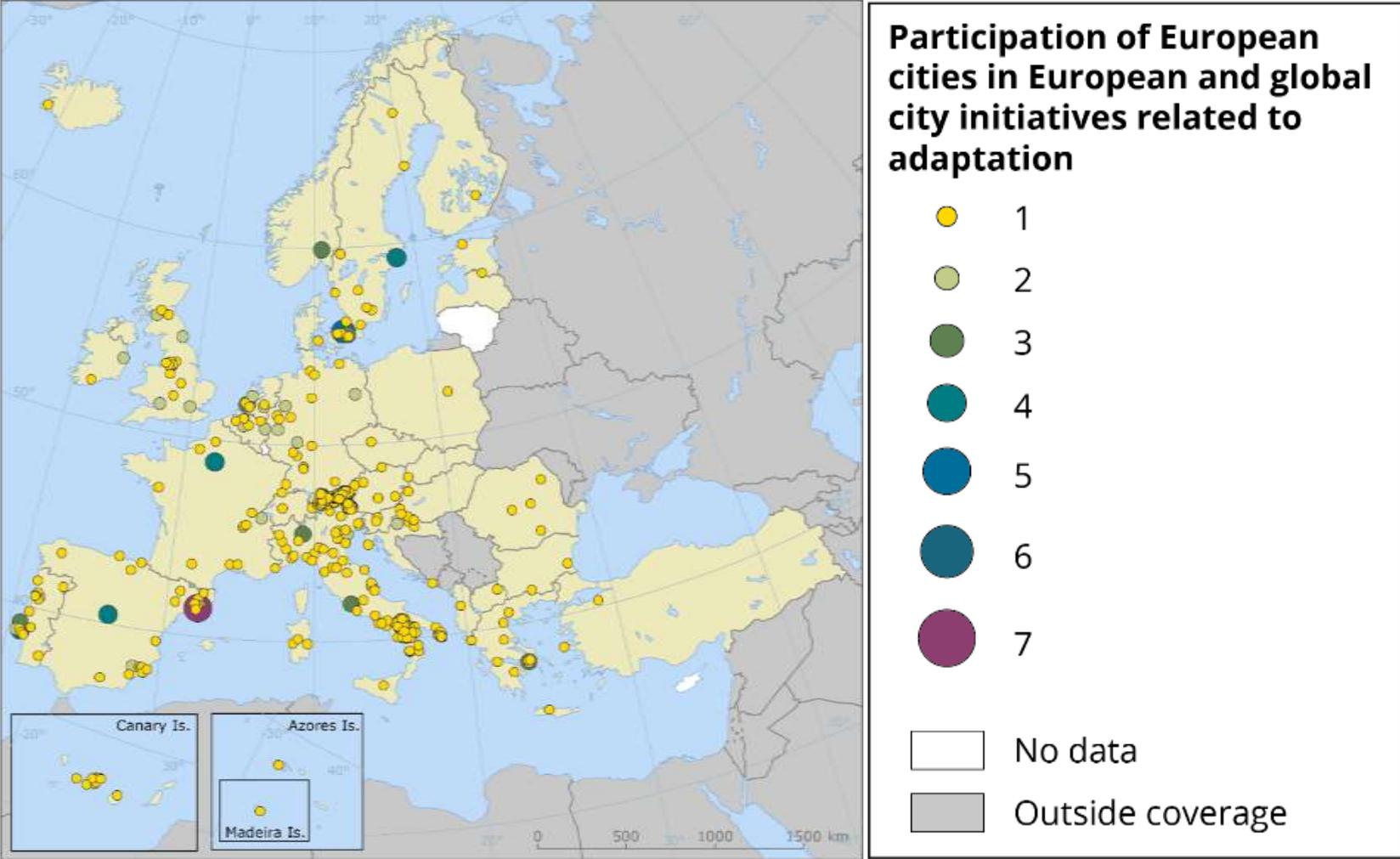








# Engagement in international adaptation-related initiatives

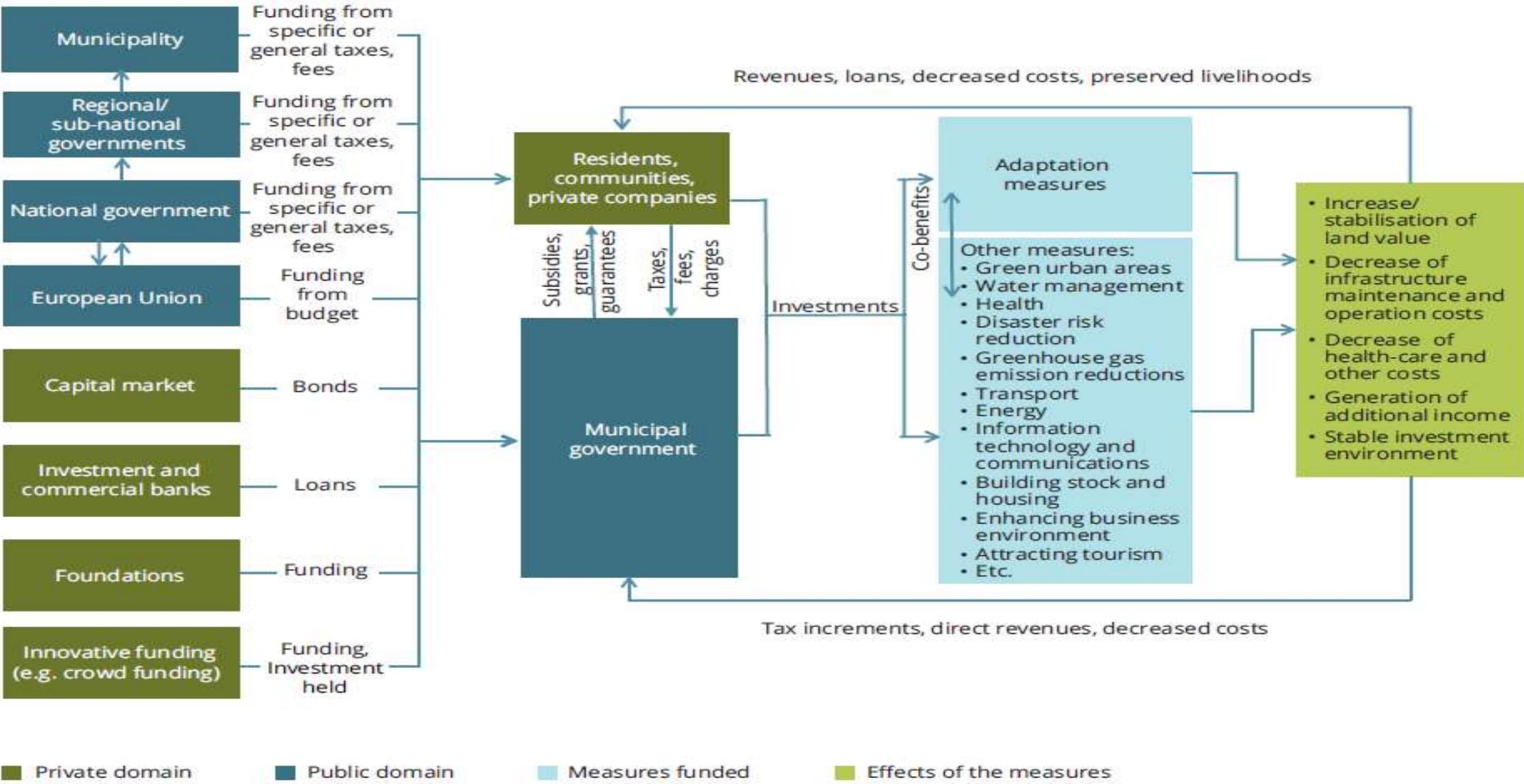


Source: EEA, 2016

## Financing urban adaptation to climate change



**Opportunities for financing climate change adaptation in municipalities, and the interplay between the various stakeholders involved**



City	Case study title	Financing source	Financing type(s) <sup>(a)</sup>	Financing mechanism(s) <sup>(b)</sup>	Adaptation measures financed
Hamburg	Financial incentive programme enabling Hamburg's Green Roof Strategy	  	Subsidy for implementation of green roofs	A fund managed by a local development and investment bank	<ul style="list-style-type: none"> <li>• Awareness campaigns for behavioural change</li> <li>• Economic incentives to build green roofs</li> <li>• Water-sensitive urban and building design</li> <li>• Green spaces in urban areas</li> </ul>
Lisbon	Combining private investment and an EIB loan to cope with water scarcity in Lisbon	 	Direct private financing and a loan	Business case and EIB loan process	<ul style="list-style-type: none"> <li>• Leakage detection system</li> <li>• Adjustment of water infrastructure to reduce water leakage</li> <li>• Adaptation of drought and water conservation plans</li> <li>• Water restrictions and consumption cuts</li> </ul>
Bilbao	Public-private partnership for a new flood-proof district in Bilbao	 	Direct funding for implementing adaptation measures	Public-private partnership agreement managed by a newly established commission	<ul style="list-style-type: none"> <li>• Opening of a water canal</li> <li>• Elevation of ground level of buildings</li> <li>• Establishment of green open spaces</li> <li>• Provision of stormwater tanks</li> </ul>

Climate-ADAPT - Sharing adaptation information across Europe Sign In

# European Climate Adaptation Platform

Search the website

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## About Climate Change Adaptation in Europe

The European Climate Adaptation Platform (Climate-ADAPT) aims to support Europe in adapting to [climate change](#). It is an initiative of the European Commission and helps users to access and share information on:

- Expected climate change in Europe
- Current and future [vulnerability](#) of regions and sectors
- National and transnational adaptation strategies
- [Adaptation](#) case studies and potential adaptation options
- Tools that support adaptation planning

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# SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD

**1** NO POVERTY

**2** ZERO HUNGER

**3** GOOD HEALTH AND WELL-BEING

**4** QUALITY EDUCATION

**5** GENDER EQUALITY

**6** CLEAN WATER AND SANITATION

**7** AFFORDABLE AND CLEAN ENERGY

**8** DECENT WORK AND ECONOMIC GROWTH

**9** INDUSTRY, INNOVATION AND INFRASTRUCTURE

**10** REDUCED INEQUALITIES

**11** SUSTAINABLE CITIES AND COMMUNITIES

**12** RESPONSIBLE CONSUMPTION AND PRODUCTION

**13** CLIMATE ACTION

**14** LIFE BELOW WATER

**15** LIFE ON LAND

**16** PEACE, JUSTICE AND STRONG INSTITUTIONS

**17** PARTNERSHIPS FOR THE GOALS

  
SUSTAINABLE DEVELOPMENT GOALS



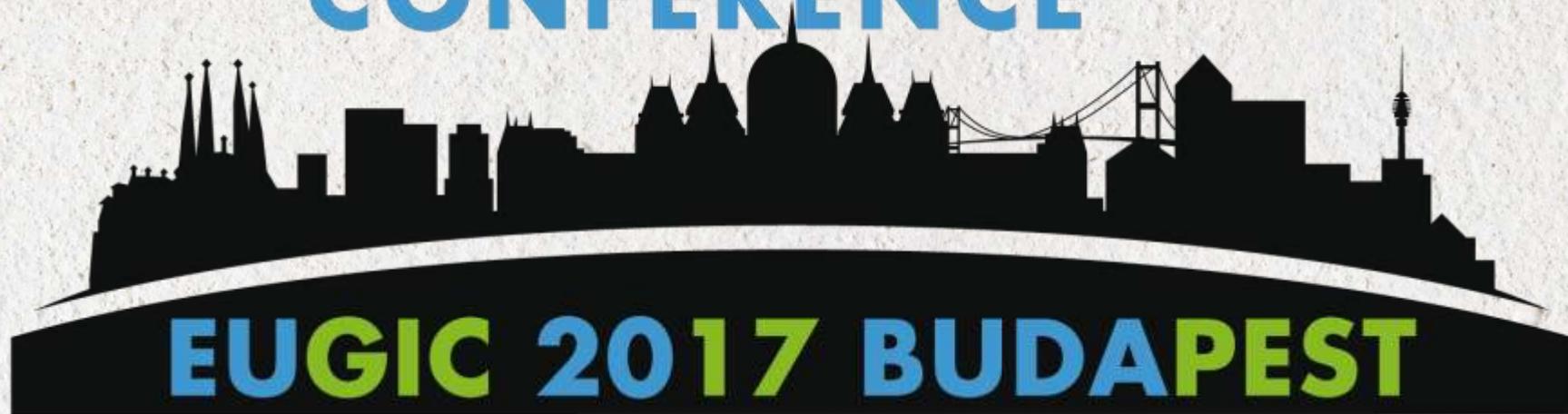
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