

## UIPSA Cogeneration Plant

Paper sector

### Main CHP plant indicators

Electrical capacity (total)	MW <sub>el</sub>	33
Heat capacity (total)	t/h	52,6
Technology	Combined cycle	
No. of units	1	
Manufacturer	GE	
Type of Fuel	Natural gas	
Electricity: yearly generation	GWh	250
Heat: yearly generation	GWh	265
Year of construction	2008	
Total investment costs	EUR	25.000.000
Financing	Loans	
State support	Feed-in tariff	
Location	La Pobla de Claramunt, Barcelona, Spain	

### General description of the case

The installation is associated with the paper plant UIPSA and is based on a combined cycle with an aeroderivated 28 MW gas turbine (GE LM2500), a 3,9 MW steam back-pressure turbine and a 1,7 MW condensation turbine (to modulate the steam excesses). The steam generator (from exhausted gases) produces high and low pressure steam and has a biogas post-combustion stage.

### Success factors

The installation was built to replace the old CHP plant (7 MW) at the end of its life. The new plant is bigger and was designed taken into account the growth perspectives of the paper plant, using the last high-efficiency technologies and the best available equipment. The legal frame in force during the construction (RD 661/2007), as well as the future energy scenarios, were really positive and guaranteed the technical and economical viability of the plant.

The preliminary study received also a State subsidy, not significant for the whole project investment but interesting in order to promote innovation and high efficiency studies in Spain.

### Main barriers

The main barrier founded during the project execution was the connection to the electrical grid. Despite the fact that the electrical connection available in the plant before the modification had enough power for the new CHP plant, the electrical company demanded a new exclusive connection at a higher voltage. This detail increased the investment sensibly and caused longer execution stage.

### Recommendations

The technical solution adopted is considered to be really successful and efficient for all plants with similar requirements. This CHP installation is a reference in the Spanish paper sector due to its efficient performance and economical savings achieved.

We strongly recommend taking into account the potential problems of connection to the electrical grid from the first steps of the study.

### Picture



UIPSA CHP plant