

## MDF Hallein GmbH

### MDF Panels Industry

#### Main CHP plant indicators

Heat capacity (total)	kW <sub>th</sub>	7,200
Electrical capacity (total)	kW <sub>el</sub>	1,500
Technology	ORC CHP Turboden	
Number of units	1	
Manufacturer	MDF Hallein GmbH & Co KG	
Type of fuel	Biomass	
Heat: yearly generation	MWh	43,200
Electricity: yearly generation	MWh	9,000
Year of construction	2005	
Financing	n. a.	
State support	n. a.	
Location	Hallein, Austria	

#### Picture



#### General description of the case

During the revamping an additional furnace with a nominal combustion power of 12 MW<sub>th</sub> and a new thermal oil heater with a nominal capacity of 10 MW<sub>th</sub> and nominal thermal oil temperatures of 300/250°C (feeding/return) were installed. The flue gases of the new furnace appr. 2 MW<sub>th</sub> are used in the existing dryers that

were modified in order to be able to use the gases of both furnaces for fiber drying. For cogeneration a standard Turboden T1500 unit with nominal thermal oil input power of 9 MW<sub>th</sub>, nominal net electric power of 1,5 MW<sub>el</sub> and nominal heat supply to hot water of 7,2 MW<sub>th</sub> was installed. The nominal hot water temperatures are 60/90°C (in/out), but operation up to 120°C is possible with a small decrease in thermodynamic efficiency. A thermal power of about 3 MW<sub>th</sub> is used for preheating the mixing air for fiber drying. The remaining thermal power is supplied to the district heating grid depending on the request of the grid and for other local low temperature consumers. The system is controlled by the thermal power request of the process and of the district heating grid. If the low temperature heat request is lower than the thermal power available downstream the ORC unit in nominal conditions the new thermal oil furnace and the ORC unit are operated at partial load.

#### Success factors

- High biomass availability.
- Fully integrated with the production process.
- Plant revamping opportunity.

#### Main barriers

- The biomass CHP ORC plant runs successfully.

#### Conclusion

The biomass CHP ORC application is a tested and broadly accepted technology in Austria. A lot of plants have already been installed and are currently working.

Currently the operators of renewable energy systems are entitled against the government purchasing agency to the conclusion of a contract on the purchase of the electricity they produce ("obligation to enter into a contract"). Currently the main incentive for electricity production from renewable energy is the feed in tariff scheme (10-15 €cent/kWh for biomass). In order to be eligible systems must reach at least 60 % efficiency.