



Part of the airfield in Oldenburg is being developed as a “real-world laboratory” in which the residents will predominantly meet their energy requirements from locally generated energy.

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Climate-neutral district

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From air base to residential neighbourhood

A new residential district is being built on the site of a former air base in Oldenburg. In addition to new buildings, some of the former barracks buildings will be preserved and converted into residential buildings. A new infrastructure concept is planned that will couple the electricity, heating/cooling and electromobility sectors and integrate them into a cross-sectoral supply network. In addition, the project partners are developing a digital service platform to provide intelligent load and procurement management at the district level.

The redesign of the formerly military-used area offers the town of Oldenburg a unique opportunity to develop a concept for residential districts of tomorrow. Over the next few years, 950 residential units and additional commercial space will be built across the entire area of the former air base. Roughly 110 residential units consisting of existing and new buildings are planned for a 3.9-hectare part of the site. The quarter built on this section will serve as a “living” laboratory for smart city technologies. Citizens are being involved in the “Energy-Efficient Neighbourhood” planning process for the next two years in accordance with the concept of “putting people first”.

Desired is both a thorough mixture of terraced housing and apartment buildings as well as owner-occupied and rental accommodation. The buildings are scheduled to be occupied from about the end of 2020. This will be followed by a roughly two-year evaluation of the energy efficiency district concepts. “One of the core aspects of the project is concerned with how the local energy community for such a neighbourhood can be designed in social and economic terms in order for it to be attractive and economically viable for residents, energy producers and service providers in the long term,” explains Prof. Dr. Sebastian Lehnhoff from the OFFIS executive board, who is providing scientific support for the concept.

Energy exchange among neighbours

The energy requirement is set to be covered for the most part by locally generated energy. To this end, the planners are developing a public supply network that supports the coupling of electricity, heating/cooling and mobility. The ensuing district concept, also known as the “Energy-Efficient Neighbourhoods” concept, combines a network of producers and loads that are in close proximity to one another. Their surplus energy will be converted into other forms of energy and stored or provided directly. This enables the energy to be used immediately by neighbouring loads. The idea is to increase the energy efficiency by avoiding “waste energy” and by increasing the local consumption of “neighbourly-generated” energy.

The Solar Construction / Energy-Efficient City support initiative

The project is being funded as part of the Solar Construction/Energy-Efficient City support initiative set up by the German Federal Ministry for Economic Affairs and Energy and the German Federal Ministry of Education and Research. Module 2, "Energy-efficient city", focuses on districts that utilise innovative ideas to combine energy efficiency and renewables.

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