

Creating NetZero vision for Rivne

NET ZERO CITIES

EU MISSION PLATFORM | CLIMATE NEUTRAL AND SMART CITIES



EU MISSIONS

CLIMATE-NEUTRAL & SMART CITIES



NETZEROCITIES PILOT CITY



Rivne



Funded by
the European Union

#EUmissions #HorizonEU #MissionCities

The total cost of the project is EUR 1.0 million.

Rivne has been selected to embark upon unprecedented climate action, through the NetZeroCities Pilot Cities Programme, a two-year EU-funded programme as part of the European Union Cities Mission.

Together with 52 fellow Pilot Cities, Rivne will implement innovative actions to accelerate climate action and rapidly decarbonize.

With this Pilot Cities Programme, Rivne will test and experiment new approaches to transforming the way we live and work, buildings, energy systems, and more.

Rivne will be building on multiple levers of change including governance and policy, learning and capabilities, technology/infrastructure. The Pilot Cities Programme will be the opportunity to share learnings with other cities, building on each other's experiences, replicating and scaling solutions that work in similar contexts. This will ultimately lead to an accelerated transition towards climate neutrality across Europe.

Project implementer - Department of Economic Development of Rivne City Council



Pilot City Summary

Between 2010 and 2020 Rivne reduced emissions by 23,2% (private transport excluded).

On July 26, 2012, Rivne has joined the EU Covenant of Mayors initiative, which entails a voluntary commitment by cities and towns to go beyond the objectives of the EU energy policy by achieving at least a 20% reduction of greenhouse emissions by 2020 through sustainable energy and climate protection actions.

Rivne participated in several technical assistance projects that developed various types of energy plans, the city had energy screening performed at all public facilities in 2020, it also uses «Energobalans» system to collect and display energy consumption of public facilities.

In 2021 Rivne reaffirmed its commitment to the Covenant of Mayors for Climate and Energy and the second energy plan (SECAP) is being developed with the aim of reducing CO₂ emission by 30% by 2030.



In July 2021 Rivne city council adopted the decision on joining the European Energy Award, which is the EU-endorsed quality management system for energy efficiency.

Barriers and challenges to be addressed via pilot activities

- The barriers are associated with energy data collection and management:
 - 1 Data collected by different organizations (city departments, public utilities, energy suppliers) for their specific purposes without an intention to be a part of a bigger data system
 - 2 The data are in different formats and forms
 - 3 No regular building parameters update system in place
 - 4 No spatial association of the data, which demands strong knowledge of city planning from the user of data so they can imagine what are the facilities in question
 - 5 Data created by projects, including international assistance projects, remains for project use only and is not integrated into a system
 - 6 Often, only the specialist working with a particular data set knows where it's located and how it's structured. And when the specialist leaves the city administration access to data is essentially lost

- Lack of the workforce for the low-carbon development consists of two components:
 - 1 Not enough specific courses that train professionals who work in energy efficiency and RES sectors
 - 2 Courses for other professions that are not associated with RES or energy efficiency directly do not provide background knowledge about low-carbon development

Pilot activities

- 1 Compiling Municipal Energy Passport (MEP)
- 2 Development of the NetZero Vision document
- 3 Establishment of a renewables energy (RES) laboratory/workshop
- 4 Development of training courses «Planning and implementing RES and efficiency» and conducting training for managers of public and apartment buildings
- 5 Development of software for transferring and integrating heat consumption data
- 6 Equipping 250 public buildings with temperature recorders
- 7 Equipping 118 public buildings with automatic heat meters
- 8 Energy development scenario modeling

MEP is a report published online (as a system) and as a text version. The report includes all available data on municipal buildings and energy.

MEP will become a foundation for decision-making related to emissions reduction and sustainable energy sector development for the city.

MEP will serve as a framework for integration of data from other sectors (transport, businesses), thus further contributing to better governance through access to more comprehensive data about the city.

The MEP system will monitor, update and present statistics about public facilities and buildings stock. It will be an innovative service no other city in Ukraine employs.

Stakeholders (/to be) engaged

- National university of water management (NUWM)
- Rivne construction college
- Rivne technical specialize college of NUWM
- Public facilities, their staff and directors (183 organizations)
- Students
- Local business entities
- Deputies of the city council

EU National / regional policy alignment

The project contributes to following European Green Deal components:

- **Finance and regional development.**

Quality data on energy consumption will help to develop further projects and investment opportunities and thus to attract sustainable investments.

- **Energy: boost energy efficiency.**

Through better monitoring, the project improves energy-related decisions, including prioritizing facilities for implementation of efficiency measures and selecting appropriate renewable energy technologies.

- **REpower.**

Automation of the energy monitoring creates preconditions to better estimate renewable energy technologies and the training program results in improved skills and knowledge of students about renewables.

Project will raise awareness of climate issues through better CO₂ emissions monitoring and improved visibility of energy efficiency measures.

It will engage students and staff of public facilities to save energy and educate them about climate change and related issues.

To the New European Bauhaus, the pilot activity aligns through improved energy data management and visibility, engagement with academic institutions.

EU National / regional policy alignment

In March 2021, the Cabinet of Ministers of Ukraine approved the National Economic Strategy until 2030, through which climate neutrality is to be achieved no later than by 2060. The Ukraine's national energy strategy until 2035 «Safety, efficiency, competitiveness» is aligned with **this vision and the project contributes to its next objectives:**

- **Conscious and energy efficient society.**

Pilot activity raises awareness of citizens of Rivne about carbon neutrality and energy efficiency, particularly in public facilities

- **Implementation and continuous improvement of energy management systems.**

Better energy monitoring in Rivne achieved by the project will improve energy management of the city.

- **Ensuring full and transparent monitoring of all types of energy and energy carriers.**

The pilot activity will lead to better accounting of heat supply, analysis of the data and quality decisions.

The concept of the state policy in the heat supply sector among its objectives has 100% metering of heat supply. Pilot activity contributes to it, as well as to the concept of the state policy housing energy efficiency and the national plan on increasing the near-to-zero consumption number of buildings.

Key project results:

Unique Municipal Energy Passport online system that consolidates energy consumption in the city and presents it in accessible form for city officials

Reduction of 3000 tonnes CO2 emissions per year

«Planning and implementing RES and efficiency» course developed by NUWM and 250 students were trained

383 managers of public and multi apartment buildings trained in energy efficiency

Net Zero Vision document developed with board public consultations attended by 900 people

118 heat energy meters in public buildings automatically transmit energy data to the database

250 public buildings equipped with temperature loggers

3 scenarios of city's transition to NetZero CO2 emissions modeled, including one by 2050

Transferability

1 The **Municipal Energy Passport** system has a scaling-up potential for at least Ukrainian cities



The Municipal Energy System will eventually be scaled to all energy systems of the city, including private transport and private houses.

2 The **software developed** to receive the heat consumption data from transmitters and reflect it in an online database



The software developed can be used to work on other types of energy meters, i.e. electricity, gas, water. It opens the possibility to completely automate monitoring of energy consumption in the city. This will significantly speed-up response to inefficient use and losses, enable more possibilities demand-side management and behavior changes. All these will result in emission reductions due to reduced energy consumption.

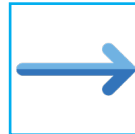
Transferability

3 The **training courses** developed as part of the pilot activity are expected to be carried out on the annual basis by NUWM and its colleges



The course materials will be shared with other universities and educational institutions in Ukraine. A possible scaling-up is development of online versions of the courses, which make the knowledge available to even more people.

4 **Renewables workshop/laboratory**



Laboratory will serve as a training base for many professions trained in Rivne, as well as a research center. It will be maintained by the professional college of NUWM beyond the pilot activity duration. Availability of the workshop will improve the quality of trained workers for RES implementation.

5 **Energy development scenario modeling**



Will enable scientists at NUWM to provide the modeling as a service to other Ukrainian and EU cities, which are interested in a long-term planning of energy development.



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