

The European Union – Uzbekistan Sustainable Energy Days

International Conference

Energy Efficiency in Uzbekistan: prospects and challenges

Radisson Blu Hotel, Tashkent, 27 June 2023

Energy efficiency in residential buildings - pipelining and preparation of low-carbon investment projects in cities

Marie Anne Serve, Team leader, FELICITY-Sustainable solutions for cities

Energy efficiency in residential buildings

Pipelining and preparation of low-carbon investment projects in cities



Financing Energy for Low-carbon Investment –
Cities Advisory Facility
Eastern Partnership and Central Asia Program

International Conference Energy Efficiency in Uzbekistan:
prospects and challenges

27 June 2023, Radisson Blu Hotel, Tashkent

Supported by:



on the basis of a decision
by the German Bundestag



RATIONALE

Closing the gap between cities' low-carbon infrastructure projects and financing

GEOGRAPHIC & SECTORAL SCOPE

Ukraine: water supply, waste water, energy efficiency in residential buildings
Kazakhstan, Uzbekistan: energy efficiency in residential buildings

DURATION

2022 – 2026

PARTNERS

- Ministries and governmental institutions
- Project promoters (e.g. municipalities, home owner associations, ESCOs)
- Financial intermediaries (e.g. local banks, energy saving funds)

FELICITY CONNECTS INVESTMENT PROJECTS AND FINANCE

Bridging the gap between low-carbon infrastructure demand and climate finance



Low-carbon
infrastructure projects
in cities



Climate finance



Policy barriers

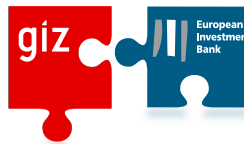
Capacity constraints

Lack of bankable projects

Limited access to finance

WHAT WE DO: LINKING POLICY TO ACTION

How FELICITY connects policy, project development and finance for urban climate action



Integrated approach: joint use of GIZ and EIB expertise across all stages

Tariff market research, building codes update...

National-level sectoral strategies & sector plans

Loan/Grant application support



Development of municipal infrastructure planning documents

Improved in-country policy and capacity for NDC implementation

Support to the project-related regulatory and policy environment



Project Pipelining & Capacity for Local Climate Action

Project Feasibility, Structuring, and Preparation



Financing and Investments

Implementation



Define project selection criteria and mode



Project identification

Facilitates connection between cities and financier, no financing

Strengthen project planning capacities, project screening and prioritization of project promoters

Support project promoters on technical, financial and economic feasibility studies

Strengthen Financial Intermediaries

CITIES CLIMATE
FINANCE
LEADERSHIP
ALLIANCE



City Climate
Finance Gap Fund

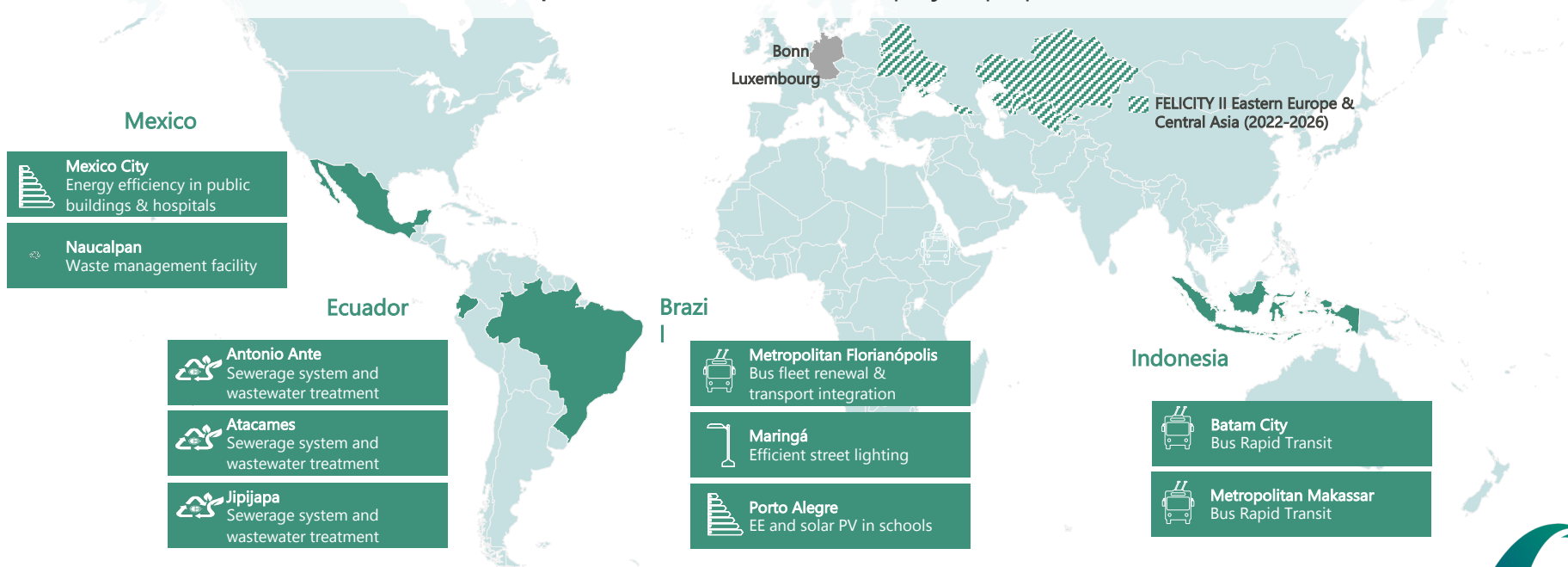
FELICITY: OVERVIEW AND INVESTMENT VOLUMES

2017-2022 Results from FELICITY Global work with cities

Projects have an estimated investment volume of **EUR 541 million**
and an emission reduction potential of **up to 1.98 million tCO₂eq** over 15 years,
which equals annual emissions of about **430.000 passenger cars**.



5.800 professionals were trained in project preparation.



FELICITY II – EASTERN PARTNERSHIP AND CENTRAL ASIA

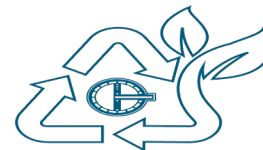
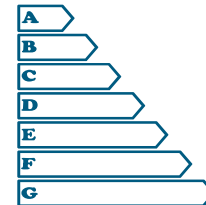
Program scope 2022-2026

Public



Building-upon the EIB-GIZ cooperation under FELICITY Global, FELICITY II supports low carbon infrastructure projects in Ukraine, Kazakhstan and Uzbekistan.

- **Induce large scale financing and transformative change in key sectors** through integrating target sector reform support, multi-level capacity building, and project preparation.
- **Combine GIZ's technical assistance** expertise and strong presence on the ground **with EIB's long term concessional financing.**
- **Connect stakeholders,** facilitate regional exchange and contribute to global initiatives.



Joint sectoral challenges

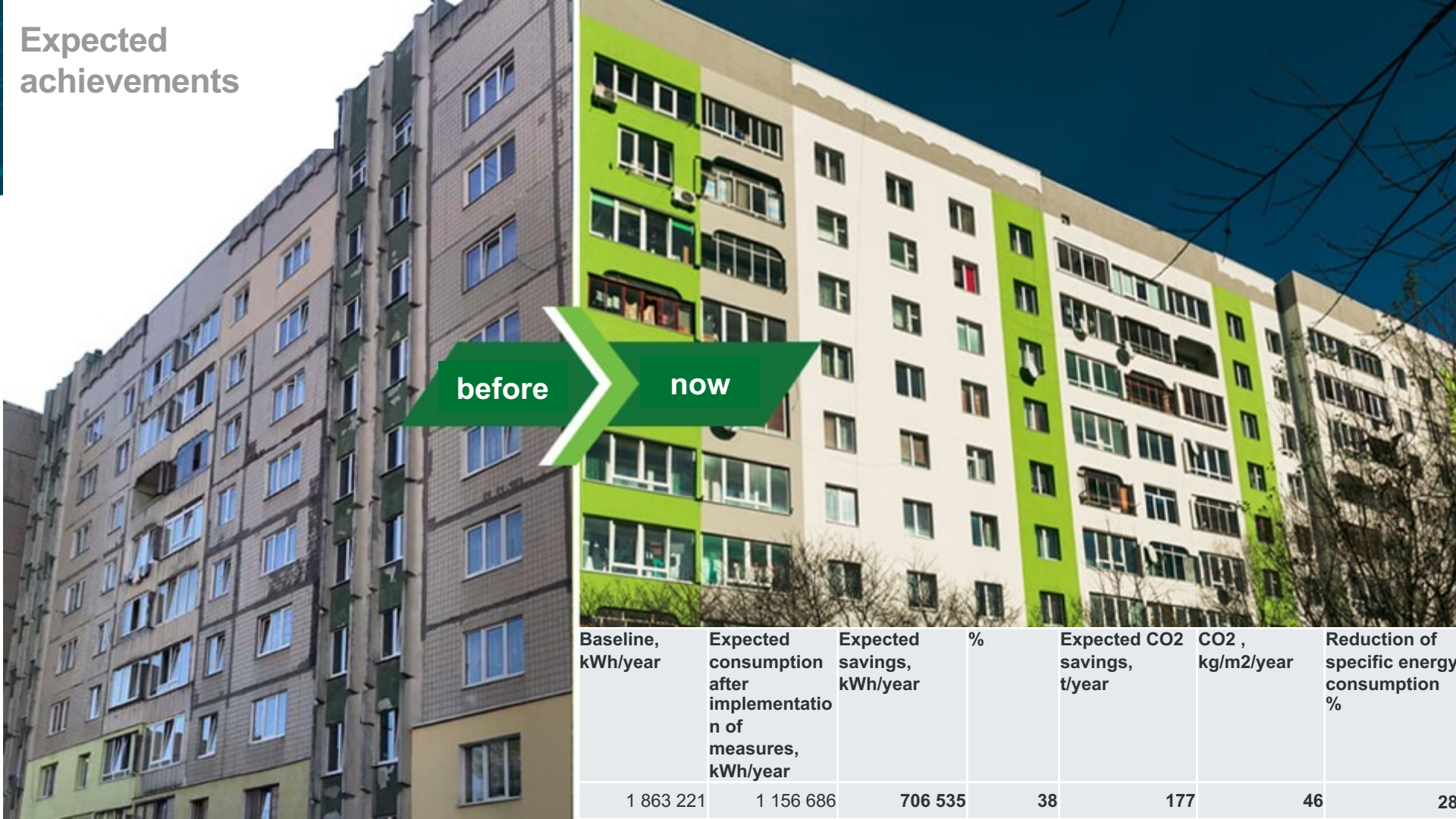
- Building sector is (one of) the largest final energy consumers
- Energy generation mainly fossil-fuel based
- Majority of the building stock has been built before 1980
- Highly subsidized energy tariffs limit the attractiveness of investing in energy efficiency measures



Opportunities for FELICITY II

- International practices along with regional upscaling of experiences made in Ukraine during set-up and implementation of the Energy Efficiency Fund
- Transfer successful capacity building approaches (e.g. for homeowners, energy auditors, project developers, housing managers) between countries and support mutual learning
- Reform approaches based on total economic costs (including budget allocations for subsidies, shadow carbon price, etc.)

Expected
achievements



before

now

Baseline, kWh/year	Expected consumption after implementation of measures, kWh/year	Expected savings, kWh/year	%	Expected CO2 savings, t/year	CO2 , kg/m2/year	Reduction of specific energy consumption %
1 863 221	1 156 686	706 535	38	177	46	28



PARTICIPATION IN THE "ENERGODIM" PROGRAM:

The homeowners of HOA "Antonycha 32" voted at the general assembly to participate in the "ENERGODIM" Program of the Energy Efficiency Fund under the package B "Complex" and decided to implement following energy efficiency measures:

- thermal insulation or **replacement of pipelines of internal heating system** in unheated premises;
- thermal insulation or **replacement of pipelines of hot water supply system** in unheated premises;
- **hydraulic balancing of the heating system** by installing automatic (balancing) valves;
- a set of works on **thermal insulation and arrangement of external walls and socles.**



MAIN PROJECT RESULTS

Declared total cost of the Project	7,2M
Preliminarily calculated grant amount	5M
Declared annual savings after project implementation	
— funds (UAH)	650K
— energy (kWh/year)	501K
Declared annual reduction of CO ₂ emissions (t/year)	128
Total contribution of homeowners (UAH)	1,8M
Co-financing under the Lviv city program (UAH)	400K
Costs for measures per each apartment (UAH/m ²)	243
Homeowner's share required for the project (for 60 m ² apartment, UAH)	14,5K



ENERGY
SAVING, %



Energy efficiency
class of the building
after modernization

GENERAL INFORMATION ABOUT THE HOUSE

Total area of the house	8 795 m ²	Number of apartments	108
Number of floors	9	Number of homeowners	260
Number of entrances	3		

FELICITY II enhances **regional good practices of low-carbon infrastructure finance** through joint activities, such as peer-learning and knowledge exchange via relevant initiatives.

- Co-create and share good practices on urban low carbon infrastructure finance through the Central Asia Hub of **Cities Climate Finance Leadership Alliance (CCFLA)**, a global platform for cooperation, knowledge exchange, and partnerships for subnational climate finance.
- Working with the **Leadership for Urban Climate Investment (LUCI)** initiative, catalyze their project universe (such as the City Climate Finance Gap Fund) to synergize with FELICITY II.



Challenges, solutions, expectations



Thank you for your attention



marie.serve@giz.de