Planning for green infrastructure and nature-based solutions

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Green infrastructure and nature-based solutions

…are more than just „greenspace"

The smallest park in the world: Mill Ends Park, Portland (R. Hansen)

Green infrastructure (GI) and nature-based solutions (NbS) are both "intentional" – a result of deliberate planning, design and management.
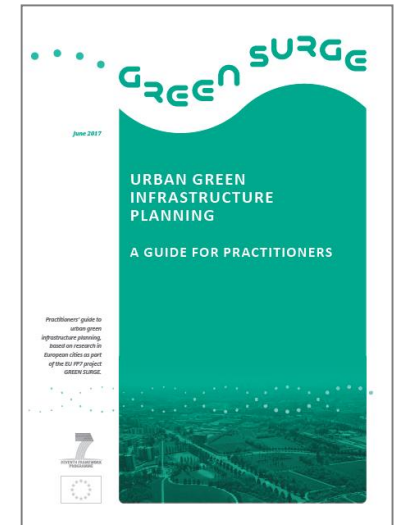
- **GI** (in Europe) aims at multifunctional, connected green space networks.

- **NbS** focus on **solutions** to multiple urban challenges.

Green infrastructure as an urban planning approach
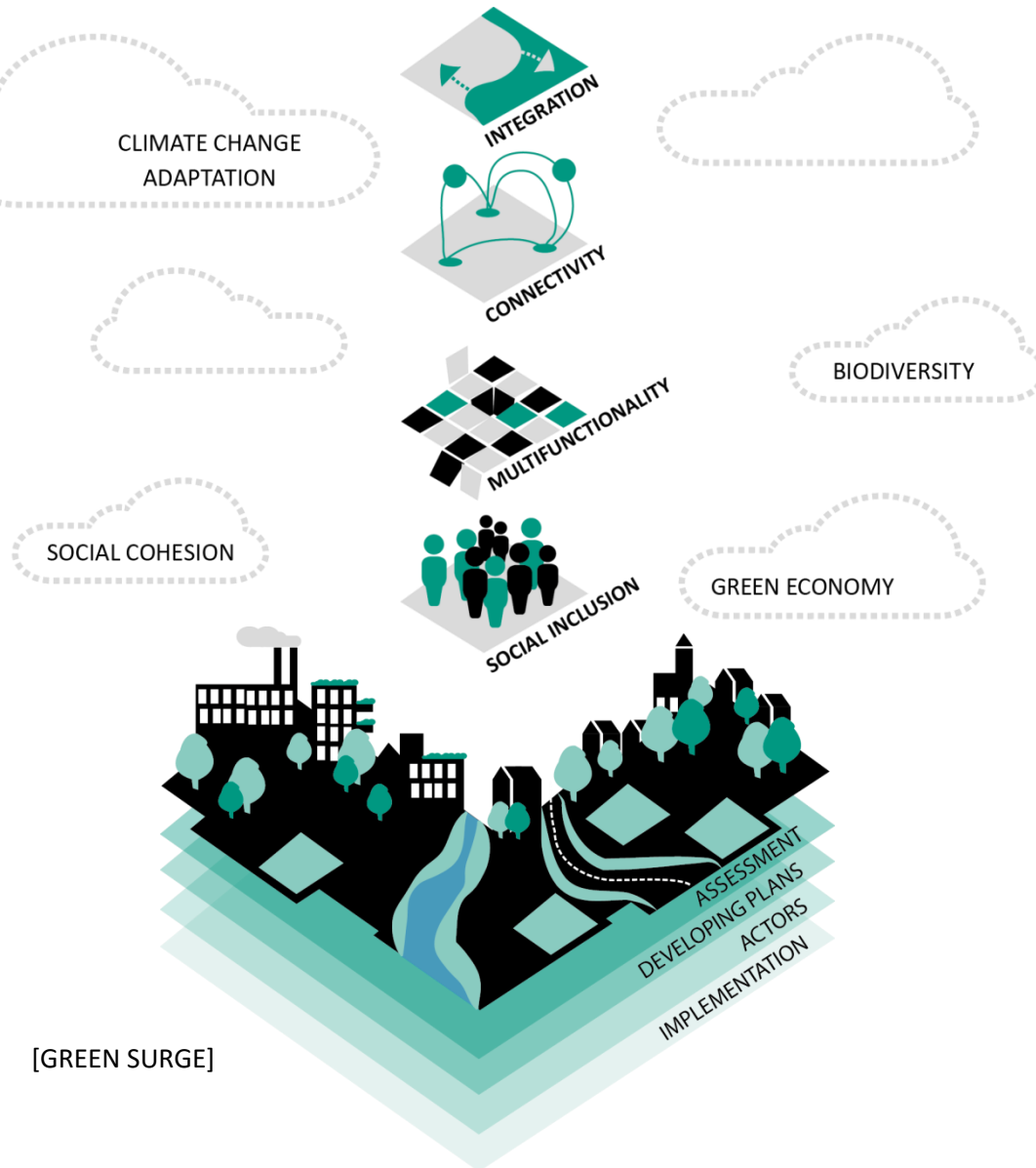
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Nature-based solutions (NbS) are systemic solutions

EKLIPSE framework

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Raymond et al. (2017) An Impact Evaluation
Framework to Support Planning and Evaluation of
Nature-based Solutions Projects. Report prepared
by the EKLIPSE Expert Working Group on Nature-
based Solutions to Promote Climate Resilience in
Urban Areas. Centre for Ecology & Hydrology,
Wallingford, United Kingdom

NbS for challenge „urban regeneration"

proGIreg project

- Productive Green Infrastructure for postindustrial regeneration

- Testing co-designed and co-created nature-based solutions

- **4 "Front Runner Cities":** Dortmund, Turin, Zagreb, Ningbo

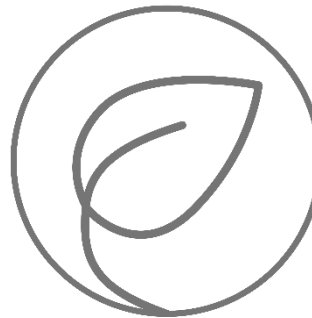- **4 "Follower Cities":** Cascais, Cluj-Napoca, Piraeus, Zenica

NbS Benefit Assessment

Socio-cultural inclusiveness

Ecological and environmental restoration
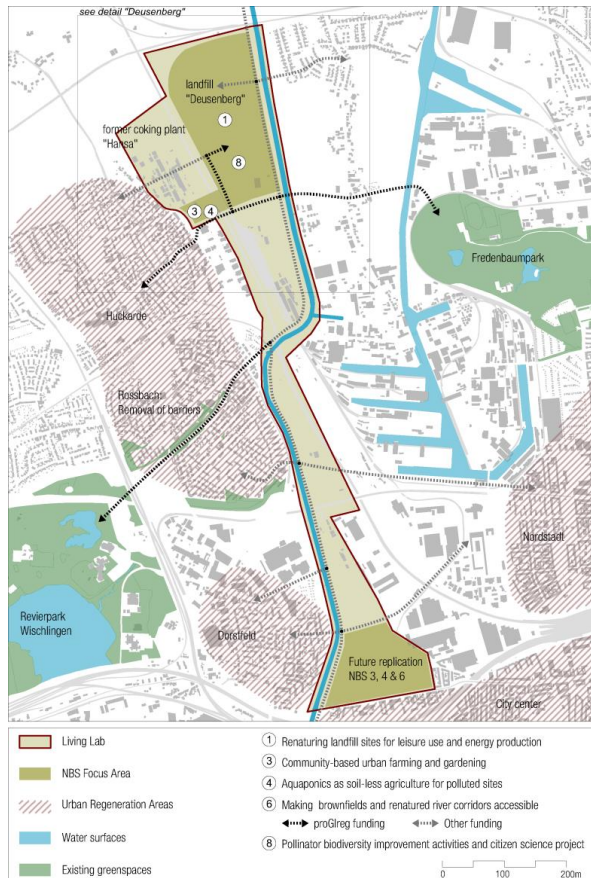
Increased human health and well-being

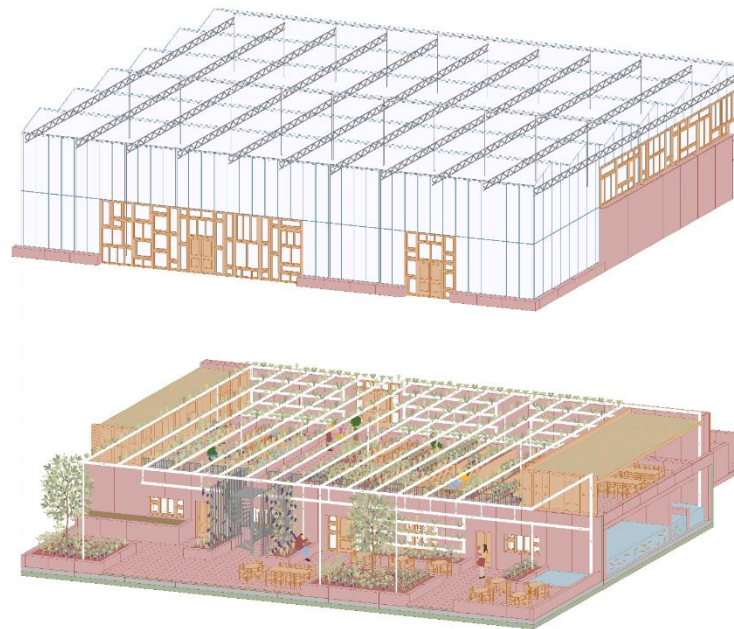**Economic and labour market benefits**

Example: „soil-less" NbS for polluted sites

proGlreg

Dortmund: a community center with aquaponics and community garden

RWTH Aachen, Luisa Ropelato

Green infrastructure planning

CLIMATE CHANGE ADAPTATION

INTEGRATION

CONNECTIVITY

BIODIVERSITY

MULTIFUNCTIONALITY

SOCIAL COHESION

SOCIAL INCLUSION

GREEN ECONOMY

ASSESSMENT

DEVELOPING PLANS

ACTORS

IMPLEMENTATION
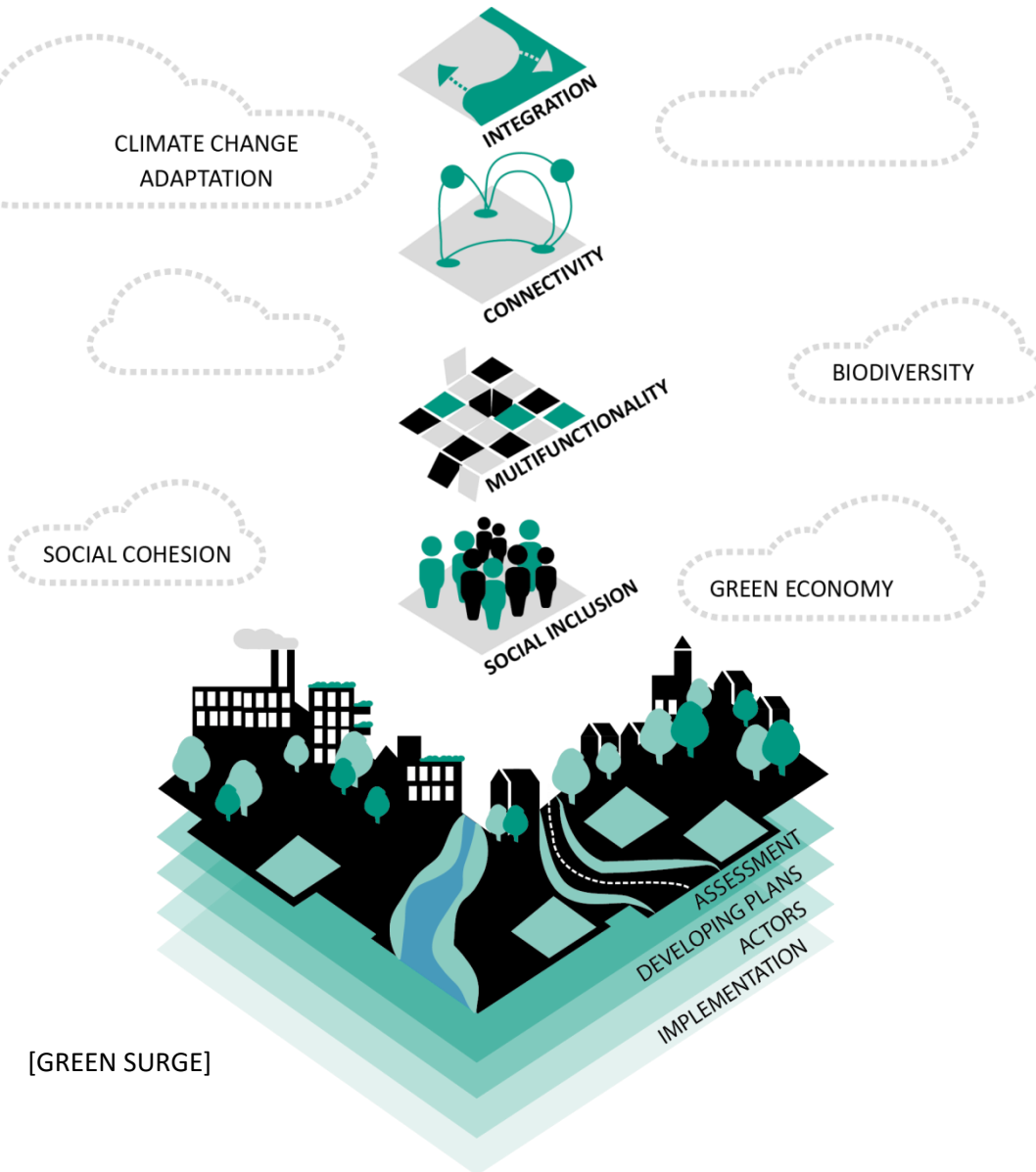
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Case studies
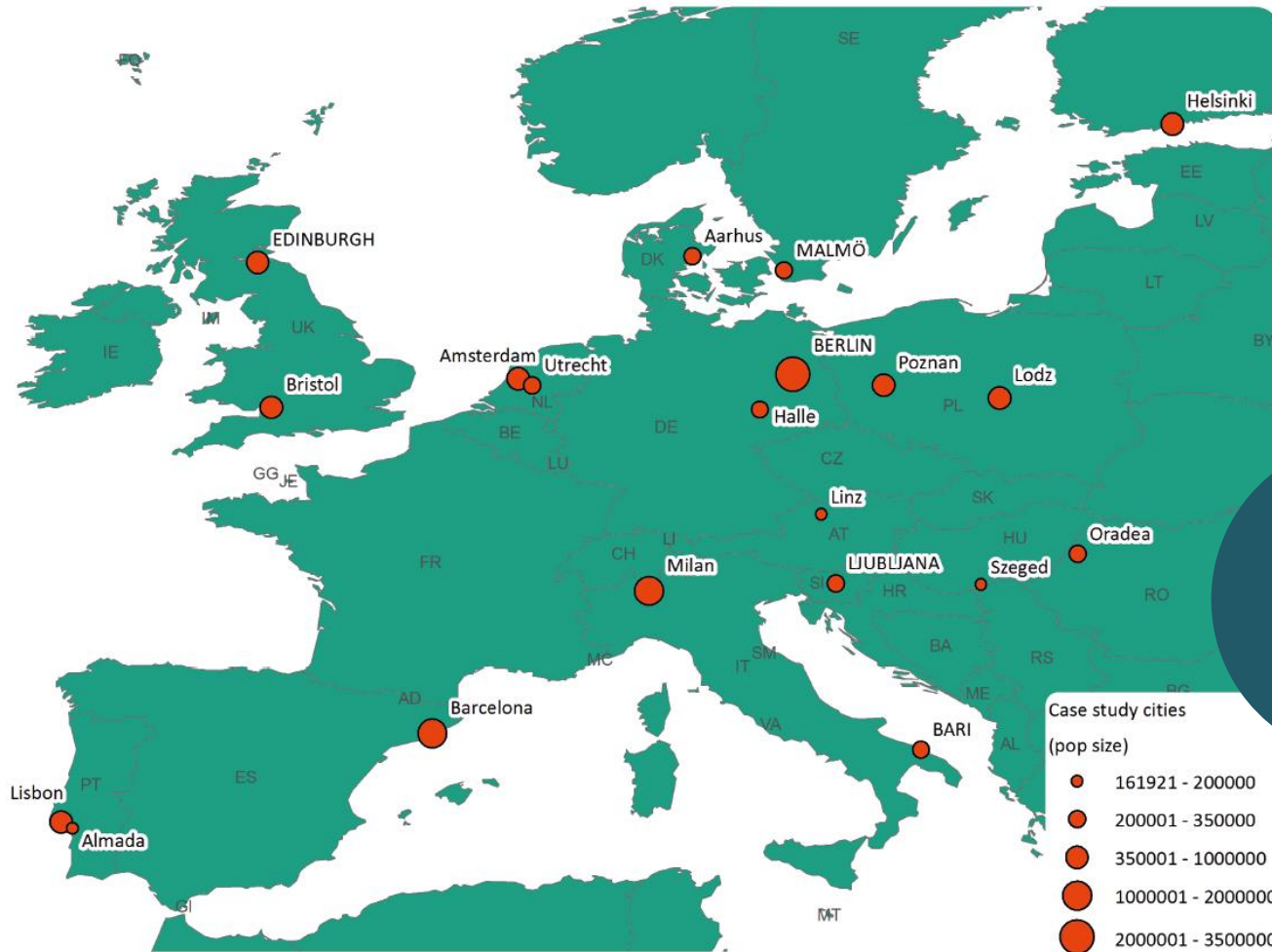
[GREEN SURGE]

5 Urban Learning Labs

Case study cities (pop size)
- 161921 - 200000
- 200001 - 350000
- 350001 - 1000000
- 1000001 - 2000000
- 2000001 - 3500000

Berlin: opportunities and challenges for Green Infrastructure

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View from Berlin Teufelsberg Radar Station (R. Hansen)

Berlin Strategy (Senate Department for Urban Development and the Environment)

Berlin: opportunities and challenges for Green Infrastructure
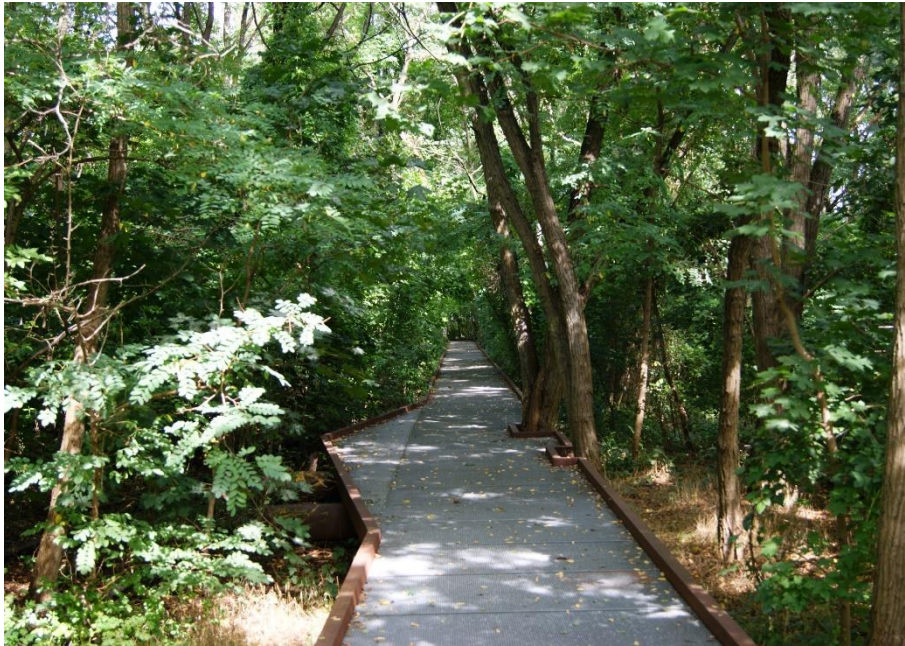

Schöneberger Südgelände (R. Hansen)

Tempelhofer Feld (R. Hansen)

Berlin: opportunities and challenges for Green Infrastructure

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Berlin Strategy 2.0 (Senate Department for
Urban Development and the Environment)

Berlin: opportunities and challenges for Green Infrastructure

New housing areas

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Gesamtstädtische Ausgleichskonzeption
(Senatsverwaltung für Umwelt, Verkehr
und Klimaschutz)

Berlin's approach: Landscape Programme

Thematic plans and synthesis plan

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MULTIFUNCTIONALITY

Berlin's approach: Landscape Programme

Connected green space system

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CONNECTIVITY

Lehrstuhl für Landschaftsarchitektur | RWTH AACHEN UNIVERSITY

Berlin's approach: Nature compensation for GI

Developing green and grey together

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INTEGRATION

Lehrstuhl für Landschaftsarchitektur | RWTH AACHEN UNIVERSITY

Berlin's approach: Nature compensation for GI

Invest in focus areas for nature conservation and recreation

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SOCIAL INCLUSION

Lehrstuhl für
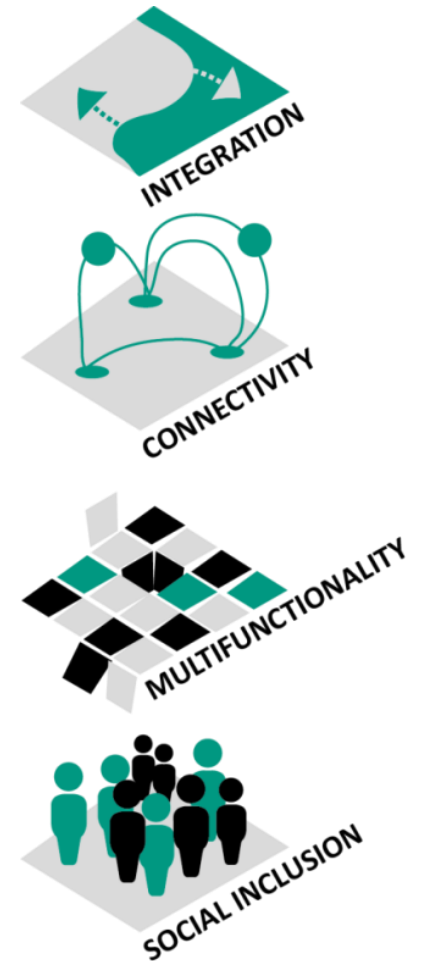Landschaftsarchitektur

RWTH AACHEN
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Berlin's approach: Nature compensation for GI

**Implement connected, multifunctional greenspaces
for people and biodiversity**

Altes Flugfeld Johannisthal (R. Hansen)

INTEGRATION

CONNECTIVITY

MULTIFUNCTIONALITY

SOCIAL INCLUSION

Lehrstuhl für
Landschaftsarchitektur

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Conclusion

Plan **Green Infrastructure** strategically across scales – from city-region to site.

Utilize **nature-based solutions** to target global and local challenges – while leaveraging multiple co-benefits.

Enhance and maintain the multiple social, environmental and economic benefits of **green infrastructure** and **nature-based solutions.**