

"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:



of the Federal Republic of Germany

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.

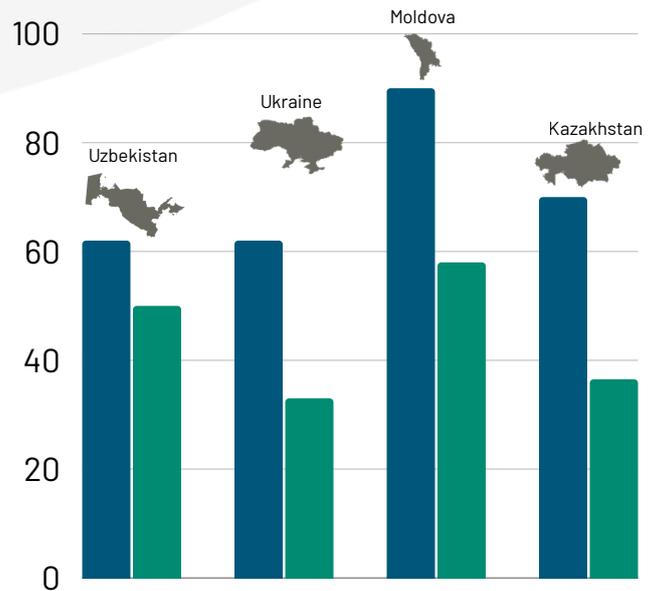
COMMISSIONER

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.



Urbanisation rate
Building sector total energy consumption rate

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

FELICITY II: TARGETS IN PROGRESS

Financing leveraged for sustainable infrastructure

€100 Mio

29

Projects ready for investment

Policy & regulatory documents

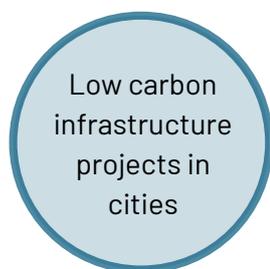
29

Public buildings benefiting from RES

70



THE FELICITY APPROACH



- Enhancing Environment
- 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 KAZAKHSTAN

Financing Energy for Low-carbon Investment – Cities Advisory Facility

SAVING ENERGY FOR BETTER LIFE

BACKGROUND

THE BEST POWER PLANT IS THE ONE WE DON'T NEED

Kazakhstan's cities are expanding rapidly, and with them, the demand for energy keeps rising.

Yet almost 35% of this energy is consumed by buildings, many of which are poorly insulated and use outdated heating and power-systems. This is 2-3 times higher energy use per m² than Northern Western European buildings, and as a result, 2-3 times more energy per square meter than buildings in northern parts of Western Europe.

In fact, average heat-energy consumption in Kazakh buildings reaches about 240 kWh/m²-year, compared to 80-130 kWh/m²-year in countries like Sweden, Germany, England, or France.

35% of energy is consumed by buildings

Instead of investing in new, coal or gas-based generation capacity that locks the country deeper into fossil fuel dependency, Kazakhstan has a chance to act smarter by more efficient consumption at its source.

FELICITY II is supporting partners in Kazakhstan to modernize the housing sector, scale up building refurbishment, and strengthen technical and institutional capacities for low-carbon and climate-resilient urban development.

“The modernization of public utilities must be accompanied by an increase in the energy efficiency of infrastructure and housing stock.”



PRESIDENT KASSYM-JOMART TOKAYEV

OUR PARTNERS



ҚАЗАҚСТАН РЕСПУБЛИКАСЫ
ӨНЕРКӘСІП ЖӘНЕ ҚҰРЫЛЫС
МИНИСТРЛІГІ



KAZAKHSTAN
HOUSING
COMPANY



ELECTRIC POWER
AND ENERGY SAVING
DEVELOPMENT INSTITUTE

OUR SUPPORT



EE Residential and Public Buildings

Establishing effective policies and supporting public understanding

In Kazakhstan, energy efficiency and buildings sector development are still seen as separate issues, even though they are closely interlinked. Establishing legal and policy frameworks that connect them, along with efforts to raise awareness and improve standards and regulations, is an important step forward.

How we create momentum for results:

- Use data and analysis to build an evidence base that supports the alignment of energy and construction policies, while bringing together key stakeholders for dialogue.
- Contribute to the development of new national regulations on EE construction
- Provide technical input, as needed, for the revision of the national Law on Energy Saving and Energy Efficiency.
- Support the Electric Power and Energy Saving Development Institute (EEDI) in designing and delivering a nationwide public awareness campaign on EE.
- Produce and disseminate knowledge on EE modernisation in the building sector, including through national and international dialogue.
- Support the integration of the building sector into Kazakhstan's Nationally Determined Contributions (NDCs) under the UNFCCC by preparing a background study.
- Contribute to the development of the national roadmap for decarbonising buildings as part of the 2060 Carbon Neutrality Strategy.

Unlocking green investment for new residential buildings

In partnership with the KHC, FELICITY II is helping set new energy standards for future residential buildings while creating pathways for large-scale international financing.

What we are doing:

- Facilitating cooperation between the EIB and KHC to develop potential funding mechanisms for new EE houses.
- Supporting the EIB's policy dialogue with Kazakh partners.
- Backing technical exchanges between EE experts and national developers through KHC to integrate efficiency standards into design documentation for new buildings.
- Conducting trainings and study tours for developers and experts on the practical integration of energy efficiency into planning and construction.
- Providing advisory support through dena for one pilot EE residential building with a local construction company.

Mobilizing international financing for EE public buildings

The project identifies strong entry points for integrating EE standards in the public buildings sector, and scaling them.

What we are doing:

- Providing hands-on training and ongoing advisory support through dena on integrating efficiency standards into the national health infrastructure project.
- In cooperation with the Ministry of Health and its subordinate institution, Turar Healthcare, a pilot EE hospital is being designed. An energy balance model will be prepared with advanced simulation software to compare three different efficiency design options.
- Supporting the planning process for integrating efficiency standards into the design of future hospitals.

A pilot project in Kokshetau will demonstrate how EE refurbishment planning should be organised in real life, showing actual costs, engaging homeowners in decision-making, and testing the services of local design companies and newly trained energy consultants. The pilot case also explores financing mechanisms and fair cost-sharing between households and the state. The experience will be synthesised in a handbook, inform national policy dialogue, and create the foundation for scaling up modernisation across Kazakhstan.

Piloting EE refurbishment planning in Kokshetau

KOKSHETAU PILOT: LAUNCHING LOW-CARBON URBAN SOLUTIONS

- ✓ Dialogue with homeowners facilitated with support from IWO (Housing Initiative for Eastern Europe)
- ✓ Refurbishment Office set up to coordinate the pilot project with Kokshetau city authorities
- ✓ Complete project design documentation prepared by the national company Archikom, together with dena, FELICITY II and project-trained energy consultants
- ✓ Design documentation provided to homeowners for further possible use for modernization and access to state co-financing programs
- A handbook will capture pilot results to guide national policy and future scale-up
- Replication of EE modernization planned under Kokshetau's complex renovation & modernization programme, in cooperation with the Social and Entrepreneurial Corporation "Kokshe" of Akmola region.



ENERGY-EFFICIENT NEW BUILDINGS WITH KHC



STEP 2

EIB and KHC sign an MoU to integrate energy efficiency standards into new construction



STEP 4

GIZ, KHC, and Shar Kurylys sign an MoU to pilot the first EE residential building in Astana

STEP 1

FELICITY II facilitates dialogue between the EIB and the KHC on financing EE housing



STEP 3

dena provides training and technical advice to KHC and construction companies, with regular exchanges involving EIB technical staff



INTRODUCING ENERGY CONSULTANT APPROACH

Kazakhstan does not yet have the profession of energy consultant, although such experts are essential for refurbishment programs, as proven in Europe. FELICITY II is addressing this gap by training five specialists through dena's multi-module program. Using the Kokshetau pilot as a practical case, they learn to integrate energy efficiency requirements directly into project design documentation. In parallel, the project is raising the demand for this expertise and advising legal reform at the national level to establish the development and registration of a professional standard for energy consultants, ensuring that these new experts can play a recognized role in real refurbishment projects across the country.



Improving people's quality of life and developing a modern, comfortable urban environment are the key priorities of Kazakhstan Housing Company. Signing a memorandum with EIB Global is an important step in the implementation of long-term international cooperation initiatives that are in line with both national priorities and global climate challenges.



ALTAY KUZDIBAYEV
KHC MANAGEMENT BOARD CHAIRMAN



FELICITY II MOLDOVA

Financing Energy for Low-carbon Investment – Cities Advisory Facility

BUILDING THE GROUND TO SAVE ENERGY

IMPROVING ACCESS TO FINANCE WITH MINISTRY OF ENERGY

Since December 2024, FELICITY II is helping Moldova turn energy efficiency into a driver of change. Together with the Ministry of Energy, the programme strengthens the groundwork for improving access to international climate finance. It facilitates Moldova's path toward greener cities, stronger institutions, and EU integration. With rising energy costs and increasing demand for modern public services, FELICITY II brings the tools, expertise, and partnerships needed to scale up financing for sustainable building upgrades and make every kilowatt count.

OUR SUPPORT



EE Buildings

Facilitating access to climate finance

Acting as an honest broker, FELICITY II provides embedded expertise within the Ministry of Energy to streamline loan and grant negotiations with IFIs. This includes EIB, KfW, jointly with the AFD. It supports the coordination of priority financing processes and energy efficiency practitioners.

Strengthening energy management systems

By enhancing the digital Energy Management Information System (EMIS) for public building managers, the programme enables up to 10–15% short-term energy savings. In partnership with the National Center for Sustainable Energy (CNED), EMIS creates a transparent database for future investment pipelines aligned with international standards and supporting the transposition of the EU Energy Performance of Buildings Directive.

Integrating national and municipal efforts for energy savings

FELICITY II connects bottom-up initiatives, such as the 'Learning Energy Efficiency Network' and local climate ambitions in Bălți municipality with a national financing perspective by providing strategic advice to the Ministry of Energy, CNED, and the Ministry of Finance – ensuring that investments are directed where they are most needed.

Video: EE Exchange organised by FELICITY II



Video: Visit to Leova school organised by FELICITY II



INSTITUTIONAL SUPPORT PROVIDED TO

INITIATIVE TO NURTURE SUSTAINABLE PUBLIC INFRASTRUCTURE THROUGH RENOVATIONS FOR ENERGY EFFICIENCY



SUPPORTED INTERNAL PROCEDURES RELATED TO LEGAL GROUNDWORK



€10 Mio for residential buildings
€2.4 Mio EUR for public buildings

SUPPORTED INTERNAL PROCEDURES RELATED TO LEGAL GROUNDWORK



FELICITY II IKI funding

€19,7 Mio
Moldova Budget
€0,4 Mio

Staff in team 2

Staff embedded 1

INSPIREE

Loan €30 Mio
Grant €38.7 Mio
Republic of Moldova contribution €4.3 Mio

Total INSPIREE €73 Mio

- Legal and technical advisory to Ministry of Energy for the preparation of the grant agreement between KfW (on behalf of Germany) and Moldova.
- Supported the ratification of the AFD loan agreement.
- Together they pave the way for large scale renovation of public buildings.

MOLDOVA ENERGY EFFICIENCY PROJECT (MEEP)

Promotion of 4 Amendments between the EIB and the Republic of Moldova regarding MEEP projects, concerning:

1. Financing Contract
2. Grant Agreement
3. Cooperation Agreement
4. Implementation Agreement

ANALYSIS SHOWS: ENERGY EFFICIENCY INVESTMENTS PAY OFF

- Impact analysis of 8 schools renovated by GIZ shows that energy savings pay off.
- Such long-term savings significantly reduce financial risk and make renovations economically sound for Moldova's future.



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 KRYVVI 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



In cooperation with EEF, 30 Mio EIB loan utilized for effective project implementation



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

€100 Mio
EIB
Ukraine
Water
Recovery
Loan

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.

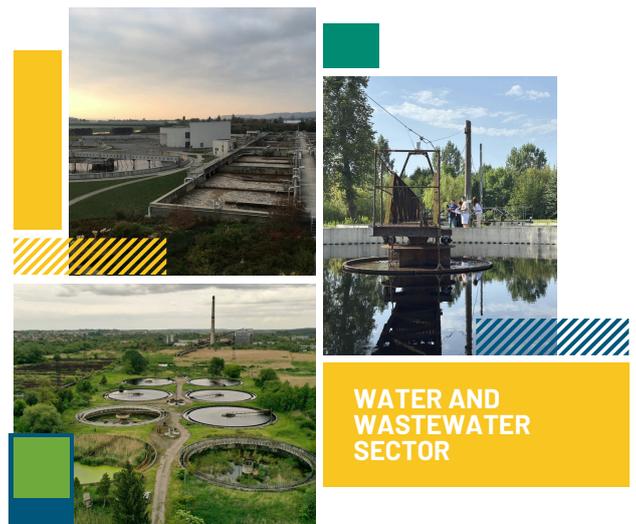
LAYING THE GROUNDWORK FOR SCALABLE CHANGE

- ✓ 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





FELICITY II UZBEKISTAN

Financing Energy for Low-carbon Investment – Cities Advisory Facility

ENERGY EFFICIENCY FOR A SUSTAINABLE FUTURE

BACKGROUND

On January 14, 2026, President Shavkat Mirziyoyev emphasised the need to strengthen energy efficiency alongside modernisation efforts, noting that “almost 50%” of Uzbekistan’s final energy consumption occurs in buildings.

EFFICIENCY IS THE FIRST FUEL

Uzbekistan’s cities are growing fast, and with them, the demand for heat and electricity continues to rise. Yet buildings account for roughly half of final energy consumption, and much of the housing stock still relies on inefficient heating systems and weak insulation. As a result, in Uzbekistan, average specific heat-energy consumption in residential and public buildings is estimated at around 320-390 kWh/m²-year, significantly higher than in many European countries, such as the Netherlands (about 95kWh/m²-year) or the European average (~150 kWh/m²-year).

Instead of locking the country deeper into fossil fuel dependency by expanding gas-based generation capacity, Uzbekistan has now the opportunity to act smarter by prioritising energy efficiency at the source.

Through FELICITY II, we support partners in Uzbekistan to modernise the housing and public building sector, scale up refurbishment programs, and strengthen technical and institutional capacities for low-carbon and climate-resilient urban development.

“The country is among the most energy-intensive, while buildings consume almost half of all final energy, and energy consumption per square meter is several times higher than in European countries.”



PRESIDENT SHAVKAT MIRZIYOYEV

OUR SUPPORT



EE Residential and Public Buildings

Revision of norms and standards to promote EE construction and modernisation

In Uzbekistan, the regulatory framework for energy efficiency in buildings is being modernised. While energy efficiency requirements exist, they have institutionally been fragmented across technical norms and sectoral regulations. This makes the systematic integration of energy performance, energy passports, and building energy performance categories a key priority for improving the quality, transparency, and effectiveness of the buildings sector.

What we are doing:

- Supporting the revision of nine national building codes and standards related to energy efficiency, including requirements for building energy performance, energy passports, and energy efficiency classification.
- Working closely with the Ministry of Construction, the Research Institute for Standardisation and Norms in Construction, and the Energy Saving and Energy Efficiency Agency (ESMA) to align construction regulations and national energy efficiency objectives.
- Strengthening the technical basis for the introduction and practical application of building energy performance categories in residential and public buildings.
- Strengthening national capacity through targeted trainings on energy audits and EE design, for designers, engineers, auditors, and public-sector specialists.

Facilitating the access to international funding for EE refurbishment of public buildings*

**Subject to the signing of the loan agreement in 2026, renovation works are anticipated to commence in 2027*

EE refurbishment of a pilot residential building in Nukus

Market development for energy efficiency and capacity development

- Embedding energy efficiency requirements into design, construction, and renovation practices through updated norms, methodological guidance, and applied training materials.
- Producing analytical and knowledge products to support evidence-based policymaking and informed stakeholder dialogue on EE buildings.

FELICITY II is collaborating with IFIs to support the financing and refurbishment of public buildings in Uzbekistan.

Project Appraisal and Financing Framework

A Project Appraisal Document (PAD) is being prepared in line with Presidential Decree No. 51 for a joint EIB-Government of Uzbekistan mechanism. The program aims to refurbish up to 200 public buildings, targeting energy savings of up to 70%. The loan agreement is expected to be signed this year, with renovation works planned to start in 2027.

Pilot Renovation Solutions and Technical Guidance

Comprehensive renovation concepts are being prepared for three pilot buildings with support from the World Bank and GapFund. These pilots will serve as replicable models to help other cities access climate finance from IFIs.

Awareness Raising and Knowledge Sharing

In partnership with IFC and CCFLA, events are being organized to inform public authorities and stakeholders about financing opportunities and implementation pathways for energy efficiency measures in public buildings.

The pilot project in Nukus is designed as a practical, real-life demonstration of how EE refurbishment of existing multi-apartment residential buildings can be planned, financed, and implemented within Uzbekistan's regulatory and market context. The project focuses on end-to-end implementation, covering the entire cycle from technical assessment and design to construction, supervision, and commissioning. It provides transparent data on actual investment costs, realistic technical solutions, and institutional arrangements, moving beyond theoretical models.

In partnership with ESMA, FELICITY II supports the development of modern energy efficiency standards and market frameworks.

What we are doing:

- Supporting market development for building energy audits, including methodologies, demand generation, and professional capacity.
- Contributing to the development of the ESCO market by reinforcing the technical and institutional foundations for energy performance-based services.
- Supporting the design and implementation of renovation strategies for residential and public buildings, with a strong focus on energy efficiency and long-term sustainability.

OUR PARTNERS



MINISTRY OF CONSTRUCTION AND HOUSING AND COMMUNAL SERVICES OF THE REPUBLIC OF UZBEKISTAN



MINISTRY OF ENERGY OF THE REPUBLIC OF UZBEKISTAN



NATIONAL AGENCY FOR ENERGY EFFICIENCY UNDER THE CABINET OF MINISTERS OF THE REPUBLIC OF UZBEKISTAN



Video: Green Building Forum in Tashkent, October 2025 - supported by FELICITY II

ENERGY-EFFICIENT REFURBISHMENT OF A PILOT RESIDENTIAL BUILDING IN NUKUS

- ✓ Demonstration of real-life EE refurbishment of an existing multi-apartment residential building
- ✓ End-to-end project implementation, carried out in cooperation with partners and the Ministry of Construction and Housing and Communal Services of the Republic of Uzbekistan
- ✓ Structured dialogue with residents, facilitated with the support of IWO, ensuring homeowner involvement in decision making and approval of the scope of works
- ✓ Development of full design documentation in cooperation with the national design institute "Yangi Zamon Projekt"
- ✓ Methodological and technical support provided by the German Energy Agency (dena)
- ✓ Testing of financing mechanisms and transparent cost sharing between grant funding and public co-financing
- ✓ Coordination with local and regional authorities (Nukus, Republic of Karakalpakstan)
- Implementation support and project supervision by EC-IFAS (Nukus Branch Office of the Executive Committee of the International Fund for Saving the Aral Sea)
- Consolidation of pilot results in a handbook to support policy development and enable scaling-up across the Republic of Uzbekistan



BUILDINGS STANDARDS



STEP 2

GIZ and the Ministry of Construction sign an MoU to strengthen cooperation and establish a legal framework for energy efficiency in the buildings sector.



STEP 4

Following inter-agency coordination an agreement, the final documents are submitted to the Ministry of Construction for approval and subsequent submission to the Ministry of Justice.

STEP 1

FELICITY II facilitates dialogue between public and private sector stakeholders to identify priority building codes and standards requiring updates to enable EE construction and renovation.



STEP 3

GIZ identifies and brings relevant international experience, while the Ministry of Construction provides local context and facilitates expert exchange and dialogue with relevant national institutions.



PROJECT APPRAISAL DOCUMENT FOR UZPBEE

FELICITY II, in close cooperation with the National Agency for Energy Efficiency (ESMA), is developing a Project Appraisal Document (PAD) for the launch of the "Uzbekistan Public Building Energy Efficiency" (UzPBEE) project. The project aims to attract a subsidized loan from the EIB in the amount of 143 Mio EUR, as well as a local contribution of 50 Mio EUR, to comprehensively renovate up to 200 public buildings in seven cities across the country. The PAD is a standard document required by the Republic of Uzbekistan to secure foreign financing for development projects. As part of the PAD development, more than 60 buildings have undergone energy audits, and a feasibility study with three renovation packages has been developed. Approvals have been secured from seven municipal authorities, and the Project Concept, which is an integral and most important part of the PAD, has been submitted to the responsible ministry. The final submission of the PAD is planned for April 2026, with the loan agreement expected to be signed in summer/autumn 2026. Renovation works are scheduled to begin in the first quarter of 2027.



Video: CCFLA Central Asia Hub Forum in Tashkent, February 2025 - supported by FELICITY II

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GIZ is responsible for the content of this publication.

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