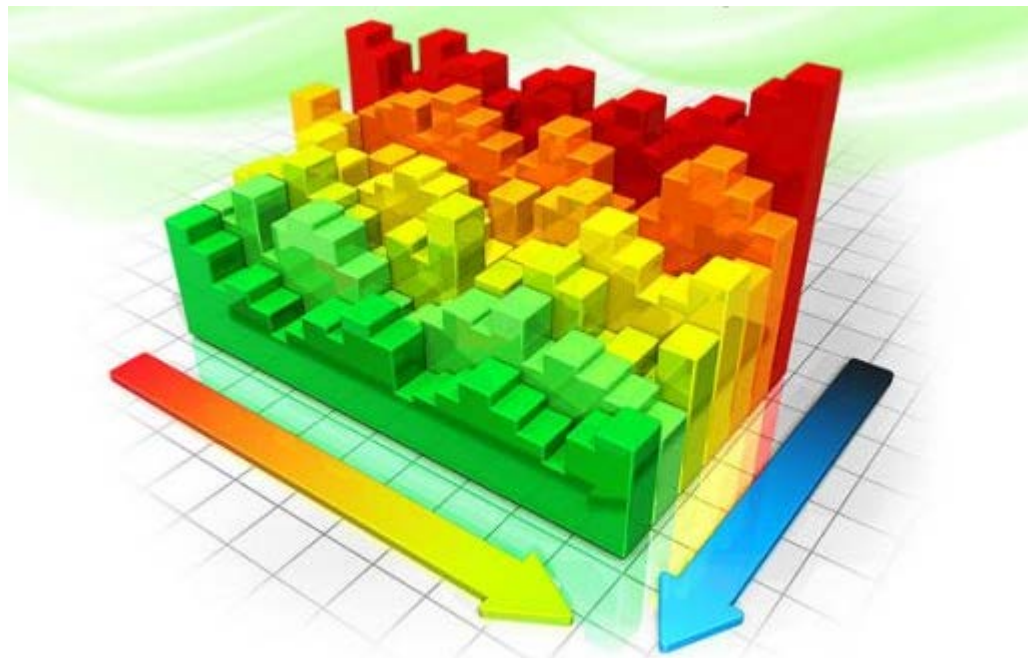
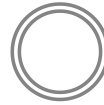


# PROJECT IDENTIFICATION FORM - PIF

## Energy Park Fojnica





## CURRENT STATE IN FOJNICA

- District heating system out of function for 20 years (previously fuel oil was used)
- High consumption of fossil fuels
- High consumption of electricity
- Unefficient boilers
- Low heating comfort
- Low energy efficiency
- High environmental pollution

# PROJECT DESCRIPTION



## PLANNED THREE PHASES OF 'ENERGY PARK FOJNICA' PROJECT

### PHASE I:

- Reconstruction of existing coal steam boiler,
- Installation of biomass and waste cogeneration plant (ORC module - 6 MWth and 1 Mwel),
- Installation of pre-insulated pipe network 2 km.

IMPLEMENTATION  
24MONTHS

### PHASE II:

- Installation of biomass gasification system with waste co-combustion –6 MWth and 2 Mwel.

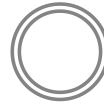
IMPLEMENTATION  
24 MONTHS  
AFTER  
IMPLEMENTATION  
OF PHASE I

### PHASE III:

- Increase of capacity of gasification system for 10 MWth and 3 Mwel,
- Installation of small hydro power plant (SHPP) and riverbed planning and construction of walkways and a park near SHPP,
- Installation of geothermal facility.

IMPLEMENTATION  
24 MONTHS  
AFTER  
IMPLEMENTATION  
OF PHASE II

# PROJECT BENEFITS



## INNOVATIVE ASPECT

- Local public authorities, teachers, fuel suppliers, children will be MORE INFORMED about RE

## COSTS

- NEW JOBS and INCOME are created and secured through value added chains

## REPLICATION POTENTIAL

- More SECURE and SUSTAINABLE energy supply system with high potential for replication and upscaling

## ENVIRONMENTAL COMPATIBILITY

- Reduction of Green House Gas emission and environmental pollution

Current fuel oil consumption

815,000 l/a

CO<sub>2</sub> emission factor

0.00297 t CO<sub>2</sub>/l

**CO<sub>2</sub> emission reduction**

**2,420.55 t CO<sub>2</sub>/a**

# EXPECTED PROJECT COSTS

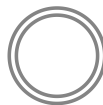


INVESTMENT/COSTS	DETAILS	ESTIMATED INVESTMENT COSTS (EUR)	ESTIMATED REVENUES (EUR/a)
Thermal-energy equipment with biomass supply system		1,405,000.00	
Pipe network and connection equipment		250,000.00	
ORC turbine	Heat energy 6 MWth and electrical energy 1 Mwel	1,900,000.00	3,336,827.43
Gasification unit	Heat energy 6 MWth and electrical energy 2 MWel	4,100,000.00	
Photovoltaic panels	149 kW	160,000.00	61,643.82
Construction		480,000.00	
Operation cost (salaries, maintenance, fuel/biomass)		1,377,525.00	
<b>TOTAL INVESTMENT AND REVENUES</b>		9,672,525.00	3,398,471.26
<b>TOTAL INVESTMENT AND REVENUES WITHOUT OPERATION COSTS</b>		8,295,000.00	

30% owner's equity  
2,488,500.00 EUR

70% bank loan, 8 years, 7%  
5,806,500.00 EUR

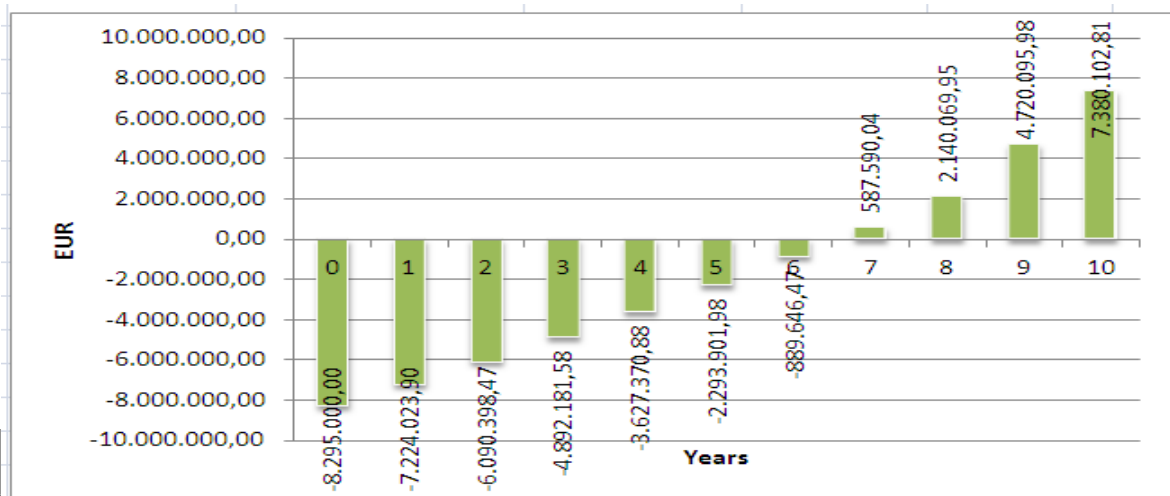
# CASH FLOW



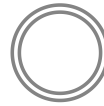
YEAR*	0	1	2	3	4	5	6	7	8
CAPITAL INVESTMENT	8,295,000								
REVENUE		3.398.471,26	3.503.823,87	3.612.442,41	3.724.428,12	3.839.885,39	3.958.921,84	4.081.648,42	4.208.179,52
OPERATION & MAINTENANCE COST		1.377.525,00	1.420.228,28	1.464.255,35	1.509.647,27	1.556.446,33	1.604.696,17	1.654.441,75	1.705.729,44
BANK LOAN		949.970,16	949.970,16	949.970,16	949.970,16	949.970,16	949.970,16	949.970,16	949.970,16
TOTTAL REVENUE		1.070.976,10	1.133.625,43	1.198.216,90	1.264.810,69	1.333.468,90	1.404.255,51	1.477.236,51	1.552.479,91
CASH FLOW	-8.295.000,00	-7.224.023,90	-6.090.398,47	-4.892.181,58	-3.627.370,88	-2.293.901,98	-889.646,47	587.590,04	2.140.069,95

\*All figures are in EUR

Bank interest rates: 5-7%  
 Inflation: 3.1%/a  
 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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Municipality of Fojnica