

TEXAS WESLEYAN UNIVERSITY

FORT WORTH, TX – 800 KW COMBINED HEAT AND POWER (TRIGENERATION)

Texas Wesleyan University is a private, liberal arts university located in southeastern part of Fort Worth, Texas. The school has about 3,500 students and 300 teaching staff and covers around 75 acres. The school launched a $6.2 Million energy-saving project in 2015. The centerpiece of this project is the Avus 800, a CHP that provides electrical and thermal energy to much of the campus. Other technology included a new absorption chiller, new non-condensing boilers and heat exchanger, new VFDs on motors and large air handlers, and upgrades to lighting, water, and automation systems.

The natural gas-powered CHP plant supplies 80% of the power to 80% of the campus while reducing the university's dependency on the public power grid. The new power plant includes a 250-ton absorption chiller, a new cooling tower, new heating boilers, pumping systems, and central plant optimization controls. The self-funded project will pay for itself in cost savings quickly. The power system is expected to save $377,000 and 5.9 million kilowatt-hours per year.

SOLUTION PROVIDED

- **Generating Capacity:** 800 kWe
- **CHP Equipment:** One MWM TCG 2016 Reciprocating Engines
- **Heat Recovery:** Hot water and Chilled Water
- **Type of Fuel:** Natural Gas

OUR ROLES

- LTMA Service Provider (ongoing)

IMPACTS

- Trigeneration Outputs:
  - 5,900 MWh electricity annually
  - 250 refrigeration tons of chilling
  - 2,000 MBtu/hr hot water
- Reduced cost for energy needs
- Lower reliance upon the energy grid
- Reduced carbon footprint
- Improvement in power factor