

Sortilemn Biomass CHP Plant

Industrial CHP

Main CHP project indicators

Heat capacity (total)	kW _{th}	6.700
Electrical capacity (total)	kW _{el}	1.234
Technology	ORC Cycle	
No. of units	1	
Manufacturer	Eratic (Spain)-Thermal Oil Boiler Turboden-ORC	
Type of Fuel	Biomass	
Heat: yearly generation	MWh	~22,000
Electricity: yearly generation	MWh	~6500
Year of construction	September 2012	
Total investment costs	EUR	6,9 mill. EUR, VAT excluded
Financing	Equity + Debt	
State support	EU Funds specially allocated for energy efficiency -Eligible for Green Certificates support. -It does not qualify for Cogeneration support scheme	
Return of investment (payback period)	Years	5,5 years
Location	Gherla city, Romania, SC Sortilemn SA (www.sortilemn.ro)	

General description of the case

Sortilemn is a successful wood processing enterprise from Gherla in Romania. The wood biomass cogeneration project has been implemented within time planned, within the budget and has achieved the designed performance. The project is a typical energy efficiency project and maximum optimal use of available biomass.

Based on the operation experiences and additional analysis, the company decided to transform the power plant into an ORC “bottom cycle”, recovering waste thermal energy during the summer to maximize power production. The refurbishment of the plant is underway and is expected to start operation in the middle of 2014.

Option of plant transformation into a trigeneration plant is still considered (by installing absorption chillers to make full use of available thermal energy during the summer). The cooling would be used for factory building A/C and drying process of the glue used in furniture manufacturing.

Picture



Success factors

Part of the investment costs were covered by accessing EU Cohesion funds under the national program: Operational Sectorial Program for Economic Competivity - POS CCE, Priority-4, Increasing Energy Efficiency of Industrial companies.

ESCO involvement (from concept, design, financing, project management & implementation, operation)

Main barriers

- the way the EU funds are managed and disbursed;
- commercial banks lack of “education” in the field

-too many rules/regulation/legislation, sometimes contradictory and very bureaucratic in implementing and operation of a renewable (biomass) high efficiency cogeneration plant applying for green certificates!

The cost of managing all these is extremely high!

If this would have been for a district heating municipality, (with additional associated laws) this would be a “killer”

Comparison: before and after

It brings energy cost reduction for the plant, better management of energy, even slight reduction of biomass consumption with higher production, some new jobs, new technology (in Sortilemn but in Romania as well)

Conclusions

Such projects are complex and complicated enough to withstand “over-regulation” and additional useless bureaucracy for a couple of MW (we are not talking here about 1000 MW units, but instead small “decentralised” generation units, for own consumption of industrial sites).

We do not believe that such projects can be implemented simply by any end-user without high expertise assistance, in all critical phases: concept/design, financing, implementation and operation!