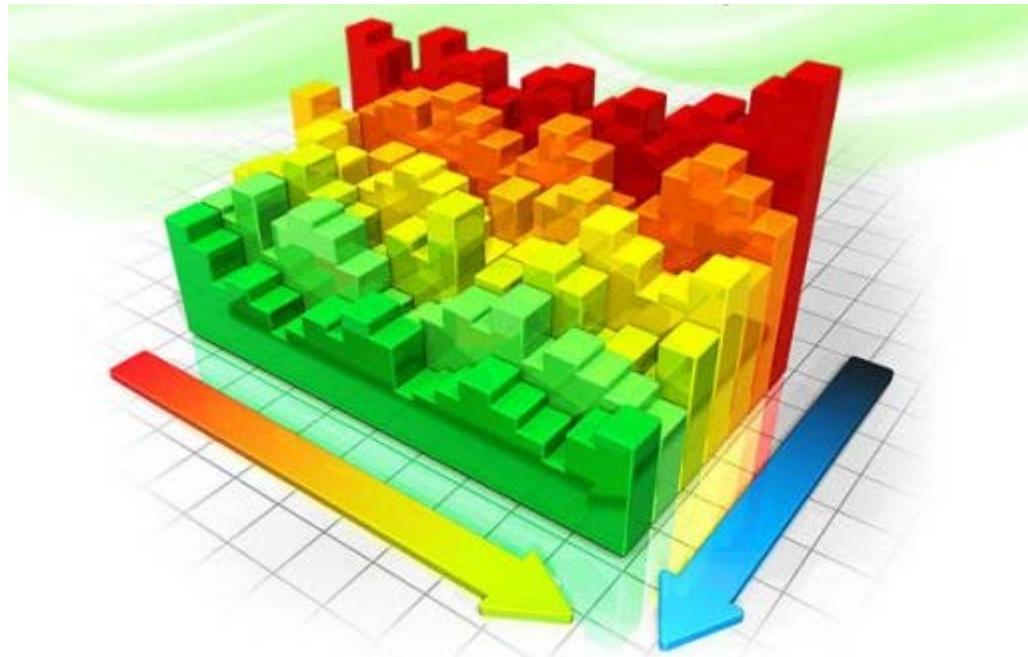
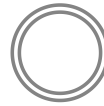


PROJECT IDENTIFICATION FORM - PIF

HOSPITAL “Dr Fra Mihovil Sucic” LIVNO

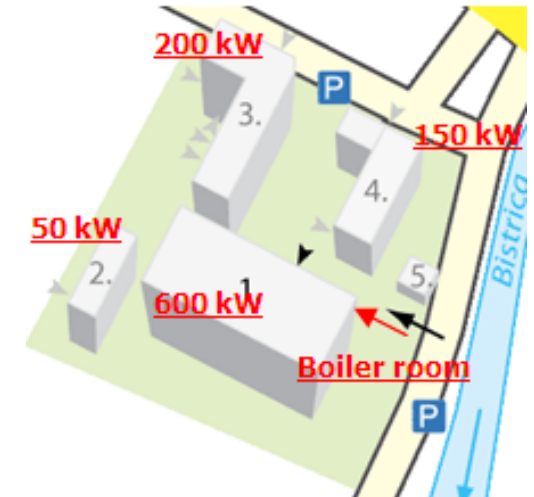


PROJECT DESCRIPTION

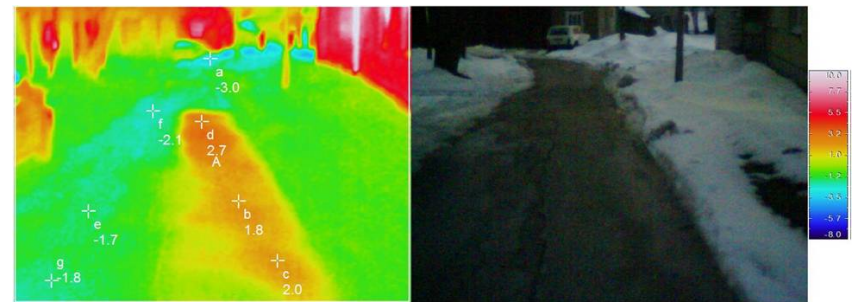
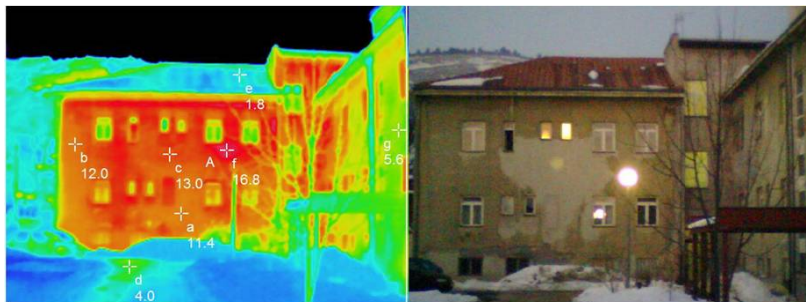


STATE IN HOSPITAL AND HEALTH CENTER

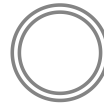
- Hospital is located in three object: main building, neurology, green building
- Health center is separated unit (but with the same heating system)
- Total area of hospital and health center is 10,300 m²
- 208 beds
- 394 workers – 63 doctors and 231 nurses
- Thermal bridges
- Old heating system
- Fuel oil boiler with insufficient annual consumption 109,300 l/a
- High electrical consumption – 781 MWh/a



1) Main building, 600 kWth; (2) Neurology building, 50 kWth; (3) Green building, 200 kWth; (4) Health center, 150 kWth



PROJECT DESCRIPTION



PLANNED ACTIVITIES – PHASE I

- Conduction of energy audit and preparation of Energy Audit Report

PLANNED ACTIVITIES – PHASE II

- Implementation of energy efficiency measures:

Reconstruction of pipe network 230 m
(DN 100, DN 80, DN 65)

Installation of ultrasonic heat consumption
meter in hospital boiler room 25 m³/h

Installation of ultrasonic heat consumption
meter in Health center Livno 15 m³/h

Installation of heat substation 1,000 kW

Installation of thermostatic sensors (222 pc) and angle valves (222
pc)

Installation of automatic balance valves: automatic branch
valves (61 pc) and regulation branch valve (61 pc)

Installation of variable speed pump regulator 11
kW (2 pc) and boiler system dictates (1 pc)

PROJECT BENEFITS



MAIN BENEFITS ARE:

- Reduction of HEAT DEMANDS and reduction of ENERGY COSTS;
- Reduction of EMISSION by using biomass district heating system instead of heavy fuel oil heating system;
- Increase of ENERGY EFFICIENCY and THERMAL COMFORT;
- Increase of AWARENESS of local community regarding energy efficiency and it's benefits.

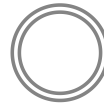
Current fuel oil consumption
CO2 emission factor

109,300 l/a
0.00297 t CO2/l

CO2 emission reduction

325 t CO2/a

EXPECTED PROJECT COSTS

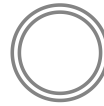


INVESTMENT/COSTS	ESTIMATED INVESTMENT COSTS (EUR)	ESTIMATED SAVINGS (EUR/a)
Heat substation 1,000 kW	24,274	47,468
Ultrasonic heat consumption meter 25 m3/h	1,920	
Ultrasonic heat consumption meter 15 m3/h	1,416	
Thermostatic sensors and angle valves	7,272	
Automatic balance valves	14,121	
Variable speed pump regulator and boiler system dictates	6,154	
Reconstruction of pipe network	30,515	
Detailed Energy audit and Energy Audit Report	3,260	
TOTAL INVESTMENTS AND REVENUES	88,934	47,468

10% owner's equity
8,893.37 EUR

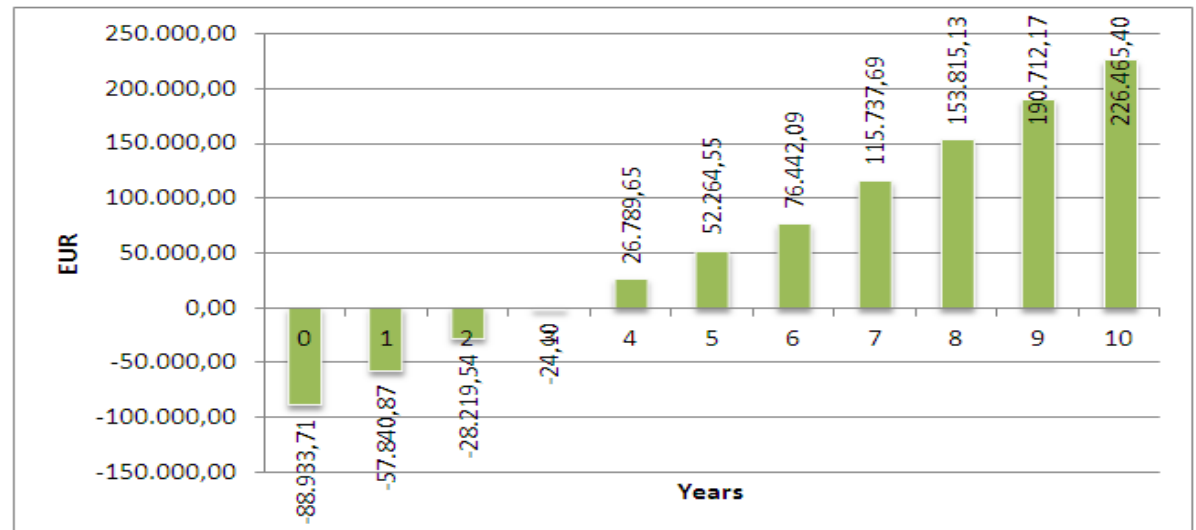
90% bank loan, 6 years 7%
80,040.34 EUR

CASH FLOW



YEAR*	0	1	2	3	4	5	6
CAPITAL INVESTMENT	88,933.71						
SAVINGS		47.468,04	45.996,53	44.570,64	43.188,95	41.850,09	40.552,74
BANK LOAN		16,375.20	16,375.20	16,375.20	16,375.20	16,375.20	16,375.20
TOTAL SAVINGS		31.092,84	29.621,33	28.195,44	26.813,75	25.474,89	24.177,54
CASH FLOW	-88.933,71	-57.840,87	-28.219,54	-24,10	26.789,65	52.264,55	76.442,09

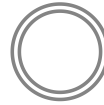
*All figures are in EUR



Bank interest rates: 5-7%
 Inflation: 3.1%
 Exchange rates:

1 BAM = 1.955830 EUR
 1 BAM = 1.507217 USD
 1 BAM = 0.047449 RUB

THANK YOU FOR YOUR ATTENTION



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