Moving toward energy self-sufficiency

Faced with rising energy costs and increasing pressure to operate more sustainably, a wastewater treatment plant in Oświęcim, Poland, set out to improve how it used the resources already available on-site. Like many facilities of its kind, it produced biogas as a byproduct of sewage treatment, but this potential energy source was not being fully utilized. The goal was clear: reduce dependence on external electricity, stabilize operating costs, and lower environmental impact.

The turning point came with the installation of the agenitor 408 module. This combined heat and power (CHP) system enabled the plant to efficiently convert its own sewage biogas into both electricity and heat. Instead of treating biogas as a secondary byproduct, the facility transformed it into a central pillar of its energy strategy.

The results were immediate and measurable. With an electrical efficiency of around 42%, the unit ensured that a maximum amount of energy was extracted from every cubic meter of biogas. This high level of efficiency significantly increased the plant's ability to cover its own energy demand, bringing it much closer to energy self-sufficiency.

At the same time, operational costs began to decrease. By generating power on-site, the plant reduced its reliance on external electricity suppliers and became less vulnerable to fluctuating market prices. The robust design of the agenitor engine also meant longer maintenance intervals, which translated into lower service costs and an overall reduction in total cost of ownership.

Beyond the financial and operational improvements, the environmental benefits were equally important. By using renewable biogas more effectively, the facility reduced its greenhouse gas emissions and contributed to regional sustainability targets. The system not only improved efficiency but also helped position the plant as a more responsible and future-oriented operation.

Today, the wastewater treatment plant operates with greater energy independence, improved cost control, and a significantly reduced environmental footprint. The integration of the agenitor 408 demonstrates how modern CHP technology can turn waste into a valuable resource, offering a practical and scalable pathway for other facilities aiming to enhance both efficiency and sustainability.

Oczyszczalnia ścieków w Oświęcimiu

agenitor 408
Biogas
400 kW electric
373 kW thermal