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ZUKOWIS – FUTURE OPTIONS OF MUNICIPAL WATER INFRASTRUCTURE IN NRW

ZUKOWIS
Zukunftsoptionen kommunaler Wasserinfrastrukturen in NRW

Scenario-based modeling should contribute to greater transparency of costs for water infrastructure. This should provide a reliable basis for strategic decision-making in local communities.

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CHALLENGE

Due to the limited flexibility and long lifetimes of the water supply and sewage disposal infrastructures, demographic and climatic changes represent a major challenge. The ageing infrastructure, more frequent and more intense heavy rainfall events, greater water efficiency and the resulting continuous decline in per capita water requirements affect both sewage disposal and water supply equally.

As result of the population decline in many communities, fewer and fewer inhabitants are having to bear the costs for the water infrastructure, which remain more or less constant due to the high share of fixed costs. As a result, significant increases in the water and sewage rates in some areas can endanger the attractiveness of towns and communities as residential or commercial locations.

Against this background and within the scope of the research project NAUWA, which was completed in 2012, the specific challenges and corresponding recommendations for four selected municipalities were identified using scenarios. The results emphasize that urban development and urban renewal can only have sustainable effects if the functions and economic efficiency of technical infrastructures are sufficiently involved.

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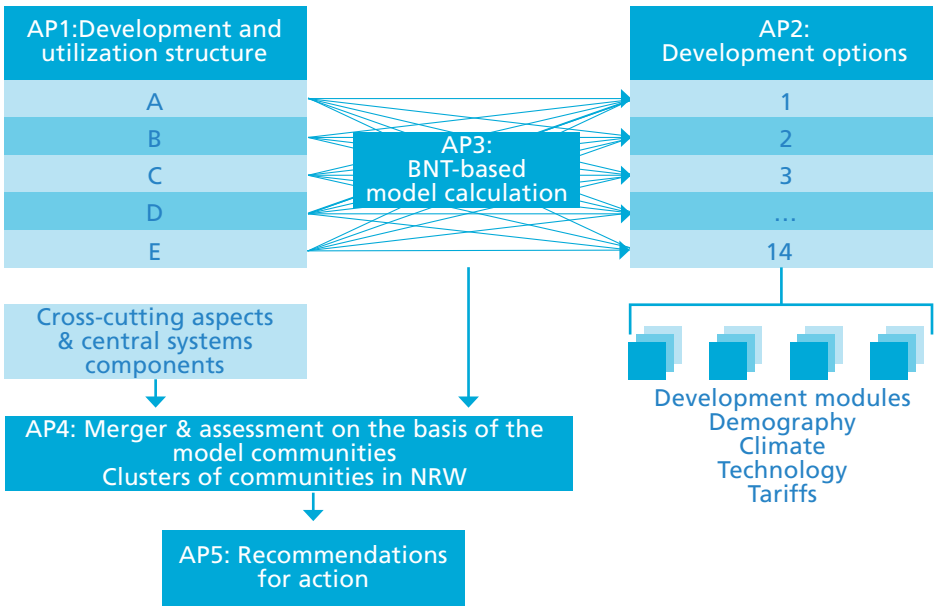
TARGETS

The ZukoWIS project aims to contribute to greater cost transparency regarding urban development under changing conditions for the operators of water infrastructures, but also for users and policymakers by listing the functional and financial consequences of environmental changes for water infrastructure in the towns and communities of North Rhine-Westphalia.

PROCEEDING

In addition, possible solutions are developed to how specific patterns of changing boundary conditions can be taken into account in the context of sustainable planning. Scenario-based modeling is used to quantify the decisive factors influencing sustainability on the basis of settlement and utilization structures and the identified development options at the level of specific building and utilization structures.

Forming clusters based on typical combinations of settlement and utilization structures is the basis for being able to transfer the results to other communities in the country.



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