



University of Wisconsin-Oshkosh

- **FUEL TYPE** Biogas
- **APPLICATION** Dairy Farm
- **KW PRODUCTION** 370
- **LOCATION** Oshkosh, WI, USA



About This Project

This CHP cogeneration plant has been installed in Oshkosh, Wisconsin, supplying the University Campus with electricity and thermal energy. The University of Wisconsin Oshkosh decided to build their own dry fermentation anaerobic bio-digester. The first dry digester in the nation, converting food and yard waste into biogas. The renewable energy facility is designed by BIOFerm Energy Systems (Viessmann Group), a leading expert that delivers a wide array of turnkey energy solutions using biomass and organic waste as the primary feedstock. The combined heat and power plant utilizes the 2G patruus 370 rated 370 kW/h and a capacity of 3,071 MW p.a. Electrical Power and 474 kWh/th Thermal Power. The professionally designed 2G biogas CHP container module features a MAN® cogeneration gas engine fully integrated into the unique 2G biogas cogeneration technology package, especially developed for high efficiency biogas energy conversion. The plant generates enough electrical energy to serve approximately 8% of the University's power requirements, and the thermal energy is utilized to heat the digester, buildings, and some University Campus facilities. Excess power is sold to the grid. The plant is an all-in-one and connection-ready module. Benefits over conventional gas engines include much higher efficiency, reliability, durability, extended life, and less maintenance cost. 2G Energy, Inc. also supplied the complete gas treatment, including cooler, dryer /dehumidification, and the H2S removal system. The customer decided to install the 2G Thermal Heat Distribution System including a Hydronic Junction. It assures that the CHP maintains optimum thermal performance at any time in different load situations. This advanced technology decouples the primary heating source circuit from the secondary consumer circuit. Consistent function is thereby achieved in all operating states. 2G THDA's provide the most energy efficient heat transfer. The system also allows for tighter temperature control because of the infinite system ability to regulate temperatures gradually. The controls and switchgear, including utility interconnection are also part of 2G's scope of supply. 2G Energy also installed a fully enclosed flare specifically designed for biogas applications. 2G's flare systems, vapor combustors, and solutions meet EPA regulation 40 CFR 60.18 and are BACT approved.

Additional Details

- **TOTAL ELECTRICAL POWER**
370kW
- **MODULE**
Patruus 370
- **EXTRAS**
Biogas Treatment System, Flare System
- **CONFIGURATION**
Container Module

