

Ecologic Institute  
An International Think Tank for Environment and Development



## ► **GREEN INFRASTRUCTURE AS A BRIDGING CONCEPT BETWEEN BIODIVERSITY PROTECTION AND THE GREEN ECONOMY?**

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## Thematic background

### ► Some features of the Green Economy

- builds on improved **human well-being and social equity** while significantly reducing environmental risks and ecological scarcities
- recognition of the direct value of **natural capital and ecosystem services** in a full cost accounting regime
- pathway to enhance economic growth by investing in **green technologies and innovation**

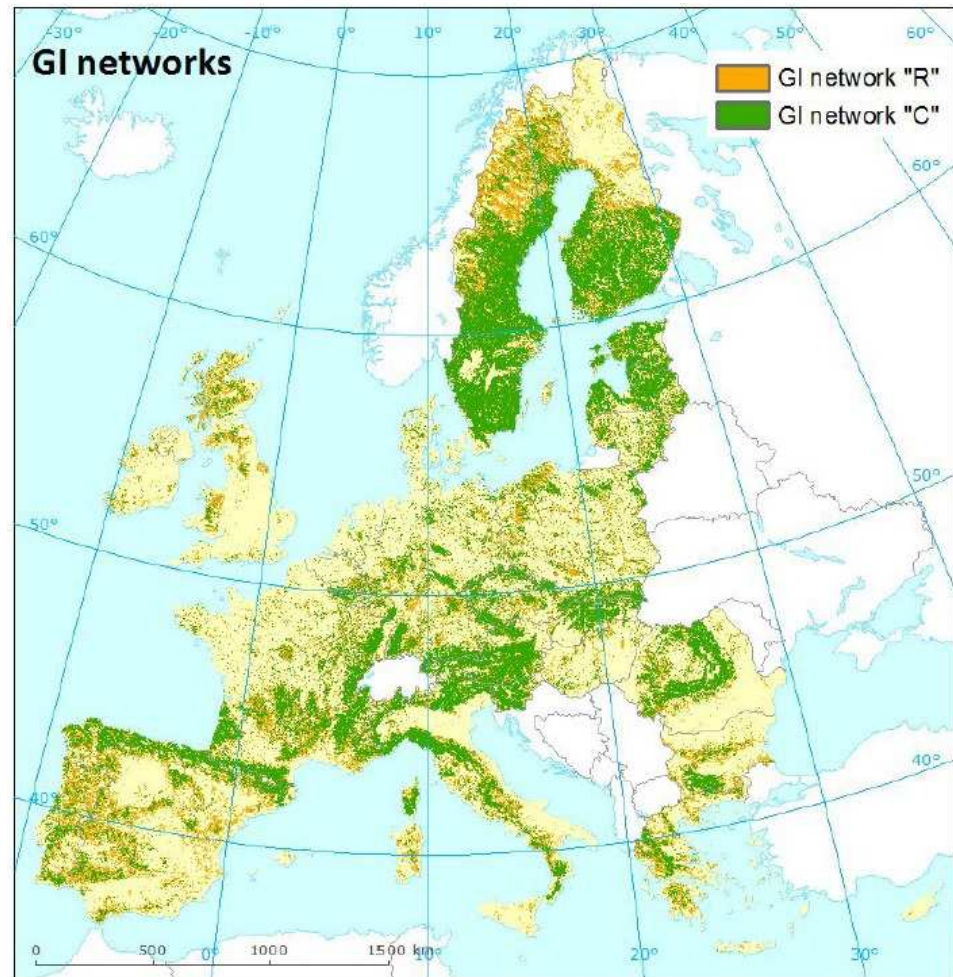
**Green infrastructure** is the network of natural and semi-natural areas, features and green spaces in rural and urban, and terrestrial, freshwater, coastal and marine areas, which together enhance ecosystem health and resilience, contribute to biodiversity conservation and benefit human populations through the maintenance and enhancement of ecosystem services.

# GI in EU policies

- ▶ Green infrastructure play a central role in achieving the targets of the EU's Biodiversity Strategy to 2020

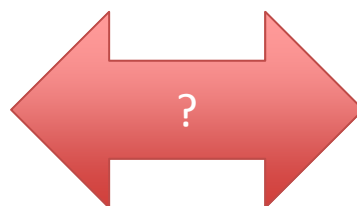


“C” – area for maintenance/protection  
“R” – potential areas for restoration



# Research question

Green  
Economy



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Green  
Infrastructure

# Methodological approach

- ▶ Conceptual analysis based on a literature review
- ▶ Empirical evidence from own research (2012)
  - Creation of a database of European GI projects  
(127 entries covering all EU-27 countries)
  - Analysis of six in-depth case studies
  - Expert workshop on green infrastructure

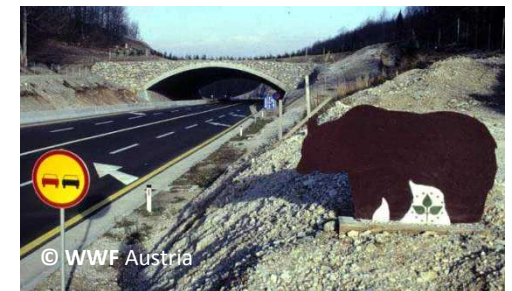
Greater Lyon green network,  
France



10Gemeten,  
the Netherlands



Alpine Carpathian Corridor,  
Austria/Slovakia



Väinameri project, Estonia





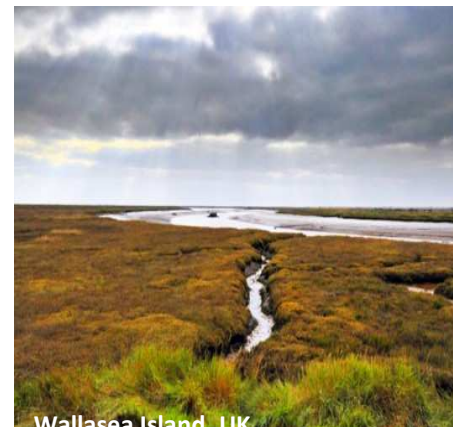
# Conceptual analysis

- ▶ **GI to reshape conservation strategies?**
  - Landscape perspective: maintain or re-establish connectivity between the various natural and semi-natural components
  - “Ecological corridors” and “ecological networks” instead of islands of protected areas
  - Widens the view towards interplay between natural and artificial landscape features and human activities

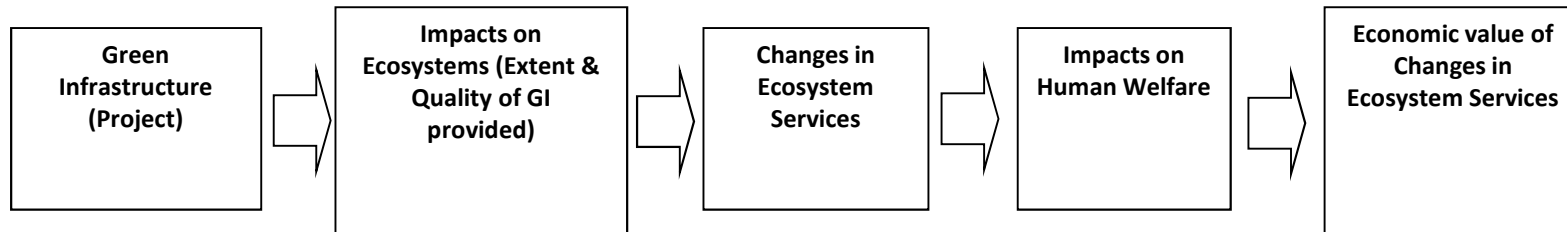


# Conceptual analysis

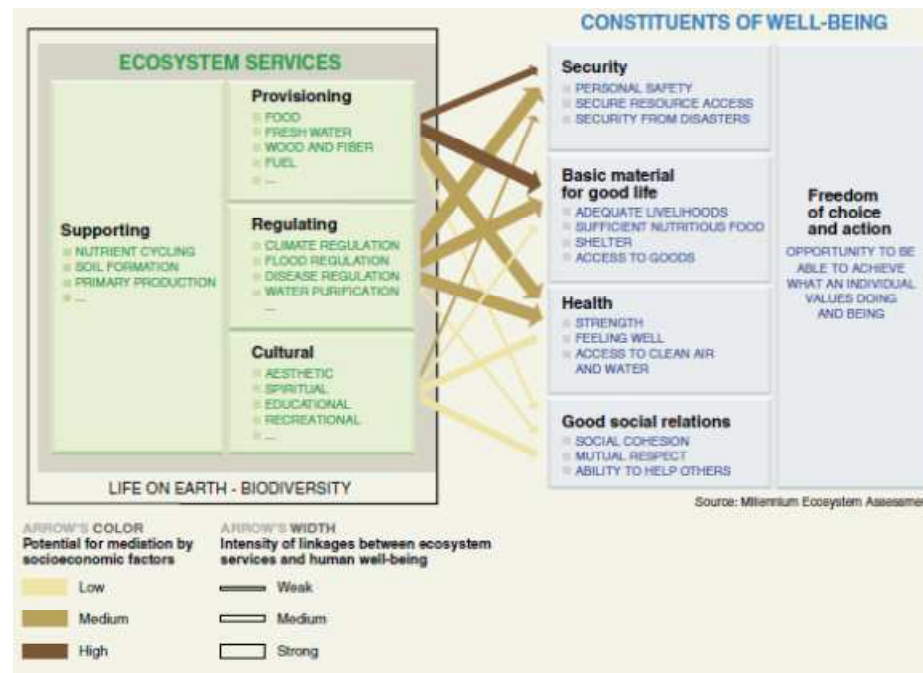
- ▶ **Restoration of ecosystems → Investments in natural capital?**
  - Examples: replanting trees, reintroducing wildlife and decontaminating soils to rewetting peatlands and revitalising rivers and coastal strips
  - Commonly associated with high costs and unclear benefits
  - Most restoration activities have a high return in the long-term, with the benefits outweighing the costs (de Groot et al. 2013)
  - Need for adopting a long-term perspective in making decisions



# How to measure benefits from GI?



Source: Naumann et al. 2011, adapted from Defra (2007) – Framework for Ecosystem Services Valuation



Source: MA (2005)



# Recreational and health benefits

- ▶ Green elements (e.g. parks, alleys, road verges and façade greening) significantly increase the attractiveness of cities and neighbourhoods to people and investors (Eftec 2013)
- ▶ Cooling effects of vegetation and shading trees can help reduce the risk of heat exhaustion and heat stroke (EC 2012)
- ▶ Presence of GI features increase the time spent outdoors and therewith benefit physical health and emotional well-being (EC 2012)



# Creation and maintenance of jobs

Project	Benefits
Transformation of the banks of the Rhone (FR)	<ul style="list-style-type: none"> <li>• 17 enterprises involved in project works</li> <li>• 60-120 workers on site during project works</li> <li>• 5.4 full time equivalent (FTE) jobs in bank maintenance</li> <li>• Business benefits through increased use of area</li> </ul>
Tiengemetten (NL)	<ul style="list-style-type: none"> <li>• 15 permanent jobs created</li> <li>• 90 volunteer positions created</li> <li>• 60 temporary jobs created during project phase/per year (3 years in total)</li> </ul>
National Forest (UK)	<ul style="list-style-type: none"> <li>• 333 forest-related jobs created/safeguarded</li> <li>• 5 new forest-related businesses created</li> <li>• 78 people trained in forest-related business activities</li> <li>• €321 million value of tourism to local economy</li> <li>• €57 million value of forest creation grants awarded</li> <li>• 340.000 people involved in forest-related projects (1995-2010)</li> </ul>
Glasgow Green	<ul style="list-style-type: none"> <li>• ca. €9.5 million in additional wage and salary payments</li> <li>• 35 FTE jobs</li> <li>• 28% increase in jobs between 1998 and 2006</li> <li>• 13% increase in employees in other parts of the city (1998-2006)</li> </ul>

## Connectivity as a driver for social innovation?

- ▶ GI dictates **exchange between diverse stakeholders** → fosters the development of more innovative and diverse solutions than have been shown to emerge from traditional sector or institution-specific approaches (Naumann et al. 2011)
- ▶ GI has the potential to serve as a vehicle for **collaborative planning across spatial scales** and jurisdictional, organizational and sectoral boundaries (Mell 2010)
- ▶ Public participation in the design, implementation and maintenance of GI can create **additional forums for discussion** between previously disconnected individuals.

# Connectivity as a driver for social innovation?



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Herzlichen Dank und herzlich willkommen!

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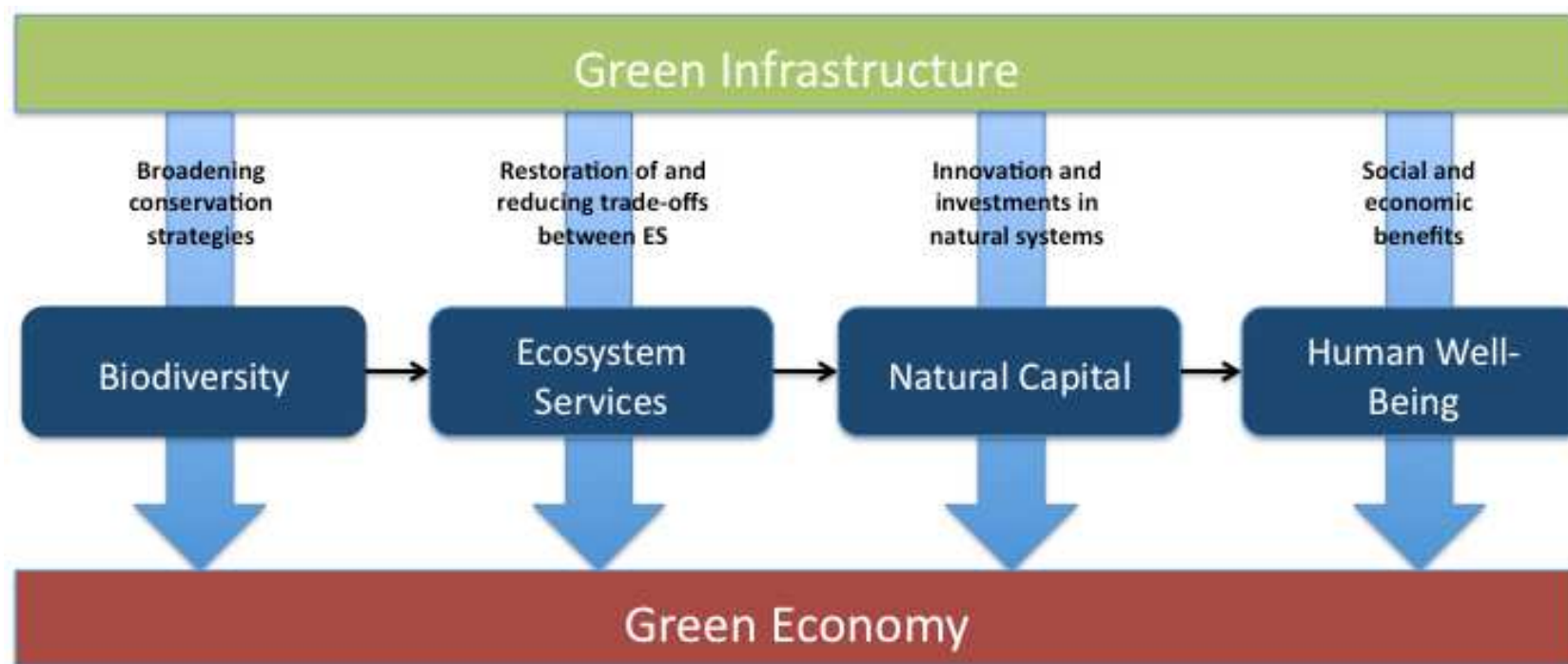
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# Summary





## Conclusions

- ▶ GI can be seen as a **bridging concept of biodiversity and the green economy** and as a sound measure by which to invest in natural capital
- ▶ Economic arguments for **investing in GI** are not always clear and accounted for (“delayed benefits”)
- ▶ Main challenge: **integration of the various policy sectors** (most importantly water management, transport, agriculture and forestry, energy and the urban/built environment) in the adoption and implementation of concrete measures to establish a GI across Member States
- ▶ Ensure **sufficient funding** and prioritise financing for managing and implementing GI projects
- ▶ Involve **private sector** to ensure widespread implementation of GI

# THANK YOU!

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