

The Challenge

Food processing plants require reliable, cost-effective energy. “In the food industry, 50 percent of energy services the refrigeration plant, 30 percent the thermal plant, and 20 percent for general services,” says Dario Alberto Babuin, IBT Group supply chain manager.

In its production process of high-quality cured meat supplied to department stores, retailers, and wholesalers, Furlotti & Co. uses steam in its cooking ovens and electricity to power processing machinery 24 hours daily, Monday through Friday.

Located in Medesano, in the Italian Province of Parma, the company sought a solution to meet increasing energy demands from plant expansion and consequent production increases.

IBT Group, which designs and installs energy-efficient high-tech gas turbine solutions, commissioned a Capstone Turbine system in August 2019 for Furlotti & Company in time for the company’s new production line completion.

The Solution

IBT Group installed a natural gas-fueled grid connect Capstone C600 Signature Series microturbine as part of its turnkey services, including technical feasibility, economic investment verification, supply, installation, commissioning, and servicing.

Exhaust exiting the microturbines is used as combustion air in an air vein burner and placed in a heat recovery steam boiler to produce about 1500 kg/h of steam at 8 barg. Once exiting the recovery boiler, the exhaust is directed into the atmosphere.

The combined production of electricity and steam serves as the main source of energy supply for the plant and is flanked by auxiliary boilers to produce the steam needed during the steam demand peaks exceeding the production capacity of the cogenerator.

The system’s ‘oil-free’ technology is considered the best choice for reducing potential pollution sources in food production sites.

Power Profile

Customer

Salumificio Furlotti & Company

Location

Medesano (PR), Italy

Commissioned

August 2019

Fuel


Natural Gas

Technologies

- Capstone C600 Signature Series Microturbine (Grid Connect)

Capstone Turbine Distributor

IBT Group



“With the use of a Capstone cogeneration system, it is possible to reduce the use of primary energy by 30 percent and consequently obtain a 30 percent savings in the energy bill.”

— Dario Babuin, Supply Chain Manager
IBT Group



The Capstone C600S Microturbine system utilizes reliable natural gas for Furlotti's processing plant.

The system will require only ordinary maintenance every 8,000 hours and an overhaul every 40,000 hours.

The installation is the first Capstone co-generation plant installed for a member of the Prosciutto di Parma producer consortium.

The Results

An initial system analysis has demonstrated positive results to the satisfaction of Furlotti & Company managers.

The use of the Capstone cogeneration system allows the operation to reduce primary energy and obtain energy bill savings of 30 percent, allowing a payback in less than four years, says Babuin.

Savings could exceed €300,000 for an operating regime of 8,000 hours per year at nominal power based on what will be the actual production of the plant going forward.

The plant would enable energy savings of around 3,762 MWh per year or approximately 324 TOEs (tonnes of oil equivalent), saving about 938 tonnes of CO₂ not released into the atmosphere.

The energy savings derived by incorporating Capstone technology at the Furlotti & Company plant is expected to be redirected into the production of cured meats, enabling the company to continue to be competitive on the market and meet the growing consumer appetite for cured meat products. ■

Capstone C600S Microturbine



The C600S Microturbine provides up to 600kW of electric power and contains three air bearing microturbines.