



Urban Agenda Platform

The global platform for sharing progress, action and knowledge on the implementation of the New Urban Agenda to achieve sustainable urban development.

The URBAN GreenUP initiative

Region	Europe and Central Asia
Award Scheme	Shanghai Manual
Themes	Climate Change Environmental Resilience Resilience & Risk Reduction
Sustainable Development Goals	Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable Goal 13 - Take urgent action to combat climate change and its impacts

Summary

The URBAN GreenUP initiative, launched in Liverpool, United Kingdom in June 2017, is a pioneering project aimed at integrating nature-based solutions (NbS) to address the city's climate resilience challenges.

Background and Objective

Liverpool possesses a rich industrial heritage and over 900,000 inhabitants. The city faces complex urban sustainability challenges. These include urban sprawl, the fragmentation of green spaces, outdated infrastructure, and socio-economic disparities. The city is highly vulnerable to climate change impacts, such as extreme heat, localized flooding, and biodiversity loss. Additionally, a large proportion of the population lives in areas prone to flooding, poor air quality, and limited access to green spaces. The URBAN GreenUP initiative, part of the European Union-funded Horizon 2020 programme, seeks to address these issues by introducing nature-based solutions (NbS) to re-nature urban spaces, enhance connectivity, and foster resilience against climate-related challenges. The overarching goal is to create a more sustainable, healthier, and climate-resilient urban environment for Liverpool's residents.

Actions and Implementation

The URBAN GreenUP initiative implemented a comprehensive strategy focused on retrofitting more than 40 NbS projects throughout the city. These included living green roofs and walls, rain gardens, water retention ponds, pollinator spaces, and floating ecosystem islands, strategically placed in areas most vulnerable to environmental challenges. The interventions were categorized into four main groups: large-scale urban greening, specific green infrastructure solutions, water management systems to reduce flooding, and non-technical interventions to engage residents. Notable examples of these interventions include the installation of green walls at Parr Street car park and St John's shopping centre, the creation of a 4.3 km greenway route promoting active travel, and the establishment of floating ecosystem islands at Liverpool's historic waterfront. Additionally, extensive stakeholder collaboration with local businesses,



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community groups, and governmental agencies ensured broad support and effective implementation.

Outcomes and Impacts

The URBAN GreenUP initiative has significantly improved Liverpool's environmental quality and resilience. Over 5.2 million litres of stormwater have been diverted from the traditional sewer system, enhancing flood resilience and improving water quality through natural filtration. Green infrastructure elements, such as living facades and street trees, have helped sequester over 155,000 kg of CO₂, reduce air pollution, and lower summer temperatures by up to 7.5°C. Biodiversity has also flourished, with pollinator populations increasing by up to 920% at certain sites. Socially, the project has encouraged healthier lifestyles through the development of green routes for walking and cycling. Businesses have reported increased foot traffic and trade due to the greening of public spaces. Furthermore, community-led initiatives have blossomed, such as the iNaturalist species identification app and local volunteer programs.

Sustainability and Scalability

The initiative has ensured the long-term sustainability of its interventions through careful planning and stakeholder engagement. Many of the green spaces and infrastructure interventions have been incorporated into council maintenance programs or adopted by local businesses and community groups through legal agreements. Sustainable design principles, such as low-maintenance planting and multi-functional green infrastructure, have been integrated to minimize long-term costs and maximize the resilience of the interventions. Furthermore, the initiative's success has led to the replication of NbS solutions across other sites in the city and the development of a broader green recovery strategy, providing a scalable model for other urban areas facing similar challenges.

Gender and Social Inclusivity

By actively engaging with local communities, including those in socio-economically disadvantaged areas, the initiative has ensured that the benefits of green infrastructure are equitably distributed between urban residents and stakeholders. The project prioritized inclusivity through consultation processes that included drop-in sessions, surveys, and online outreach, ensuring that the voices of residents were heard and their needs addressed. The initiative also provided opportunities for local businesses, community groups, and individuals to take part in greening efforts, with programs offering horticultural training, volunteer roles, and social worker referrals. By focusing on communities that are most vulnerable to climate impacts, such as flooding and poor air quality, the project fostered social cohesion and contributed to improved public health and well-being.

Innovative Initiative



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The initiative demonstrates innovation in urban greening, using nature-based solutions to tackle multiple urban challenges simultaneously. It introduced cutting-edge technologies such as solar-powered air quality monitors and soil life sensors, which have been instrumental in assessing the effectiveness of NbS interventions, and the use of floating ecosystem islands and the integration of green infrastructure into existing urban structures demonstrated new, adaptable solutions for enhancing urban resilience. The initiative also provided a platform for knowledge exchange, with data and case studies freely available for use by other cities, thereby supporting the global replication of similar greening efforts.

Resources devoted to delivery

The initiative was delivered with significant investment from the European Union's Horizon 2020 programme, alongside contributions from local government agencies, businesses, and community organizations. Key resources devoted to the project included funding for infrastructure projects, the procurement of green materials, and the employment of experts in urban planning, environmental science, and community engagement. Local contractors and organizations, such as the Merseyside-based environmental charity Faiths4Change, played a crucial role in the hands-on delivery of various interventions, ensuring that the project was locally grounded and contributed to the regional economy.

Conclusion

The initiative has been a groundbreaking success, transforming Liverpool's urban landscape into a more sustainable, resilient, and socially inclusive environment. Through the implementation of nature-based solutions, the project has addressed critical environmental challenges such as flooding, heatwaves, and biodiversity loss, while simultaneously improving public health and economic outcomes. By engaging a broad range of stakeholders and ensuring that interventions were tailored to the needs of local communities, the initiative has demonstrated the power of collaborative, community-driven approaches to urban sustainability. The lessons learned from this project are valuable not only for Liverpool but for cities worldwide, offering a replicable model for integrating green infrastructure into urban planning to build climate-resilient cities.