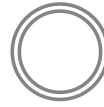


PROJECT IDENTIFICATION FORM - PIF

Energy Park Livno

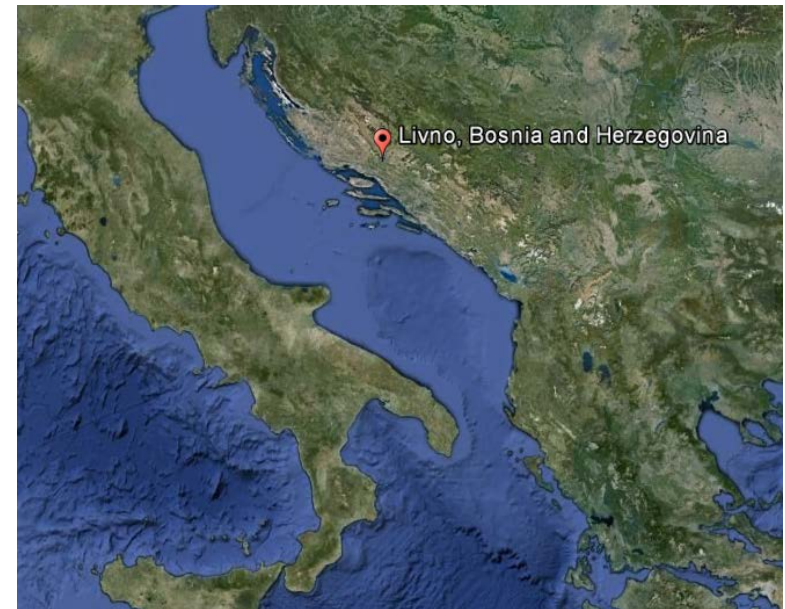
Energy Globe Award 2013

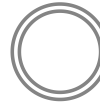




STATE IN LIVNO BEFORE 2008

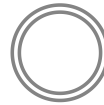
- District heating system out of function for 20 years (previously fuel oil was used)
- High consumption of fossil fuels
- High consumption of electricity
- Unefficient boilers
- Low heating comfort
- Low energy efficiency
- High environmental pollution





2008	2009	2010/2011	2012	2013	2014-2016
Establishment of PPP Company	Installation of 2 MWth automatic BIOMASS BOILER	Design and preparation of PROJECT DOCUMENTATION	Reconstruction of 2600 m of PIPE NETWORK	Installation of PHOTOVOLTAIC PANELS 844 m ² /79 kWel	Installation of additional BIOMASS BOILER 3.5 MWth
	Installation of MICRO TURBINE 1 kWel		UPGRADING of boiler room – 800 m ²	Installation of BIOMASS BOILER 3.5 MWth - ongoing	Extension of PIPE NETWORK
	Reconstruction of 630 m of PIPE NETWORK		Connection of: poliec station, cultural center, pension and disability center, high school, economy school, sport center, restaurant		Installation of ORC cogeneration plant
	Connection of: kindergarden, elementary school, residential building and restaurant				





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 (15 potential clients)	397,900 l/a
CO ₂ emission factor	0.00297 t CO ₂ /l
CO₂ emission reduction	1,182 t CO₂/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		166,170.00	
ORC system		2,150,000.00	
Photovoltaic panels	Heat 14,336 MWh/a Electricity 9,454 MWh/a	178,950.00	1.565.697,74
Construction	Electricity 92 MWh/a	178,950.00	34.620,60
Operation costs (sallaries, meintenance, fuel/biomass)		492.800,00	
TOTAL INVESTMENT AND REVENUES		4.571.870,00	1.600.318,34
TOTAL INVESTMENT AND REVENUES WITHOUT OPERATION COSTS		4.079.070,00	1.600.318,34

30% owner's equity
1,233,721.00 EUR

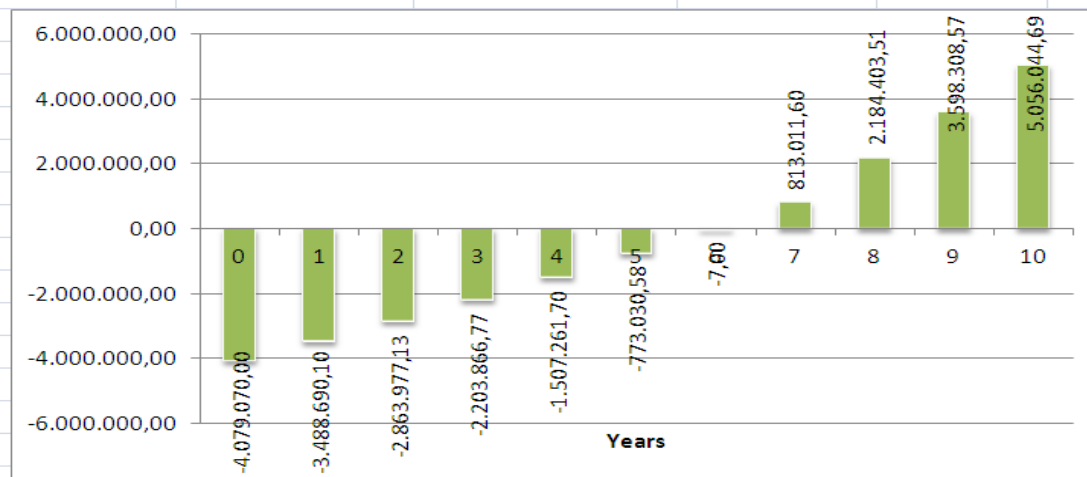
70% bank loan, 7 years 7%
2,855,349.00 EUR

CASH FLOW

YEAR*	0	1	2	3	4	5	6	7
CAPITAL INVESTMENT	4.079.070,00							
REVENUE		1.600.318,34	1.649.928,21	1.701.075,98	1.753.809,34	1.808.177,43	1.864.230,93	1.922.022,09
OPERATION & MAINTENANCE COSTS		492.800,00	508.076,80	523.827,18	540.065,82	556.807,86	574.068,91	591.865,04
BANK LOAN		517.138,44	517.138,44	517.138,44	517.138,44	517.138,44	517.138,44	517.138,44
TOTAL SAVINGS		590.379,90	624.712,97	660.110,36	696.605,07	734.231,12	773.023,58	813.018,60
CASH FLOW	-4.079.070,00	-3.488.690,10	-2.863.977,13	-2.203.866,77	-1.507.261,70	-773.030,58	-7,00	813.011,60

*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





DVOKUTPRO

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THANK YOU FOR YOUR ATTENTION