



**Jesenice
(Slovenia)**

43 % energy saving

Total living expenses lower than before renovation

Municipality Jesenice subsidies for energy saving measures

Project data

Location, address:	Kejžarjeva 38;
Region:	Jesenice
Surroundings:	North of the country;
Climate:	Alpine
Heating degree days:	3900
Year of construction and renovation:	1961 (constructed); 2000 (renovated)
Typology:	Apartment building
No of dwellings:	12 dwellings
Total floor area:	640 m ²
Owner:	Municipality Jesenice
Architect and Builder:	
Costs of energy saving measures:	
Renovation financed by:	The owner; subsidies



Figure 1: Apartment building Kejžarjeva 38

Renovation concept

Key renovation features

- Insulation of roof
- Insulation of floor towards the basement
- High efficiency insulation glazing and window frames

State-of-the-art

Before renovation

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

- Non-insulated roof [1,0]
- Non-insulated floor towards the basement [1,4]
- Timber windows (double glazing) [2,7]¹

Installations:

After renovation

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

- Insulation of roof [0,21]
- Insulation of floor towards the basement [0,51]
- In nine out of twelve apartments the existent windows were replaced with energy efficient AL-PVC windows with low-e + argon glazing [1,3]

Installations:

- A new compact heating system unit with a heat meter was installed in the basement
- All horizontal distribution pipes of the central heating system in the basement were thermally insulated.

Energy saving and monitoring

Energy consumption before renovation:

KWh/m²: 283

Energy consumption after renovation:

KWh/m²: 161

Percentage savings²: 43%

Additional information

- The main reasons for the renovation were insufficient maintenance state, bad quality window frames, bad thermal insulation of roof and old heating system unit.
- The recommended measures were the following:
 - added thermal insulation
 - exchange of existing windows with energy efficient windows,
 - installation new compact heating system unit

Lessons learned and conclusions

- The project would not have succeeded without co-operation and of course without financial contribution of the occupants, Municipality of Jesenice, and of the public company JEKO-IN d.o.o. The data obtained so far demonstrate considerable energy savings. The benefit for the occupants is manifested through lower heating costs and higher level of thermal comfort.

References

[1] data from public utility company JEKO-IN d.o.o

¹ Total U-value of glazing and the window frame

² Compared to the situation before renovation