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Lviv leads the way in saving energy

Sykhiv, a district in Lviv, is being transformed into a model district for energy-efficient housing, leading the way for other towns and cities in the region

The challenge: residential buildings use too much energy for heating

Old combined heat and power plants, an outdated district heating network as well as buildings with inefficient heating systems and high level of energy losses mean that Ukraine's energy consumption is high. This leads to huge costs, with heating for residential buildings accounting for almost a third of the country's entire energy consumption. As a result, Ukraine has one of the highest energy consumption rates in Europe in this sector. At the same time, the CO₂ emissions released into the atmosphere are having a negative impact on the environment and the climate.

The Ukrainian government is therefore striving to harness the great potential for saving energy in residential buildings more effectively, because energy-efficiency modernisation is not only the key to reducing energy consumption, but also to achieving the nationally determined contributions (NDCs) to the Paris Agreement. Homeowners often lack the financial means and technical know-how to carry out comprehensive energy-saving improvements, however. This is also true in the city of Lviv in western Ukraine.



Project title:	Energy-efficient district of Lviv
Commissioned by:	German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV)
Implemented by:	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Lead executing agency:	Ministry for Communities and Territories Development of Ukraine, City of Lviv
Project region:	Lviv, Ukraine
Overall term:	2018 to 2024
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Our approach: a model district for energy efficiency

The model project "Energy-efficient District Lviv" is transforming the Sykhiv district of the city into a model district for energy-efficient housing. The project demonstrates the technical and economic advantages of increased energy efficiency throughout the entire heat chain. It was commissioned by the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV).

Our focus is on advising homeowners' associations on organisational and technical issues so that they can plan and carry out their renovation projects. We provide support by conducting tender procedures, choosing developers of project design documentation, provide support in going through the application process and preparing cost estimates for thermal modernisation of buildings. We provide support by conducting tender procedures, choosing developers of project design documentation, provide support in going through the application process and preparing cost estimates for thermal modernisation of buildings. In addition, homeowners receive financial incentives to renovate their buildings – in addition to government funding from the Ukrainian Energy Efficiency Fund (EEF).



Model for energy-efficient housing: modernisation measures have already been completed in six buildings.

Our support in this context focuses on low-income households. There is also a new municipal support programme designed to help reduce the financial obstacles for homeowners' associations and to make the EEF programmes more accessible.

At the same time, we are supporting the local heating utility "Lvivteploenergo" in adapting its heating network and heat generation capacity to the lower demand for heat. We are training local energy auditors and construction companies and organising workshops for planning offices to prepare complex renovation projects. In addition, the project provided support to homeowners' associations of buildings, which were damaged during the missile attack in the end of 2023, with preparation of reports on damages.

Through these measures, the project is helping to create Ukraine's first energy-efficient district, which will also serve as a role model for other towns and cities in the region. To properly leverage the lessons learned, we are fostering an exchange of experience with other districts in Lviv and other towns and cities in Ukraine.



Vasyl Kotsiuk, head of homeowners association in the Sykhiv district, which implemented thermal modernisation measures



Completely modernised buildings have energy savings averaging around 30 per cent.



'Positive impacts of energy efficiency'

Tetiana Afanasieva, support manager of homeowners' associations in the Sykhiv district of Lviv

Our results: support for the renovation of 34 buildings

- 34 buildings are currently taking part in the "Energy-efficient District Lviv" project (as of February 2024). Among these, 18 have prepared project design documentation for thermal modernisation, while 24 have submitted their first application to the EEF. Six buildings have already been completely renovated, with four more currently undergoing modernisation.
- Completely modernised buildings have energy savings averaging around 30 per cent – with overall CO₂ emissions decreasing by 835 tonnes per year.
- The modelling software was procured and the communal enterprise "Lvivteploenergo" was supported with the creation of the Geoinformation System (GIS). 531 km of district heating pipelines were digitalized. 5 staff members of "Lvivteploenergo" passed the training on work with the modelling software.

'Two or three years ago, people didn't believe these kinds of programmes could be successful. But now there are a lot of examples and people have had experience of implementing them. The residents are in contact with one another too and talk about the positive impacts of the energy-efficiency measures.'

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