



ESTHER BARAZZONE CENTER CHATHAM UNIVERSITY GIBSONIA, PENNSYLVANIA

PROJECT OVERVIEW

The Esther Barazzone Center is the Commons Center for the Eden Hall Campus of Chatham University. Designed as a “living learning laboratory” this campus is intended to house and feed 1,500 students all while emitting zero carbon emissions and producing more energy than it consumes. The Esther Barazzone Center spans 23,000 square feet and two floors, and is a multi-purpose space, including a commercial and teaching kitchen, dining hall, classroom and root cellar.



REASON FOR CHOOSING YANMAR

Eden Hall already had several sustainable initiatives in place, including 100% inductive heating recycled through a heat loop, as well as solar panels. However, the campus was designed to be completely net zero electric, and there was a shortfall in electric production as the project developed.

YANMAR’s two 10 kW Combined Heat and Power units powered by natural gas provided an efficient, sustainable solution to meet the campus’ electrical and heating needs. YANMAR’s CHP systems are up to 2.6 times as efficient as centralized power, while also offering up to a 50% reduction in carbon footprint.

ABOUT CP10WN

Using natural gas, the CP10WN’s high-efficiency generator provides 10 kW of electrical power. The engine heat is captured, and heats water at a rated temperature of 158°F for immediate use or storage in your facility.

QUICK FACTS

- Application:** Commons Center
- Location:** Gibsonia, Pennsylvania
- Commissioning Date:** February 22, 2016
- Product Installed:** (2) CP10WN-SN
- Results:**
 - Consistently reliable operation
 - Reduced power and heating costs



ESTHER BARAZZONE CENTER CHATHAM UNIVERSITY CP10WN-SN

“The YANMAR CHP systems offer remarkably quiet operation, and are well designed. In the first year of operation, we have not experienced any operational issues.”
- Jim Chorba, TUDI Mechanical Systems



RESULTS

- The CP10WN's electrical utilization (93% average) is high due to the need for and use of the system as one of the building's primary power sources.
- The CHP unit provides consistently reliable operation with an average use of 670 hours per month, and no downtime.

CONCLUSION

- The project successfully demonstrates the application of YANMAR's CHP systems in a mixed-use building. The unit has delivered on its promise of consistent operation, and high heat and electrical efficiency.

**YANMAR CHP Energy Utilization Ratio - October 2016 through January 2017
(Actual Output/Maximum Potential Output)**

