

SUSTAINABLE HEAT SUPPLY

with innovative, intelligently controlled cogeneration of heat and power

»With our iCHP plant, which is intelligently controlled by INNIO Group technology, we save 3,600 tons of CO₂ per year in the final expansion. This corresponds to the emissions of 3,000 VW Golfs. We offset the remaining amount of CO₂ emissions through certified climate protection projects. This is confirmed every year by TÜV. This means that the energy we supply - heat and electricity - is climate-friendly.«

Dominik Mühlbauer, Operations manager of the Heat Supply Division at Stadtwerke Bad Reichenhall



Background

“Green” heat is at the heart of Stadtwerke Bad Reichenhall’s innovative combined heat and power system. Primarily used for regional heat supply, this “iCHP” system flexibly combines several key technologies centered on two highly efficient Jenbacher combined heat and power (CHP) plants from INNIO Group.

These heat and electricity producers are supplemented by two large groundwater heat pumps, which use renewable environmental heat and green electricity to generate green heat. Two power-to-heat systems convert surplus green electricity into heat, and a photovoltaic system is used for the iCHP system’s own electricity requirements.

In addition, three large heat accumulators enable flexible use of the individual heat generators, depending on heat consumption.

Solution

Intelligent solutions are needed to manage such highly complex integrated systems. For optimal use, they must have common control and regulation technology.

For this reason, Stadtwerke Bad Reichenhall also chose INNIO Group’s myPlant Optimization, a digital all-in-one energy management solution from the original manufacturer. This software combines INNIO Group’s many years of Jenbacher plant experience with an optimized heat and storage schedule. It supports the municipal utility in heat generation in line with demand while providing it in a cost-optimized and sustainable way.

For supply stability, the overall system reacts flexibly to fluctuations in the two energy sectors of heat and power.



iCHP customer video:

Scan the QR code for more information on the intelligently controlled power to heat system.

Result

With the Jenbacher energy management solution, the municipal utility has everything under control: the overall iCHP system, the supply for the two energy sectors, and its sustainability goals.

If the quantities of electricity available in the grid are low, the Jenbacher CHP units produce electricity and feed it into the grid for grid stabilization. If the reverse occurs and the quantities of electricity in the supply system are too high, then the electric heat generators are switched on and the electricity is used to produce heat.

As an intelligently networked system, the iCHP plant enables an increased share of renewable energy in the heating network. In this way, it helps to advance the energy and heat transition, reduce greenhouse gas emissions, and implement a climate-friendly regional heat supply.

Key technical data

Installed engines	2 x J620
Electrical output	3.4 MW
Thermal output	3.2 MW
Energy source	Pipeline gas
Commissioning	1/2022 (Jenbacher engines & myPlant Optimization energy management solution)

Customer benefits

Advantages from Jenbacher myPlant Optimization:

- Support for operational management through intelligent algorithms
- Holistic optimization of the plant fleet
- Increased overall economic efficiency through the integration of flexible options
- Intelligently controlled forecasts that adapt to the dynamic environment
- Better decision-making through transparency



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