

"Financing Energy for Low-carbon Investment Cities Advisory Facility - Eastern Partnership and Central Asia Countries"

FELICITY II

CROSS-SECTORAL APPROACHES TO TURN CLIMATE CHALLENGES INTO INVESTMENT OPPORTUNITIES

UKRAINE
MOLDOVA **KAZAKHSTAN**
UZBEKISTAN

On behalf of:



Implemented by:



FELICITY II: Transforming Cities through Climate-Sensitive Infrastructure Investment

According to the International Energy Agency (IEA), **cities account for 70% of global energy use** and related Greenhouse Gas emissions. By 2050, an additional two billion people are expected to live in urban areas. The Financing Energy for Low-carbon Investment Cities Advisory Facility – Eastern Partnership and Central Asia Programme (**FELICITY II**) helps to overcome technical, institutional, financial, and capacity barriers to the development of low-carbon and climate-resilient urban infrastructure.

The programme focuses on climate investments in the building sector in the partner countries of **Kazakhstan, Moldova, Ukraine, and Uzbekistan**. In Ukraine, the water and wastewater sector is an additional focus. The programme takes the development interests of cities as its starting point and links these with the perspectives and requirements of international climate finance institutions.

FELICITY II: KEY FEATURES

5

YEARS

The five-year programme (January 2022 to December 2026, in Ukraine until the end of 2027) is funded by the **International Climate Initiative (IKI)** of **Germany's Federal Ministry for the Environment, Climate Action, Nature Conservation and Nuclear Safety**, and implemented by **Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH** in cooperation with the **European Investment Bank (EIB)**. It builds on the success and experiences from the FELICITY I programme, which was implemented in Latin American and South-East Asian countries. At the same time, the programme fits in with and continues the IKI's involvement in other decarbonisation projects in the infrastructure sector in the countries of the Eastern Partnership and Central Asia. The FELICITYII programme has a total funding of €20 million.

20€

MIO

There is a high demand for low-carbon infrastructure investment, and significant challenges must be addressed in order to improve the low degree of energy efficiency and high greenhouse gas emissions in the **building, water, and wastewater** sectors in the partner countries.

In Ukraine, the focus is on rebuilding and modernising war-damaged infrastructure in line with the **"Build Back Better"** principle.

At the **national** level, governments are supported in creating favourable conditions for infrastructure investment. Financial intermediaries are strengthened to enable them to structure climate finance.

At the **subnational** level, experts, and project promoters are supported in preparing bankable, low-carbon investment projects. This technical assistance is coupled with a financial contribution from an IFI to ensure that low-carbon infrastructure projects are implemented and scaled up. By participating in such financial-technical alliances in the infrastructure sector, countries can learn from regional and international best practices.

2

SECTORS

BUILD
BACK
BETTER

2

LEVELS

In Ukraine, the programme also involves preparing a technical project for large-scale contributions from the IKI to the EIB, which will be invested in renewable energy solutions for public buildings.

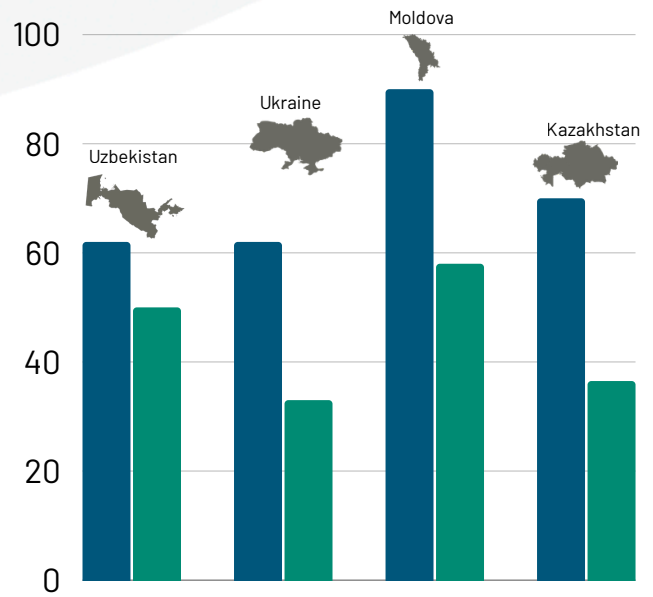
The project directly contributes to strengthening the role of sustainable infrastructure in **Low Emission Development Strategies (LEDS)** and the implementation of the **Nationally Determined Contributions (NDCs)** under the Paris Agreement.



Nukus pilot in Uzbekistan is aimed to demonstrate how energy-efficient refurbishment planning should be organized in real life.

CITIES: BRINGING CLIMATE FINANCE WHERE IT'S NEEDED MOST

The escalating **climate crisis** and rapid **urban growth** are putting pressure on cities to transform their outdated, **fossil-fuelled infrastructure**. The FELICITY II programme is working closely with national government institutions and local city authorities in partner countries to build cooperation bridges to create enabling framework conditions, clear financial mechanisms, and assist in concrete pilot investment projects' design. A flexible partner-oriented approach is crucial, especially during times of uncertainty and complexity, facilitating opportunities for **investing in climate-sensitive infrastructure** while fostering emerging markets for it.



Urbanisation rate
Building sector total energy consumption rate

Sources: [IKI](#), [Kazinform](#), [IEA](#), [Astana Times](#), [UNFCCC](#), [Kazakhstan Bureau of Statistics](#), [World Bank](#), [IEA](#)



COMMISSIONER

IKI is a flagship funding program of the German government supporting ambitious climate action and biodiversity projects in developing, emerging, and transition economies.



IMPLEMENTING PARTNERS

EIB, which refers to itself as the "EU's climate bank", is the lending arm of the European Union and one of the world's largest multilateral financial institutions.



GIZ is a German state-owned technical development agency that provides specialised services in international cooperation for sustainable development.

FELICITY II: TARGETS IN PROGRESS

Financing leveraged for sustainable infrastructure €100 Mio	Projects ready for investment 29 <input checked="" type="checkbox"/>
Policy & regulatory documents 29	Public buildings benefiting from RES 70

THE FELICITY APPROACH

LOW CARBON INFRASTRUCTURE PROJECTS IN CITIES



CLIMATE FINANCE

- Enhancing Enabling Environment
- Establishing Financing Mechanism
- Preparing Project Design
- Knowledge and Capacity Development

FELICITY II KEY ACHIEVEMENTS

UKRAINE: PILOTING COMPREHENSIVE ENERGY-EFFICIENT (EE) REFURBISHMENT OF WAR-DAMAGED 20 MULTI-FAMILY BUILDINGS IN MYKOLAIV AND KRYVYI RIH FOR SETTING "BUILD BACK BETTER" STANDARDS

Following successfully applied models from Germany and the Baltic states and in cooperation with dena, IWO, Bauhaus Earth, Rožkvit, Art-Bud, DELTA, KyivESCO, Covenant of Mayors, a standard methodology for scaling reconstruction and EE refurbishment of multi-family buildings in Ukraine is currently in co-creation. Implementation funding is envisaged via the Energy Efficiency Fund, which will be supported by EIB loan.



dena training in Lviv, Ukraine, November 2025

UZBEKISTAN: PROJECT APPRAISAL DOCUMENT FOR 143 MIO EUR EIB LOAN FOR UZPBEE PROGRAM FINALIZED

The project appraisal document (PAD) has been prepared and submitted for the final approval of the Ministry of Economy and Finance. As part of PAD development, more than 60 buildings have undergone energy audits, and a feasibility study outlining three renovation packages has been completed. Approvals have been obtained from seven municipal authorities. After final approval, the loan agreement is expected to be signed in 2026, and renovation works are scheduled to begin in the first quarter of 2027.



Energy audit of a school in Tashkent, Uzbekistan, September 2025

UKRAINE: ACCELERATING INVESTMENTS IN WATER AND WASTEWATER SECTOR

100 Mio Water & Wastewater EIB loan program facilitated, and pipeline established, currently supporting the preparation of 5 climate-sensitive projects by water utilities.



Field visit to Khmelnytskyi water treatment plant, Ukraine, August 2025

KAZAKHSTAN: UNLOCKING GREEN INVESTMENT FOR NEW RESIDENTIAL BUILDINGS

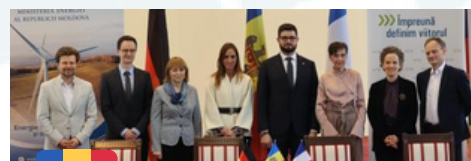
The Kazakhstan Housing Company (KHC) and the EIB signed a Memorandum of Understanding to establish financing mechanisms that support the application of new energy efficiency standards in future residential buildings.



EIB and KHC sign an MoU, Kazakhstan, May 2025

MOLDOVA: IMPROVING ACCESS TO FINANCE WITH MINISTRY OF ENERGY

FELICITY II provided institutional support to Moldova in securing international financing for the renovation of public and residential buildings, including through MEEP and INSPIREE programmes.



INSPIREE grant signing, Moldova, March 2025



FELICITY II UKRAINE

Financing Energy for Low-carbon Investment – Cities Advisory Facility

MAKING RECONSTRUCTION SUSTAINABLE: RESIDENTIAL BUILDING SECTOR

BACKGROUND

Russia's full-scale war has caused extensive damage to Ukraine's residential housing stock. According to the latest Rapid Damage and Needs Assessment, around 14% of the country's housing has been damaged or destroyed, with multi-family buildings accounting for the majority of affected homes. Rebuilding is not only about restoring safe living conditions, but also a strategic opportunity to strengthen energy security, reduce CO2 emissions, and lay the foundations for a climate-resilient recovery.

Ukraine applies the "Build Back Better" principle by embedding high energy efficiency standards aligned with EU policies and directives into post-war reconstruction. This approach prevents the lock-in of carbon-intensive solutions while reducing energy consumption and strengthening long-term resilience.

In Kryvyi Rih and Mykolaiv, FELICITY II is preparing 20 war-damaged multi-apartment buildings for EE refurbishment, creating a blueprint for large-scale, EU-aligned residential reconstruction.

FELICITY II acts as a bridge between municipal recovery needs and international financing requirements, ensuring high-quality preparation of EE refurbishment projects.

“Housing recovery is not only about rebuilding homes, but about ensuring resilience and energy efficiency for the future housing stock.”



OLEKSIY KULEBA
DEPUTY PRIME MINISTER FOR RESTORATION
MINISTER FOR DEVELOPMENT OF COMMUNITIES AND TERRITORIES

OUR PARTNER



MINISTRY
FOR DEVELOPMENT

OUR SUPPORT



EE Residential Buildings

Preparation of investment-ready projects

FELICITY II supports two partner municipalities in development of a pipeline of projects ready for financing and scalable implementation. This includes technical assessments, energy audits, and the development of complete design and cost documentation that meets EU standards and the requirements of international financial institutions.

Institutional strengthening at municipal level

FELICITY II strengthens the institutional capacity of partner municipalities to manage technical, social, and financial aspects of EE reconstruction. By supporting structured dialogue with residents and introducing "one-stop-shop" approaches, the project enables cities to act as effective coordinators of recovery efforts.

Market development

To ensure long-term impact, FELICITY II works to improve the quality and availability of professional services in the energy efficiency sector by promoting high-performance technical solutions and supporting a professional market for energy advisors, designers, and planners.

Material compass for EU-oriented reconstruction

To promote a whole-life carbon approach to Ukraine's post-war recovery, Bauhaus Earth and Ro3kvit analyse the social, economic, and environmental dimensions of embodied carbon and develop practical reconstruction case studies for the pilot multi-family buildings based on New European Bauhaus principles.

Scaling up for climate-resilient future

FELICITY II approach creates the basis for large-scale financing for EU-aligned residential reconstruction: both through national programmes and international financial instruments.

PILOTS FOR EE REFURBISHMENT OF WAR-DAMAGED BUILDINGS IN KRYVYI RIH AND MYKOLAIV

- ✔ Project implementation teams were established in both pilot cities
- ✔ 20 pilot buildings were selected jointly with the cities
- ✔ Dialogue with homeowners - meetings with the residents of 20 pilot buildings conducted.
- Technical assessments and energy audits of pilot buildings implemented
- Development of project design documentation for EE refurbishment and restoration by the national project developers with support of dena and on-the-job trainings for energy advisors
- Development and implementation of one-stop-shop concepts for EE reconstruction of residential stock in both pilot cities supported by IWO and Covenant of Mayors
- Elaboration of a financial mechanism for reconstruction of residential stock
- Concept design for scaling the pilot model for EU-aligned residential reconstruction

“ The project design documentation will ensure that reconstruction works follow the “Build Back Better” principle. At the same time, modern requirements for thermal modernisation, environmental performance, and energy efficiency will be fully integrated.

DMYTRO BEZDOLNYI
DIRECTOR OF THE DEPARTMENT OF HOUSING AND UTILITIES OF MYKOLAIV



CAPACITY DEVELOPMENT

FELICITY II provides hands-on training and on-the-job learning for municipal staff, energy auditors, designers, architects, and planners involved in refurbishment projects. By strengthening technical expertise, coordination skills, and practical experience, FELICITY II helps build a sustainable ecosystem capable of delivering EE reconstruction at scale. Also, programme supports the adaptation of New European Bauhaus principles to the Ukrainian context, focusing on embodied carbon, regenerative building materials, and sustainability.

ENVISIONED TARGETS

20 war-damaged buildings prepared for comprehensive EE reconstruction



Refurbished buildings expected to achieve at least 60% improvement in energy performance



Explore regenerative building materials to lower embodied carbon footprint





FELICITY II UKRAINE

Financing Energy for Low-carbon Investment – Cities Advisory Facility

MAKING RECONSTRUCTION SUSTAINABLE: WATER AND WASTEWATER SECTOR

BACKGROUND

The water and wastewater sector in Ukraine faces several critical needs, particularly in the context of modernization, sustainability, and resilience in the face of ongoing war. As Ukraine rebuilds, we are committed to implementing environmentally sustainable practices that minimize CO2 emissions and protect natural resources, ensuring that recovery efforts do not compromise ecological integrity.

“Our task is not simply to restore the system. We aim to build a modern, resilient, and European model of water supply and sanitation, fully aligned with EU directives.”



DMYTRO NOVYTSKYI
PRESIDENT OF THE ASSOCIATION OF WATER UTILITIES
OF UKRAINE "UKRVODOKANALEKOLOGIA"

OUR PARTNER



MINISTRY
FOR DEVELOPMENT



OUR SUPPORT



Water/WasteWater

Regulatory and policy frameworks

The sector needs to align its regulations and practices with EU directives and standards, especially concerning water quality, wastewater treatment, and environmental protection. FELICITY II supports the harmonisation of Ukrainian water sector regulations with EU directives, including updated construction norms and recommendations for sewage sludge reuse.

Financial sustainability

The sector needs increasing access to long-term financing from international institutions, national budgets, and private sources to modernise its ageing infrastructure. At the same time, sustainable and fair tariff systems are essential to ensure that utilities can cover operational, maintenance, and investment costs. FELICITY II supports utilities in preparing technically sound, bankable investment projects for financing, while also advising the development of cost-recovery tariff models. By strengthening financial viability, we enable water utilities to attract funding and invest in future-proof infrastructure.

Infrastructure rehabilitation and modernisation

Much of Ukraine’s water and wastewater infrastructure is outdated, inefficient, and vulnerable to climate-related risks. Treatment plants, pipelines, and distribution systems require urgent modernisation to ensure reliable service delivery and improve climate resilience. FELICITY II supports utilities in preparing investment-ready projects that upgrade infrastructure, improve performance, and build resilience to extreme weather events, ensuring essential services continue under possible future harsher conditions.

Leveraging international support

Through cooperation with the EIB and other international stakeholders, we aim to mobilize resources and expertise to implement further medium-sized municipal projects in the sector that align with global sustainability goals and local needs.

Addressing climate and environmental risks in water and wastewater planning and investments

We support the integration of Climate Risk and Vulnerability Analyses into the planning and preparation of water and wastewater programmes and investments, ensuring that engineering solutions for the modernisation of water utilities are resilient to the impacts of climate change. In addition, we support the application of Strategic Environmental Assessment (SEA) approaches for water supply and wastewater programmes, with the involvement of European experts. This integrated approach helps prevent malinvestments and ensures the long-term environmental and climate sustainability of the investments.

Institutional strengthening

We strengthen the capacity of local water utilities and municipalities by enhancing governance, operational efficiency, and the skills necessary to manage complex investment projects.

LAYING THE GROUNDWORK FOR SCALABLE CHANGE

- ✓ FELICITY II facilitated the signing of the 100 Mio EIB Ukraine Water Recovery Loan, which has received 165 applications with a total value exceeding 700 Mio EUR.
- ✓ 5 water utilities selected for technical support and project preparation under EIB loan programme.
- Tariff pilot with Lvivvodokanal to develop a full-cost recovery model based on German and Polish best practices.
- Construction norms and standards under revision in line with EU directives, with expert input from FELICITY II.
- ✓ Integrating climate risk and vulnerability assessments into investment projects and supporting SEA approaches for public water supply and sanitation programmes to avoid misguided investments.
- ✓ Cross-border project WASSER initiated between Ukraine and Moldova to address war-related impacts on the regional water supply and sanitation.

ONGOING INVESTMENT PROJECTS

New construction of modern sewage treatment facilities for household wastewater Khmelnytskyi

Improvement of the sanitary and ecological state of the environment, reduction of the negative impact on the Southern Bug River.

Construction of the third lift pumping station with water tanks in Pervomaisk, Mykolaiv region

Social effect of the population will receive high-quality and round-the-clock centralised water supply to the city population.

Reconstruction of sewerage networks and facilities within the Talnivska Community

Improvement of the sanitary and ecological condition of the Hirsky Tikich River.

Reconstruction of the first water supply line in Horishni Plavni

This project will provide more than 50,000 residents with reliable access to safe drinking water, while significantly reducing resource losses and minimizing disruption to urban infrastructure through the use of modern trenchless technologies.

[Video: Financial sustainability of communities: Lviv Forum highlights - supported by FELICITY II](#)



ENVISIONED TARGETS

5.7–9.7 million kWh saved annually – as much as 8 hectares of solar panels can produce in a year



CO₂ cuts (8400 tons/year) equal to planting 140,000 trees
CH₄ and N₂O cuts up to 300 tons/year



Cleaner Dnipro, Psel and Southern Bug rivers through better wastewater treatment



Improved life quality for ~610,000 people, including ~46,000 IDPs



IMPRINT

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