



THE EU REGENERATIVE URBAN LIGHTHOUSE

UPSURGE provides the EU Regenerative Urban Lighthouse as a new development model for cities. It uses nature-based solutions for renaturing urban space to address the challenge of air pollution and carbon footprint.

5 Large Scale Demonstrations in Cities



Project factsheet

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NBS for air pollution in cities
 Air pollution and climate change are closely linked to how we live in cities, affecting our health, well-being and the environment that surrounds us. With the increasing population in our cities, air pollution and climate change nexus become a priority for actions undertaken by city authorities and local communities, which can be addressed by nature-based solutions (NBS).

- Inspired by nature, such solutions not only bring natural features and processes into cities but effectively:
- help taking up or removing a number of air pollutants such as particulate matter (PM), nitrogen oxides (NO_x) or O₃ that harm our health
 - improve the thermal comfort of people providing shading and cooling effects as well as wind-shielding
 - protect soils and water availability at city level
 - contribute to reduced CO₂ emissions

- The challenges of implementing NBS**
- NBS offer obvious benefits in providing environmental, social and economic values to cities and local communities. However, their application as a systemic element of urban planning as well as regeneration policies and processes still remains a challenge for many city authorities, raising concerns related to:
- performance and effectiveness of NBS in delivering short and long-term impacts at a given location
 - appropriate design of NBS to serve multiple purposes for: maximise the impact
 - implementation of NBS in combination with existing grey infrastructure and avoidance of land use conflicts
 - involvement of local communities in NBS planning and use to ensure sustainability of investments and accessibility of NBS benefits to all residents
 - governance and coordination of NBS use with different policies, regulations and finance related to different functions of NBS

- How UPSURGE addresses these challenges**
- To aid an effective implementation of NBS and avoid investment failures, UPSURGE builds an EU Urban Regenerative Lighthouse – a dedicated tool for city authorities to:
- help them guide on successful acceleration, transfer and upscaling of fit-for problem NBS to alleviate air pollution and reduce the exposure of local communities to environmental stressors resulting from climate change
 - mainstream NBS into the agenda of urban policies through co-creation and co-design processes with citizens and other stakeholders
 - benefit from and share their experiences with other cities contributing to NBS promotion and best practices

The EU Urban Regenerative Lighthouse is to become a development framework for the implementation of NBS practices in European cities providing multiple functionalities that capitalise on the existing potential of experiences from real-life tested NBS applications and a knowledge base supplied by research institutions and companies.



The EU Urban Regenerative Lighthouse

Validated NBS Knowledge base

Urban Regenerative Clearinghouse

Guidance & support to encourage NBS implementation for regenerative city development

NBS reference framework



Decision making configurator
 Facilitates decision-making process on different NBS implementation for public, private, institutional or individual investors. Provides data on particular NBS and its implementability, e.g. micro-location appropriateness for set-up, suitability for targeted pollutants, cost estimate, multi-purpose use, etc.



NBS Standardisation Directory
 An NBS registry combined with a set of NBS performance related standards. Integrates NBS performance with process related standards relevant for sustainability management, environmental management, smart cities urban infrastructures, etc.



NBS Node
 Connects different institutional and / or individual, public and / or private stakeholders driving implementation of NBS with the aim of fostering knowledge and experience-based cooperation driving NBS multiplication.



Matchmaking Matrix
 A fit-for-problem matrix for targeted deployment of best serving NBS matched with key, urban specific context performance indicators relevant for environmental and socio-economic challenges.



Regenerative index & insetting protocol
 A self-check tool for cities willing to undertake transition into a more regenerative development model. Help cities determine the current renaturing score as baseline for redevelopment ambition and offer a unique regenerative rating of EU cities.



NBS Clustering network
 Attracts new cities and other NBS investors into the Lighthouse and facilitates multi-stakeholder cooperation in future NBS investments and projects, connects across the aisle with the most relevant initiatives cross-promoting one another.