EU4Energy

Covenant of Mayors for Climate & Energy

Demonstration Projects Eastern Partnership

EUROPEAN UNION COVENANT OF MAYORS DEMONSTRATION PROJECTS

TECHNICAL FACTSHEET

Modernisation of the district heating system in the town of Zhovkva (Ukraine) and the street lighting system in Sambir (Ukraine)

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GENERAL

Applicant: NGO 'East European Foundation'
Co-applicants: Zhovkva Town Council, Sambir Town Council
Total project budget: 874.736 EUR
EU contribution: 699.789 EUR
Project duration: 2015 - 2018

IMPLEMENTED MEASURES

1) Refurbishment of the district heating system in Zhovkva, including installation of 2 biomass boilers (820 kW each), 800 m of pre-insulated district heating pipes and ancillary equipment.
2) Installation of 5 individual heating substations in municipal buildings and one in a residential building in Zhovkva.
3) Modernization of the street lighting system (837 lamps, 118 poles and 28 km of cables) and installation of architectural illumination for 6 historical buildings in Sambir.

BENEFICIARIES

5.000 inhabitants of the residential buildings in Zhovkva and 20.000 inhabitants of Sambir are the final beneficiaries of the project. In addition, the project has sustained 29 jobs.

PROJECT DETAILS AND RESULTS

1) Subproject #1 Refurbishment of the district heating system in Zhovkva

- Installation of 2 biomass boilers with a capacity of 820 kW each.
- Installation of 800 m of pre-insulated district heating pipes
- Ancillary heating equipment (control and dispatching system, pumps, pipes, electronic heat meters, etc.).

Project costs[1] in EUR: 244.930 (excl. VAT)
Energy savings (electricity, heat energy): 257 MWh/a
Renewable energy production: 3.589 MWh/a
CO_2 savings: 1.120 t/a

Before the implementation	After the implementation
	

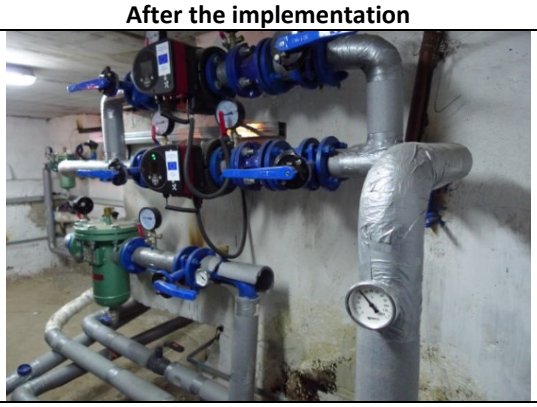
[1] Project costs include the cost of technical design, equipment and installation but not general costs of the project team such as office rent, salaries of the project team, marketing, travel cost, etc.




2) Installation of 6 individual heating substations in Zhovkva

- Installation of individual heat substations in 5 municipal buildings and 1 residential building, incl. electronic meters and control system

Project costs[2] in EUR: 50.369 (excl. VAT)
Energy savings (heat energy): 219 MWh/a
CO_2 savings: 63 t/a

Before the implementation	After the implementation
	

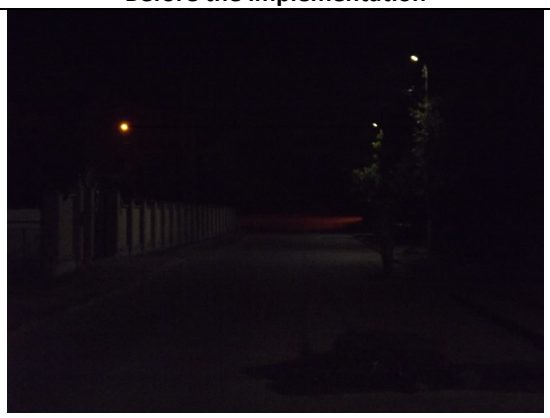
3) Modernization of the street lighting system in Sambir

- Installation of 689 LED lamps with the capacity of 30 W
- Installation of 23 LED dimmable lamps with the capacity of 100 W
- Installation of 65 high-pressure sodium lamps (150 W capacity) and 56 decorative street luminaries with high-pressure sodium lamps (capacity 70-150 W)

[2] Project costs include the cost of technical design, equipment and installation but not general costs of the project team such as office rent, salaries of the project team, marketing, travel cost, etc.

- Installation of 56 poles and 28 km of cables, including 1 km underground cables
- Commissioning of one street lighting control system (real-time, internet-based) and 10 control cabinets
- Installation of 4 autonomous solar-powered street luminaries

Project costs[3] in EUR: 222.471 (excl. VAT)
Energy savings (electricity): 366 MWh/a (-57% of the baseline consumption)
CO_2 savings: 242 t/a

Before the implementation	After the implementation
	
	
	

COSTS INDICATORS OF THE DEMOSTRATION PROJECTS[4] (excl. VAT)

[3] Project costs include the cost of technical design, equipment and installation but not general costs of the project team such as office rent, salaries of the project team, marketing, travel cost, etc.

[4] Please use these numbers for information purposes only

Street lighting	District heating projects
Modernization of street lighting – 350-600 EUR per lamp or 6.000-11.000 EUR per km of street Installation of autonomous solar-powered street luminaries – 1.000-1.500 EUR per unit Architectural lighting – 6.000-20.000 EUR per facility	Modernization of a boiler house – 150-300 EUR per installed kW of biomass boilers Installation of pre-insulated pipes – 125-175 EUR per m of trench Installation of an individual heating substation (IHS) – 7.000-12.000 EUR per unit

ACHIEVEMENTS TOWARDS LOGFRAME AND SEAP

Indicator	Energy savings	Renewable energy	CO_2 savings
Zhovkva			
SEAP	56.369 MWh	N/A	15.905 tons
Logframe	Reduced energy consumption by 10% (1 million m^3 of gas) in Zhovkva	Increased share of renewable energy in communal energy consumption of Zhovkva, as per SEAP baseline 2012 (20%)	Up to 10 % of the CO_2 yearly reduction targets as identified in the SEAP in Sambir and Zhovkva
Actual achievements	476 MWh/a	3.589 MWh/a	1.184 t/a
Final statement	Logframe targets were achieved partly	Logframe targets were achieved	Logframe targets were achieved partly
Sambir			
SEAP	55.393 MWh	N/A	15.907 tons
Logframe	Reduced energy consumption by 70%, or 300 MWh/ year	N/A	Up to 10 % of the CO_2 yearly reduction targets as identified in the SEAP in Sambir and Zhovkva
Actual achievements	366 MWh/a	N/A	242 t/a
Final statement	Logframe targets were achieved	N/A	Logframe targets were achieved partly