



El-Education
Best practice example No 1 from Lithuania



Lithuania Klaipeda

65% energy saving

Better comfort, lower energy consumption

Satisfied tenants

Project data

Location, address:	Klaipeda
Region:	Western Lithuania, border of Baltic sea
Surroundings:	City
Climate:	Continental and cold
Heating degree days:	Approx. 4000
Year of construction and renovation:	1972 (constructed); 2002 (renovated)
Typology:	Multi-dwelling building
No of dwellings:	60
Total floor area:	3171 m ² heated area
Owner:	Cooperative building, administrated by HOA
Costs of energy saving measures:	706 500 Lt
Renovation financed by:	Own financing, loan from bank , grant

Objectives and results



Fig.1 Building after renovation

At the meeting of members of the association passing the decision concerning renovation of the house was not an easy task. After a stormy and passionate discussion residents of the house decided to apply for a soft loan within the framework of EEH and to implement the measures envisaged in the project in two steps: stage I – renovation of the heating, roof insulation, replacement of apartment and staircase windows, replacement of pipes and fittings of cold-water supply system, ceiling insulation in the cellar and insulation of external side-walls. The insulation works of external walls was postponed until stage II.

Renovation concept

Key renovation features

- Renovation of heating system
- Insulation of roof
- Replacement of windows
- Replacement of pipes and fittings of cold-water supply system
- Insulation of ceiling of basement
- Insulation of external side walls
- Insulation of external walls
- Replacement of radiators
- Installation of thermostatic valves
- Installation of individual heat cost allocators on radiators

State-of-the-art

Before renovation

Constructions [U-values: W/m^2K]

- Non-insulated roof
- Ground floor – reinforced concrete panels
- Reinforced concrete panels – external walls
- Double-glazed windows with wooden frames

Installations

- Heating supplied by district heating network
- Hot water prepared by group boiler
- Low efficiency of heating system

After renovation

Constructions [U-values: W/m^2K]

- Insulation of roof
- Insulation of ceiling in basement
- Insulation of external walls
- Replacement of windows

Installations

- Balancing of heating system
- Replacement of radiators
- Installation of thermostatic valves on radiators
- Installation of heat cost allocators on radiators

Energy saving and monitoring

Energy consumption before renovation:
439 MWh/year

Energy consumption after renovation:
154 MWh/year

Percentage saving: 65%

Additional information

- The price of the renovation project is 706500 Lt. The financing is organized in the following way:
 - Payment in advance by the administration 65 570Lt
 - EEHPP loan (soft loan for implementation of energy efficiency measures) 598 700 Lt
 - VAT exemption (for implementation of energy efficiency measures) 107 760 Lt
 - Grant - 158560 Lt
- According to the chairman of the association, "the cost of heating after renovation dropped approximately more than twice. However, it depends on the residents themselves. Those who like to be comfortable, pay more, but there are also others who save much more because they prefer to live in a cool environment, or are extremely conscious about saving money and are sincerely happy about the possibility to make independent decisions concerning which room they want to heat and in which to close the handle to the permitted limit."

Lessons learned and conclusions

- It is very important to involve all tenants in the process of refurbishment.
- A flexible financing scheme, that includes all opportunities would help for a better implementation and better results.