

The Kitchen Theatre

Ithaca, NY

Background

In 2008, the Kitchen Theatre Company purchased a building in the West End neighborhood of Ithaca, N.Y. A \$1.2 million campaign allowed them to renovate the 7,452-gross-square-foot building using energy efficient and green building strategies. The project also included the addition of a 36 gross-square-foot vestibule, for a total of 7,488 gross square feet. The building is currently being used as a theatre, rehearsal space and workshop for the Kitchen Theatre. The renovated building opened for the start of the company's 20th season with an increased seating capacity of 99 seats. The project scope included a high-efficiency heating and cooling system, increased stage space, multiple entrances, full accessibility, larger restrooms and a new lobby with an art gallery space and refreshment counter. The project adhered to the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) high-performance, green building rating system, and is currently waiting for certification by the U.S. Green Building Council (USGBC).

A technical assistant (TA) was retained by NYSERDA, and evaluated the electric energy efficiency opportunities that were available for the renovation and addition under the New Construction Program.



Recommendations

The TA identified cost-effective improvements for the building and its systems that reduced its energy consumption, decreased demands on the utility's distribution system and increased the comfort of its occupants.

Among the energy-efficiency improvements implemented in the building were:

- High efficiency HVAC and HVAC rooftop units were selected for premium efficiency.
- Economizer control to cool the building and reduce HVAC equipment loads with outdoor air when possible, and reduced the hours of operation of the A/C system.
- Demand controlled ventilation: the building ventilation is controlled by CO₂ sensors, thereby reducing the amount of ventilation air to be conditioned.
- Variable refrigerant volume air conditioning units: the system used to cool the offices.
- High efficiency lighting: the lighting is primarily compact and is composed of linear fluorescent fixtures.
- Improved building shell insulation: spray foam insulation was used for improved air-sealing.



Incentives and Results

NYSERDA's incentive of \$25,374, pending LEED certification, helped The Kitchen Theatre Company defray a portion of the implementation cost to install the efficiency improvements.

In total, The Kitchen Theatre Company's investment could result in:

- Annual Energy savings of more than 65,280 kWh.
- Peak demand savings of 24.52 kW in the summer.
- Annual Energy Cost savings of almost \$16,550.
- Simple payback (after incentive) of 1.0 year for project.

The Kitchen Theatre is 49.6% above ASHRAE 90.1-07.

“In the planning Kitchen’s building renovation, we put energy efficiency at the top of the list. The NYSERDA incentives have been a wonderful bonus to our efforts, and its support of the Kitchen’s quest for LEED certification has been essential. The Kitchen Theatre is a beautiful showplace for great theater and also a showplace for green and energy efficient theater!”

*Stephen Nunley,
The Kitchen Theater Company*