Massive Savings Thanks To A Complete Integration Of The OP-16 Turbine

Industrial & Commercial

SUCCESS STORY

At A Glance

Installation:
1 X OP16-3B

Location:
Fivizzano, Italy

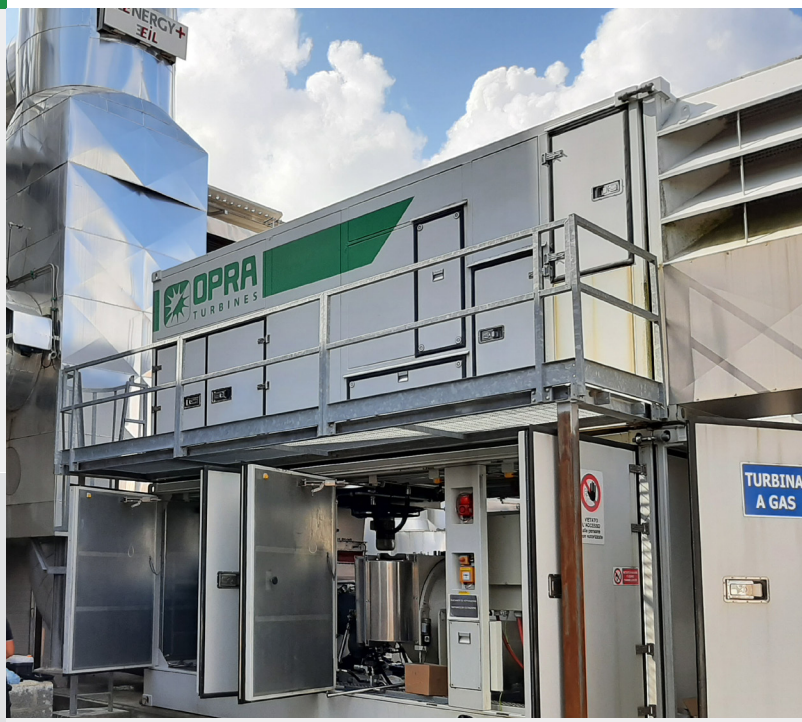
Output:
Electricity: 1.8 MWe
Steam: 4 t/h High Pressure
Hot Air: 8.9 kg/s at 570°C

Customer:
Cartiera San Lorenzo

The Challenge

The paper and tissue industry is very energy intensive. High temperature heat is needed at every stage of the production process, for steam generation and for drying.

With constant efforts to reduce emissions and with increasing prices of natural gas and electricity, optimizing the use of energy in the plant becomes essential for the sustainability and competitiveness of the industry.



The Solution

In collaboration with OPRA, EIL has developed an innovative system that integrates the OP16 gas turbine inside the dryer hood.

The oil-free exhaust gases from the OP16 are routed to the hood at 570°C. The system can automatically adjust the flow and temperature to match the production specifications. If the thermal input must be increased, a post firing is performed by a traditional burner system thanks to the high oxygen content (15%) of the OP16 exhaust flow. All this is managed automatically to match the setup defined by the operator.

The air from the hood is then extracted to produce 5 tons of steam per hour through a heat recovery steam generator (HRSG). The remaining energy is used in heat exchangers to generate hot air for other production processes and in an absorption chiller to cool down the inlet air of the turbine and increase the electrical power output.

The Results

With this innovative solution, EIL utilizes nearly all the energy available from the OP16 gas turbine.

The result is a total efficiency of 90%, with saving on energy costs up to 40% compared to a standard installation. Process optimization also increased paper production by 10% per day.

In total, the gains represent annual savings up to 1.5 million euros.

35% Savings on Energy Costs

40% Reduction Of Emissions

10% Increase Of Total Production

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