

### Belgomilk Langemark

Food and beverage

#### Main CHP plant indicators

Electrical capacity (total)	MW <sub>el</sub>	7,35
Heat capacity (total)	MW <sub>el</sub>	13,8
Technology	Gas turbine	
No. of units	1	
Manufacturer	Turbomach	
Type of Fuel	Natural gas / Biogas	
Electricity: yearly generation	GWh	57,3
Heat: yearly generation	PJ	0,43
Year of construction	2009	
Total investment costs	EUR	7.000.000
Financing	Own funds Loans	
State support	Investment subsidy Certificates	
Location	B-8920 Langemark, Belgium <a href="http://www.belgomilk.be">www.belgomilk.be</a> Staf Campforts, Milcobel cvba Phone: +32 (057) 490 200 <a href="mailto:staf.campforts@milcobel.com">staf.campforts@milcobel.com</a>	



#### General description of the case

The CHP plant consists of a Solar/Turbomach natural gas turbine with generator type Taurus 70. The heat of the exhaust gases is lead trough a waterpipe heat recovery boiler to produce 25 tons/h steam at 22 barg (incl. Additional firing). The CHP plant is mostly full load driven, but partial load is possible. The main benefits are a reduction of 5150 tons/year CO<sub>2</sub> production and a primary energy reduction of 19,35%.

The generated heat is used as steam for 100% for the dairy plant (Milk Powder, Butter, Cheese, Whey products and Ice Cream production).

The generated electricity is used for 85% for the dairy plant; 15% is injected to the public grid (sold to a power supplier).

#### Picture



#### Success factors

The main success factors are:

- Primary energy reduction of 19,35%
- CO<sub>2</sub> reduction of 5150 tons/year
- The CHP certificates
- Lower total price of the power because of the local production (no transport costs)

#### Main barriers

The main barriers are:

- Price of natural gas
- Price of the electric power

#### Recommendations

In view of local consumption of the electric power there is also need for support by the allotment of CHP certificates to make a project profitable.