

# Italian dairy to install world's first high-temperature steam and power ORC



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In Italy, Organic Rankine Cycle (ORC) specialists Turboden S.p.A., a group company of Mitsubishi Heavy Industries has signed an agreement with Centrale del Latte di Brescia, the municipal dairy in Brescia, for the installation of the world's first high-temperature cogeneration ORC plant – Steam & Power ORC System (ST&P ORC System).



*Turboden has signed an agreement with Centrale del Latte di Brescia for the installation of the world's first high-temperature cogeneration ORC plant – Steam & Power Organic Rankine Cycle System (photo Turboden).*

We are proud to be the first world supplier of this innovative Steam & Power ORC solution and that the first unit will be installed at a neighbouring outstanding Italian company like Centrale del Latte Brescia; the unit will be used in their production processes to produce 700 kW electric power and 5 tonnes per hour of steam for milk pasteurization, said Paolo

Bertuzzi, CEO, Turboden.

Turboden began developing the high-temperature ORC system two years ago, also taking advantage of a Research and Development project supported by the Italian Ministry of Economic Development Fondo Crescita Sostenibile (Sustainable Growth Fund).

Turboden Steam & Power ORC System is designed to satisfy the energy requirements of manufacturing companies requiring maximum overall efficiency (>90 percent) with high steam content (about 75 percent), VS power (about 15 percent) and no hot water, unlike the needs satisfied by internal combustion engines (ICEs) currently the dominating cogeneration technology.

We are sure that this new family of products, up to 3 MWe and 25 tonnes per hour, fills a gap in the current range of cogeneration technology offered and will meet the requirements of several other industrial companies in areas such as food and beverages, paper, chemical, textiles and oil and gas because of the high overall energy efficiency, over 90 percent, prevalence of steam content, low maintenance costs and high flexibility. Moreover, the ST&P ORC system can be combined with other cogeneration technologies like engines or gas turbines, to meet the customer's specific steam and power needs, said Bertuzzi.

## Long-life milk a first application

The solution perfectly fits with the energy needs of Centrale del Latte di Brescia, a leading milk and dairy products manufacturer, which will use this system to co-generate about 700 kW electric power and 5 tonnes per hour of steam at 15 bar needed to pasteurize long-life milk.

Centrale del Latte is very sensitive to clean and environmentally-friendly solutions. High-efficiency cogeneration fits in perfectly with our philosophy: for some years we have been looking for a suitable technology for our energy needs and to improve the energy efficiency of our production plant. We are sure that the synergy between Turboden and our dairy, two important companies in Brescia's industrial context, will certainly lead to a successful project, said Franco Dusina, President of Centrale del Latte di Brescia.

Turboden provides a turn-key solution, supplying the complete system, from the natural gas-fired boiler – in partnership with Bono Sistemi a leading industrial boiler manufacturer – to the

in a partnership with BONE SYSTEM, a leading industrial boiler manufacturer, to the high-temperature Organic Rankine Cycle turbogenerator.