

The German Development Cooperation and ICLEI publish Urban NEXUS study

“Operationalizing the Urban NEXUS: Towards resource efficient and integrated cities and metropolitan regions” highlights benefits of Urban NEXUS approach for resource optimization in cities around the world

GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH) and ICLEI – Local Governments for Sustainability are pleased to announce the publication of their joint study, [“Operationalizing the Urban NEXUS: Towards resource efficient and integrated cities and metropolitan regions”](#). The study is available for free download.

The pioneering study was carried out on behalf of the German Development Cooperation. It builds upon the Federal Ministry for Economic Cooperation and Development’s (BMZ) and GIZ’s work on the NEXUS approach over the past four years and upon established concepts and practices of integrated planning to provide city makers with a framework for integrated and sustainable urban development.

What is Urban NEXUS?

The NEXUS approach was first introduced and promoted by the BMZ in the Bonn 2011 Conference, which was jointly organized by the BMZ and the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). It highlighted the interconnected challenges of water, energy and food security, and the need for an integrated approach to the management of these resources. In close cooperation with [ICLEI](#), the approach has been expanded to show how cities can benefit from an Urban NEXUS approach across all urban sectors, scales and levels of government.

Cities and metropolitan regions are dynamic hubs of human activity with vast flows of resources. They are the gateways of our planet, in which economic, social, political and ecological resource systems inter-link and compete. Integrated urban planning and policy is therefore critical to enable sustainable resource use globally, as well as to improve the efficiency, equality and resilience of resource access in cities themselves. Isolated solutions aimed at just one sector are inadequate for solving the resource challenges our world is faced with.

The Urban NEXUS approach provides a framework for municipalities and other city makers to shift from conventional sectoral planning and to utilize the opportunities offered by the inter-linkages and complexities of their city systems. Working in this way allows cities to achieve multiple urban policy objectives through single unified development measures and integrated system approaches, considering the efficient use and reuse of limited resources such as water, energy and food.

In recent years, a growing number of cities – from Curitiba, Brazil, to Durban, South Africa – have started to turn away from “silo” planning to harness the abundant potential of an innovative, cross-sectoral Urban NEXUS approach. Examples include:

- [Lille, France](#): using organic waste as a resource through large scale production of biogas to fuel the city’s entire bus fleet and waste collection fleet, as well as supplying a great number of private households. The waste products also form a biological fertilizer to be used in agriculture, thus showing integrated action and synergies between the waste management, transport, energy and agricultural sectors.

- [Tanjin, China](#): the Tanjin Eco-City is the result of an institutional NEXUS between the governments of China and Singapore and private consortia, and functions as a laboratory for emerging eco-technologies and as an arena for international companies to enter the North Chinese market. Built on formerly polluted land, it represents a good example of ecological recovery and sustainable community planning.
- [Durban, South Africa](#): the sustainably-designed Mariannhill landfill conservancy uses a closed-loop system to prevent toxic material from contaminating the surrounding area, which was developed as a biodiversity conservation site in parallel with the landfill development. Further, the release of GHGs (greenhouse gases) is controlled through a gas-to-electricity plant, which generates electricity while treating methane.

Further, two pilot projects in India and Tanzania illustrate how the Urban NEXUS approach can be implemented through concrete activities under the responsibility of municipalities and urban stakeholders.

In [Nashik](#) the pilot project introduced the collaborative design and implementation of a set of innovative solutions and programs for optimizing water, energy and land resources in peri-urban agricultural practices. In [Dar es Salaam](#) two schools operationalized the Urban NEXUS approach, through cross-institutional collaboration, as a new design process towards resource-efficient and productive service delivery. The project serves as an example of integrated solutions for optimizing energy, water and food to be scaled up throughout the metropolitan region.

This new, joint study makes such successful experiences available to city makers around the world, providing them with a framework and strategic design process for translating integrated policy and planning objectives into feasible projects, technical solutions, and operations – Urban NEXUS solutions for the future!

Contact:

For further information on the Urban NEXUS approach, contact the global ICLEI Urban Research Unit: urban.research@iclei.org and the GIZ's Sector Project "Sustainable Development of Metropolitan Regions": metropolregionen@giz.de.

Download:

The full GIZ-ICLEI study and 37 related case studies from cities around the world are available for free download on the [GIZ URBANET](#) and the ICLEI website at: www.iclei.org/urbannexus