

**LUXURY HOME  
GREENWICH, CT**

**YANMAR**



“This is the first YANMAR mCHP system to reach 30,000 operation hours in the United States. Since completing the 30,000 hour maintenance on this unit in the third quarter of 2015, it has continued to run as expected with almost no downtime.” - Michael Alfano, Sales Application Engineer, YANMAR America



### **Project Overview**

A luxury homeowner in Greenwich, Connecticut desired a greener solution to meet their heating and power needs for their 13,000 square foot residence. The owner originally installed two (2) 5 kW competitive mCHP units in the home's basement, but decided to replace the two units with one (1) 10 kW YANMAR mCHP unit in order to achieve improved performance from the system.

### **Reason for Choosing YANMAR**

The homeowner chose YANMAR's mCHP solution because they wanted to reduce their use of from-the-grid power and improve operating efficiency over the previously installed units, the system offered a small footprint that could be installed in the basement of their home and due to the product's blackout start option, which provides them with continuous power even if the grid is down.

Installing the YANMAR unit into the home as a retrofit was relatively simple. The electrical connection was completed by adding two (2) electrical panels, batteries and an additional disconnect, since the unit is a blackout start model. Because the CP10WN has a built-in heat exchanger, integration into the home's water system was also simple; the home's existing on-site water storage tank allowed for a minimal change to the water system, reducing the overall installation time and cost.

### **About YANMAR America Energy Systems**

YANMAR America Energy Systems in the North, Central and South American headquarters for the company's Variable Refrigerant Flow and Combined Heat and Power systems. Our team and products are focused on sustainability, reliability, and efficiency.

**YANMAR America - [YANMAR-ES.com](http://YANMAR-ES.com)**

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# QUICK FACTS

**APPLICATION:** Residential **LOCATION:** Greenwich, CT **COMMISSIONING DATE:** March 2011  
**PRODUCT INSTALLED:** CP10WN-SN **RESULTS:** Annual savings of more than \$8,000 / Average monthly use of 6 kW during a three year period / Average monthly operation of 636 hours during a three year period



## RESULTS

- The unit provides 85% of the 13,000 square foot home's total electricity, as well as supplies domestic hot water and water for the HVAC system.
- The homeowner is able to use the home's outdoor pool eight (8) months of the year and keep the hot tub heated year-round without a separate system due to the reuse of waste heat.

## CONCLUSION

The YANMAR CP10WN-SN provides the homeowner with an average annual savings of more than \$8,800. Total energy utilization for the system over a three year period was 91.4% with 93% power utilization and 86% heat utilization with the most heat being used in the colder months of the year.

**YANMAR mCHP Energy Utilization Ratio - January 2012 through December 2014  
(Actual Output/Maximum Potential Output)**

