

Flexible power solutions with the Jenbacher J920 FleXtra gas engine

The J920 FleXtra gas engine from INNIO allows the city of Rosenheim to generate flexible distributed power & heat by operating in a highly efficient combined heat and power application mode.

“With the accelerating growth of renewable installations, more flexible power is essential. Its quick startup capability makes INNIO’s J920 FleXtra gas engine the ideal solution to complement intermittently available wind and solar energy sources.”*

Dr. Götz Brühl, CEO of the Stadtwerke Rosenheim, Germany



The J920 FleXtra gas engine adds another 9.5 MWel to the Stadtwerke Rosenheim’s installed capacity. Three J620 gas engines (3 x 3.35 MWel) as well as one J624 two-stage turbocharged gas engine (4.4 MWel) were installed in previous years.

The project

One of INNIO’s J920 FleXtra large gas engines was installed at the Stadtwerke Rosenheim, where it works with a waste incineration plant and four additional Jenbacher* gas engines to create a combined heat and power (CHP) plant. Offering low environmental impact, the plant generates about 40% of the electricity and 20% of the heat required by the city of Rosenheim. Since the CHP plant stores heat, it greatly increases the daily operating hours for the gas engines and makes them an ideal complement to intermittently available wind and solar energy supplies.

By innovatively providing highly efficient, low-emissions power and heat to the city of Rosenheim, this project is a role model for Germany’s energy turnaround efforts. By 2025, Rosenheim will be able to obtain all of its energy without any additional greenhouse gas emissions.

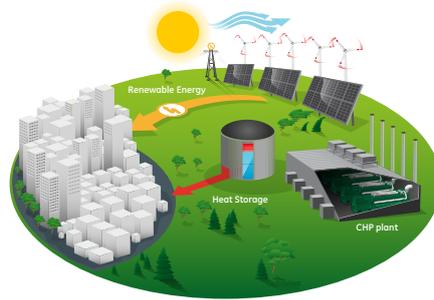
Stadtwerke Rosenheim: a pioneer in distributed power generation

Stadtwerke Rosenheim supplies water, electricity, gas, process steam and district heating for residential and local industrial customers. Using CHP gas engine technology is a critical piece of the company’s energy concept. Given the fast-growing presence of renewable energy sources such as wind and solar power, it is essential to create a more flexible energy supply infrastructure such as gas engine-based distributed CHP plants.

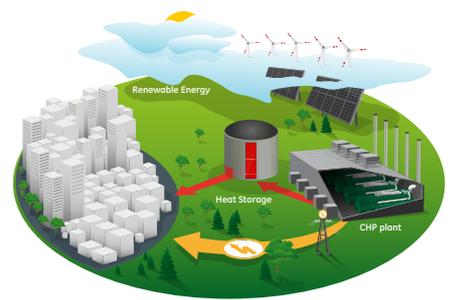
Key project benefits

- Supports Germany’s climate goals: The project will help increase power generation from CHP plants to 25% of the country’s total power supply by 2020 while reducing greenhouse gas emissions by 40%.
- Contributes to local energy turnaround: Innovative energy production from municipal utilities can reduce the CO₂ emissions of conventional power plants. The saved CO₂ emissions are equal to the remaining CO₂ output of the city of Rosenheim.

- Supports Germany’s energy efficiency initiatives: By ensuring excellent electrical efficiency and high CHP efficiency of up to 90%, the innovative two-stage turbocharging design supports Germany’s efforts to increase its energy efficiency by 2.1% annually.
- Provides fast, reliable power to the grid: With five-minute startup capability, this CHP plant supports the supply of reliable power to the grid by reacting quickly when the power supply from solar or wind is low.
- Supports peak period demands: The CHP plant combined with heat storage provides “flexible heat generation and electric power” during peak periods.
- Reduces fuel consumption: Due to two-stage turbocharging, the J920 FleXtra engine not only achieves a higher electrical efficiency, it also allows to achieve a 3% point higher total efficiency. That not only reduces fuel consumption, but also enables additional heat sales.

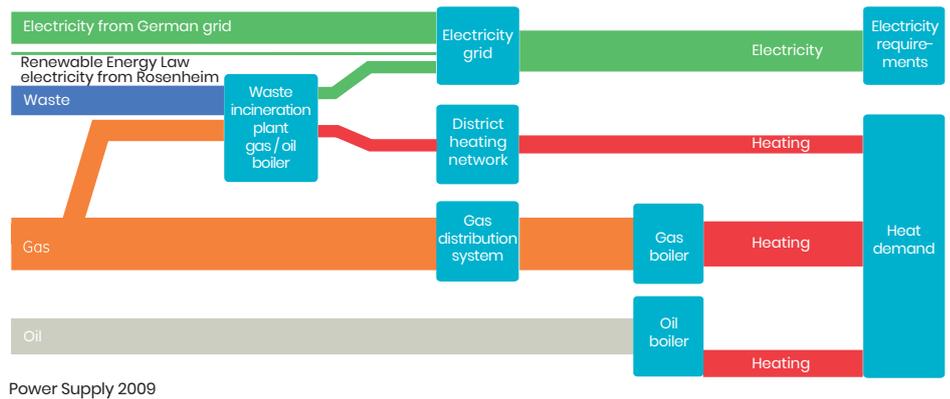


As long as sufficient electricity from solar and wind power is available or energy prices are low, the CHP system reduces load, and the pre-stored heat supplies the city with district heating.

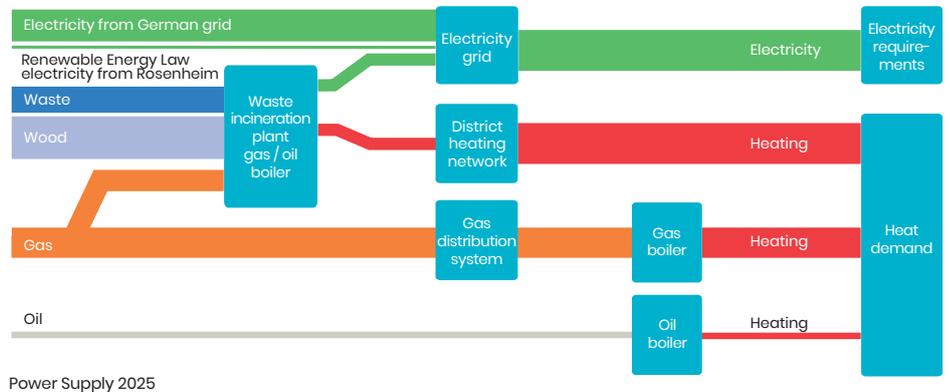


When power from renewables is not available, the exact opposite occurs: INNIO's gas engines can start up within minutes to cover the city's electricity needs, while the CHP technology generates heat that is stored for periods of higher demand.

Stadtwerke Rosenheim energy concept towards 2025



INNIO* is a leading solutions provider of gas engines, power equipment, a digital platform and related services for power generation and gas compression at or near the point of use. With our Jenbacher* and Waukesha* product brands, INNIO pushes beyond the possible and looks boldly toward tomorrow. Our diverse portfolio of reliable, economical and sustainable industrial gas engines generates 200 kW to 10 MW of power for numerous industries globally. We can provide life cycle support to the more than 48,000 delivered gas engines worldwide. And, backed by our service network in more than 100 countries, INNIO connects with you locally for rapid response to your service needs. Headquartered in Jenbach, Austria, the business also has primary operations in Welland, Ontario, Canada, and Waukesha, Wisconsin, US.



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