Vertical Green 2.0

Vertical greening for liveable cities - innovation to facilitate the breakthrough of an old concept

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Abstract

This project facilitates the transformation of urban areas to more sustainable, efficient and consistent spaces with the extensive use of vertical greening as a progressive food-water-energy nexus. Vertical greening measures comprise multiple important ecosystem services such as passive cooling, thermal heat insulation, urban flood alleviation, bioenergy and possibly food production, enhanced biodiversity, noise reduction etc..
In order to unfold the full potential of vertical green, three focal governance and management aspects will be analyzed, developed and tested for four large mid-latitude cities (Berlin, Vienna, Ljubljana and Taipei in Taiwan) in different geo-climatic zones: 1) integration of vertical green at the building and district scales with habitat, water, heat and energy management, 2) development of technological solutions for large-scale maintenance and automated harvesting machinery and 3) adaptation of design strategies and governance for a secure, city-integrated cultivation and operation concept. Using a transdisciplinary, stakeholder-oriented co-creational approach, we intend to re-think traditional urban greening fundamentally and will combine efforts from mechanical engineering, urban ecology and urban planning, ecohydrology and policy to enable decision-making using a nexus approach that considers the multiple co-benefits and trade-offs of nature-based solutions for the cities of the future.

Projektkoordinator

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