

Koprivnica, Croatia

Reconstruction of boiler room plant in General County Hospital “Dr. Tomislav Bardek” Koprivnica

DESCRIPTION OF THE ACTION

This project was a result of a trust among Hospital's management and Agency and successful implementation of several energy related projects on hospital's buildings (reconstruction of hospital's roof, solar plant for hot water etc.). Biggest challenge and high investment project identified as low hanging fruit (quick return on investment) was reconstruction of boiler room plant that is all purpose, has oversized steam boilers of total 10,5 MW & 16 t/h of steam, installed in far 1979.

After a six months preparation period, having implemented most economically advantageous tender and signed contract with business entity, works were finally executed in 2016. New situation after reconstruction is the following – three specialized blocks of boilers (steam production, heating, consumer hot water) of total 3,5 MW & 3,4 t/h of steam + connection with existing solar thermal collector plant, steam condensate recovery (hot water return).

Time period: 2016

Key Results

- **For Hospital first successfully implemented most economically advantageous tender**
- **Reconstructed boiler room plant**
- **Unburdened Hospital's technical staff**
- **substantial energy and maintenance costs savings**





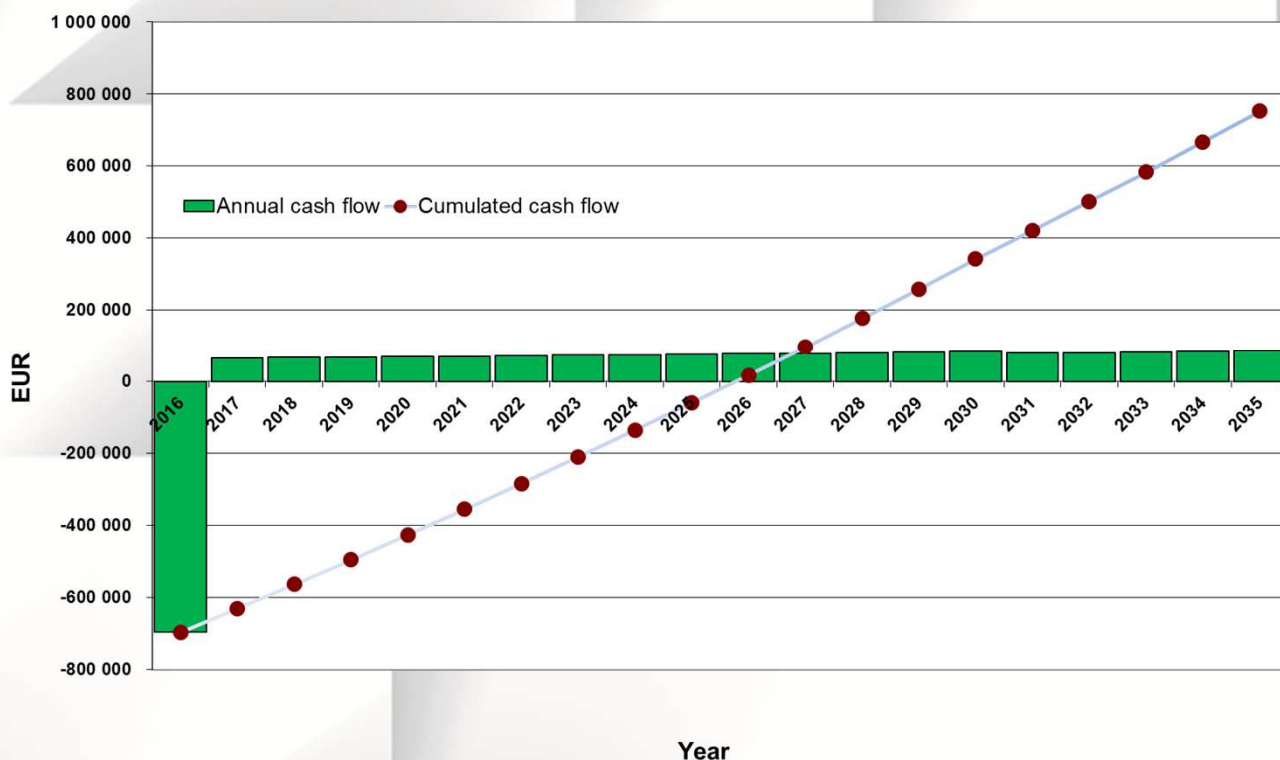
FINANCING

Investment costs	707.000 EUR
- Own sources	707.000 EUR
- Subsidies	-
- Loan	-
Lifetime (service life)	20 years
Annual operational costs (incl. repairs, maintenance and other specific costs)	12.000 EUR
Annual revenues – energy savings	80.000 EUR

Financial indicators

Net present value - NPV	382 925,50 EUR
Internal rate ratio - IRR	8,25%
Payback period - simple	10 years
Payback period - discount	12 years
Evaluation year	2016
Lifetime period	20 years
Discount	3,00 %

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Investor's cash flow

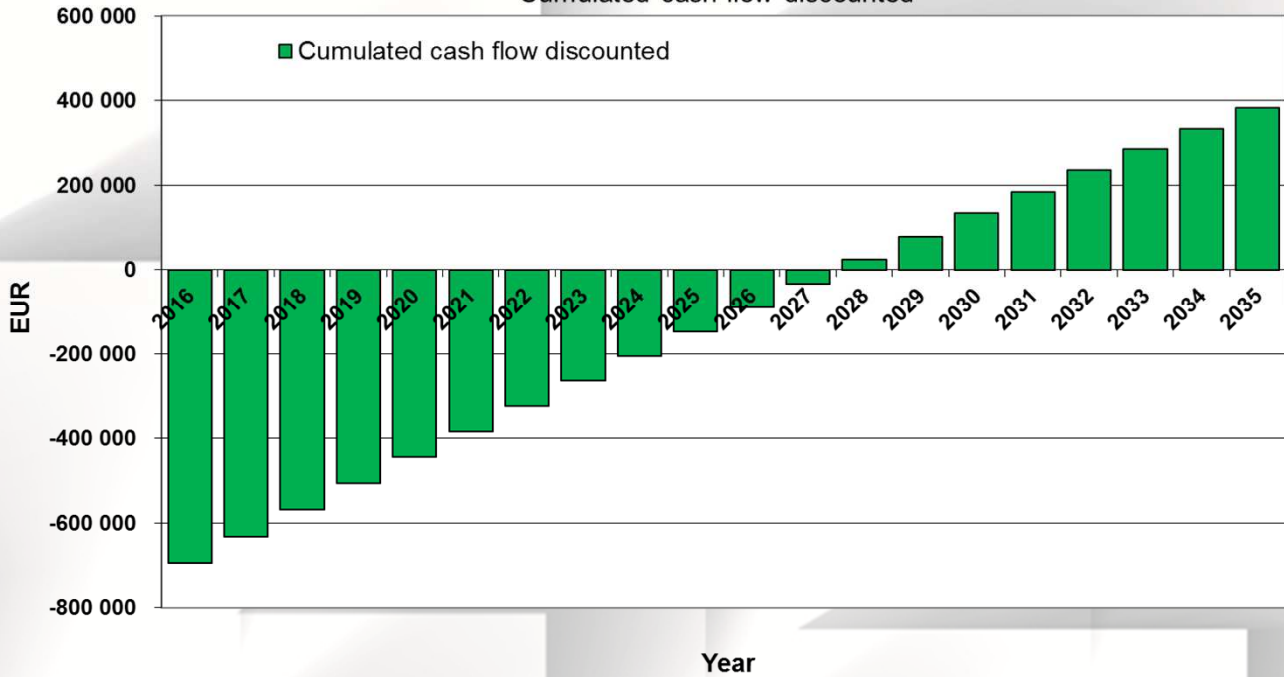




FINANCING

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Koprivnica

Cumulated cash flow discounted



PICTURES



Partners involved

- Open University Koprivnica
- Regional Energy Agency North





BARRIERS ENCOUNTERED

- Hospital management's lack of focus on non-medical issues,
- Securing sufficient funds for investment,
- private sector unprepared for new approach in public procurement process (most economically advantageous tender),
- Hospital technical staff's left out of major decision making processes and influence on project design, procurement and works

Success factors

- Trust among partners as well as their successful prior cooperation,
- project involvement of competent and relevant individuals
- secured financing from the investor (Hospital)
- detailed and thorough preparation of the investment

Ways to deal with barriers

Agency's experience is that it was critical that Hospital trusted Agency that it can and will successfully carry out the entire project. In this case, trust was earned by prior successful cooperation and implementation of EE projects/investments. Very important aspect of problems solving and removal of barriers was punctual and on-time communication with evidences (emails), regular meetings and more important always ready solutions. Agency always had ideas and propositions for problems and barriers so it was much easier for Hospital's management to plan and make decisions.