



# Powering Critical Care



The implementation of a CHP system at a Hospital in Opole, Poland represents a strategic investment in energy security, operational reliability, and long-term cost efficiency. Hospitals require uninterrupted access to electricity and heat to support critical medical equipment, patient care, building heating, and domestic hot water production. Any disruption in energy supply can directly impact the quality and safety of healthcare services.

To address these challenges, the hospital installed a cascade cogeneration system consisting of two avus 500plus modules,

running on natural gas. The units provide a combined electrical capacity of 1 MW. The system operates continuously, ensuring a stable and efficient supply of both electrical and thermal energy 24 hours a day.

The cogeneration plant serves as a key component of the hospital's energy infrastructure. The generated electricity supports the operation of medical devices, lighting, ventilation systems, and other essential hospital services. At the same time, the

recovered thermal energy is used for:

- Space heating of hospital buildings
- Preparation of domestic hot water
- Support of the facility's thermal energy demand throughout the year

By producing electricity and heat simultaneously at the point of consumption, the hospital reduces its dependence on external energy suppliers and increases its resilience against grid disturbances and energy price fluctuations.

The cogeneration system achieves an overall efficiency exceeding 88%, significantly outperforming conventional separate generation of electricity and heat. By utilizing natural gas to produce two energy streams simultaneously, the hospital maximizes fuel utilization and minimizes energy losses.

This project demonstrates how modern CHP technology can strengthen energy resilience while improving economic and environmental performance. Through reliable on-site generation of electricity and heat, the hospital has achieved greater energy independence, enhanced operational security, and reduced operating costs, all while supporting its primary mission of delivering high-quality healthcare services.



### Hospital in Opole, Poland

2 x avus 500plus  
Natural gas  
2 x 499 kW electric  
2 x 543 kW thermal

