

Portfolio of Future Green Infrastructure Projects

The Concept of Green Infrastructure, the Link to Territorial Cohesion and Regional Policy and Potentials for the 2013 - 2020 Programming Period

Background note prepared by BirdLife, EEB and WWF

In the last years the concept of Green Infrastructure (GI) has become increasingly popular among policy makers and planners. As environmental NGO's we think it can be best understood in a broad sense as “an **interconnected network of natural areas and open spaces** that conserves natural **ecosystem values and functions**, sustains clean air and water, and provides a wide array of **benefits to people and wildlife.**”

Developing Green Infrastructure in Europe is crucial to tackling today's dual challenge of **climate change and the loss of biodiversity and ecosystem services**. Green Infrastructure can become a powerful tool to address territorial and rural development aspects of these challenges. Furthermore, large scale GI projects can have a significant contribution to **job and income creation at the local level**.

In special, Green Infrastructure will be critical to storing carbon within soils and vegetations, retaining water to reduce flashfloods intensities, improving species diversity by ensuring connectivity between their habitats, improving living conditions in urban areas, reduce vulnerabilities to climate change impacts and improve flexibility to adapt. It is critical to helping ensure:

- **Clean Water and Water Source Protection** – Vegetation and green space reduce the volumes of stormwater runoff and, in combined systems, the volume of combined sewer overflows. Most green infiltration approaches involve allowing stormwater to percolate through the soil where it recharges the groundwater and the base flow of streams thus ensuring adequate water supplies for humans and more stable aquatic ecosystems. They also help to reduce concentrations of pollutants in those discharges. Re-naturalized river systems have a higher capacity to purify waste water than regulated ones.
- **Clean air**- Trees and vegetation improve air quality by filtering many airborne pollutants and can help reduce the amount of respiratory illness. Transportation and community planning and design efforts that facilitate shorter commute distances and the ability to walk to destinations will also reduce vehicle emissions.
- **Moderate the impacts of climate change**- Climate change impacts and effects vary regionally, but green infrastructure techniques provide adaptation benefits for a wide array of circumstances, e.g. by conserving and reusing water, promoting groundwater recharge, preventing coastal erosion at the seaside, help reduce the effects of extreme weather events (floods, droughts, storms), maintain agricultural potential. In addition, there are mitigation benefits such as reduced energy demands and carbon sequestration by vegetation.
- **Increased energy efficiency** - Green space helps lower ambient temperatures and, when incorporate on and around building, helps shade and insulate building from wide temperature swings, decreasing the energy needed for heating and cooling.

Energy efficiency not only reduces costs, but also reduces generation of greenhouse gases.

- **Nature Conservation** – To halt the loss of biodiversity green infrastructure as an instrument of nature conservation could offer habitats for species. Enhancing connectivity between different natural areas is a crucial factor for wildlife survival – this can happen through creating stepping stones, improving corridors and removing barriers.
- **Reduced urban temperatures**- summer city temperatures can be significantly higher than nearby suburban temperatures. Vegetation (such as green roofs or parks) creates shade, reduces the surface of heat absorbing materials and emits water vapor - all of which cool hot air. This provides health benefits and reduces energy use by cooling systems.
- **Community benefits**- Trees and plants improve urban population health and urban aesthetics by improving air quality, reducing temperatures and emissions and by providing recreational and wildlife areas. Studies show that property values are higher when trees and other vegetation are present. Enhancing natural areas in the countryside contributes to increased touristic potential and higher living standard.
- **Cost savings**- Green infrastructure may save capital costs associated with paving, creating curbs and gutters, building large collection and conveyance systems, and digging big tunnels and centralized stormwater ponds; operations and maintenance expenses for treatment plants, pumping stations, pipes, and other hard infrastructure. The costs of adaptation and mitigation to climate change can be reduced, as well as (e.g. through preventing damage by extreme events)

To date across Europe (as well as in the USA where the concept of GI was first coined) a great number of often small scale but sometimes also larger scale Green Infrastructure projects have emerged, many of these supported by EU Structural Funds.

We believe that now, with preparations underway for the EU's multi annual budget for 2013-2020, is the right time to complement and scale up the investments that have been made so far. With the enclosed portfolio we aim to give a selection of examples of how we believe this can practically be done during the next financial perspectives period.

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