EPC for energy refurbishment of public-private building

Energy performance contracting in the form of public private partnership model is well known to be used in public and private buildings. To be used in the building that is owned both by public and private partner is technically possible but needs more coordination and understanding for all partners. Municipality Radlje ob Dravi has decided to use EPC model in such building. Municipal administration with the help of energy agency was able to manage and coordinate the project implementation and they have successfully realized it. They have newly renovated building in the town centre used for library, shop and caffe.

How to start?

The municipality owned a very old and inconspicuous building in the city center. All partners together did not have enough investment capital to be able to renovate it. The initiator was municipality that executed detailed energy audit of the building and prepared investment calculations. The documentation has showed that the renovation would achieve high enough money savings to make the investment attractive to the private partner to perform energy performance contracting business model. Into the financial calculation also Cohesion fund subsidies were included. The next step was the dialog with private co-owners. They had numerous conversations to explain how the EPC works, what an investment means and how savings are calculated. At the end the contract was signed between 4 partners: ESCO (private partner), the municipality (public partner) and two private owners. The contract precisely defines investments, savings and the methods of management and payments. The contract was signed for 15 years. The results show that savings have been achieved and all owners are satisfied with the realization.

Details of the agreement

All partners cooperated in the definition of energy refurbishment of the building. When public procurement was carried out also co-owners cooperated in the negotiation of technical, financial and legal aspects of the project. The key indicator in the agreement is the % of the ownership. The size of the building is 2.300 m2. Within the refurbishment new insulations, window and doors were built and heating system renovated. They use wooden biomass. The whole buildings in ventilated and air conditioned. During the work some additional measures had to be done like water drainage and new elevator. For each addition measure all 4 partners had to decide and agreed on technical and financial aspect and if needed signed the annexes to the agreement. When the work was finalized the management by ESCO has started. The energy use is detailed monitored in each room and within different devices to be able to define and calcite the savings and take into account the behavioural influence. The results are checked at least twice a year and once a year reported to all partners. The users are regularly contacted to be able to contribute positively to the savings and good management of the building.

Technical details

Before renovation the supermarket and caffe were in the building. After the renovation there are a shop and caffe in the lower level and library with exhibition center in 1st floor and in the attic. The investment cost of refurbishment was 1.1 mio EUR. Yearly energy savings are 389 MWh of heat and 1.1 MWh of electricity. The Heat is produced in highly efficient biomass boiler. Whole building is efficient ventilated and airconditioned. Cost saving are 42.000 EUR according to the 2019 prices. Reduction in CO2 emission is 180 tonnes per year.

Final words

Many people including some politicians were very sceptical about the success of the project. There were not many alternatives since the building is in the town centre and have to be nice looking and useful but there was not enough public money for renovation. Municipality did not want to sell it because they need more public spaces in the centre. With active role of the local administration many barriers were removed. The pilot can be used as a model and good practice for other similar buildings in the region. Not only technical details but also cooperation between stakeholders made the project successful and people are pride of it.

Good cooperation is saving 180 t of CO_2 per year

- EPC models can be used in different buildings with the public and private owners
- Good technical and financial documentation should be prepared to have all information need to make decisions
- Stakeholders have to understand all aspects of renovation – technical, financial, administrative and legal – and have the possibility to influence the different measures
- Energy and financial savings are high, also CO_2 emission are much lower
- With energy refurbishment the building looks nicer and get higher market value
- In the city centre such renovated building is shining example also for citizens and visitors
- EPC model help public sector to finance some projects that have high environmental, social and economic value

Photo: ENERGAP

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