Finger Lakes Community College Installs Micro-CHP in its Pursuit for Sustainability

Finger Lakes Community College

Student Enrollment:
Approx. 6,000

Institution Type:
Community College

Institution Size:
250 Acre Main Campus

Region:
Finger Lakes

REV CAMPUS CHALLENGE
A NY STATE CLEAN ENERGY INITIATIVE
2016
LEADER

Overview

Finger Lakes Community College, founded in 1965, prioritizes and values sustainability throughout its operations, facilities, curriculum, and student life. As a member of NYSERDA's REV Campus Challenge, the college was able to obtain funding from NYSERDA to help finance an energy audit for the main campus. Several energy conservation measures (ECMs) were identified through the energy audit, but creating a solution for its domestic hot water system has offered benefits even beyond energy savings.

The Problem and Solution

The college's boilers were more than 25 years old and beyond their useful life. Catherine Ahern, the College's Director of Facilities and Grounds, worked with a consultant to investigate options for replacing the existing domestic hot water system. Instead of exclusively replacing the existing boilers with a more efficient system, they decided to move forward with a solution that incorporated a micro-combined heat and power (micro-CHP) system and an upgraded boiler system.

How it Will Work

This solution enables heat to be added into the system through a generator, and then the power from the generator would be put back into the distribution to campus buildings. The existing two boilers were removed and replaced with two new, high-efficiency boilers and two hot water storage tanks. The micro-CHP system was piped in to prioritize domestic hot water while also supplying space heating for about 500,000 square feet of campus buildings. When asked if this project would have been implemented without the support of REV Campus Challenge and related funding sources, Catherine reported that the college would have done a one-for-one replacement of the existing system and would not have included the micro-CHP.

"FLCC was able to use the REV Campus Challenge to help finance an energy audit for the main campus completed in 2018. We worked hand in hand with Emcor Services Betlem out of Rochester. This report allowed us to get real energy data and history, get a full list of equipment, lighting, and system information. This information enhanced our data. Once obtained, we generated 29 different energy conservation measures. The domestic water system was included as an ECM as the existing boilers were beyond their useful life and the system included a large inefficient storage tank."

– Catherine Ahern, Director of Facilities and Grounds, Finger Lakes Community College

The Benefits

Finger Lakes Community College has been challenged with reduced occupancy and domestic hot water use during the COVID-19 pandemic. As of early 2021, its micro-CHP system is operating 24/7 because it is adding heat to the lower temperature heating loop. Catherine explained, "This has been an excellent heat addition with the benefit of 'free electric' back into our system." She also noted that, on top of the energy savings and reduced carbon footprint, they have been able to include this effort into its student's curriculum.

Savings

The new installation, which stemmed from the energy audit supported by NYSERDA's FlexTech Program, is saving the college approximately $8,300 and 180,000 kWh annually. They are also experiencing an annual reduction of 65.6 metric tons of CO_2 —equivalent to removing 14 vehicles off the road. These improvements are helping the college work toward its goals for sustainability on campus.

What's Next for Finger Lakes Community College?

The college is interested in additional projects and sustainability opportunities that were uncovered during the energy audit. One high-priority item is to take advantage of NYSERDA's On-site Energy Manager Program when the timing is right. They are currently working through its list of identified ECMs and would like to move toward an Energy Performance Contract soon.

The NYSERDA Flexible Technical Assistance (FlexTech) Program

Through the FlexTech Program, NYSERDA provides cost-sharing for objective, site-specific, and targeted studies on how to best implement clean energy and energy efficient technologies. A NYSERDA-approved FlexTech Consultant will work with customers to complete an energy study and provide expert, customized services and information.

Ready to join the REV Campus Challenge? Get started today.

Learn how at nyserda.ny.gov/REV-Campus-Challenge.

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