

Cooper Union's New Academic Building

New York, NY, New York County

Background

Cooper Union constructed a 180,000 square foot academic building located at 41 Cooper Square, New York, NY. The project's primary use will be as laboratory, classroom and office space for students and staff of Cooper Union. Electric service is provided by Con Edison and contributes to the System Benefits Charge (SBC). The project achieved LEED® for New Construction (NC) certification.

Recommendations

SAIC was retained by NYSERDA to evaluate energy efficiency opportunities for the new building under the New Construction Program. Each measure was analyzed using the Visual DOE 4.0 building energy simulation program. For comparative purposes, a baseline model was developed that meets the requirements of ASHRAE Standard 90.1-1999, following NYSERDA's program requirements. The proposed design was compared to this baseline model to establish project savings.

Among the energy efficiency improvements implemented in the building were:

- High Performance Lighting System and Occupancy Sensors
- High Efficiency Windows and External Screen Shading
- Variable Speed Drive on Chillers
- High Efficiency Motors for Fans and Pumps
- Radiant Heating and Cooling System
- Demand Controlled Ventilation
- Variable Flow Laboratory Exhaust System

Incentives and Results

NYSERDA's incentive of \$544,790 helped Cooper Union defray a portion of the implementation cost to install the efficiency improvements. In total, the investment could result in:

- Annual Energy savings of more than 1,226,797 kWh
- Peak demand savings of 452.6 kW in the summer
- Annual Energy Cost savings of almost \$270,093

The Cooper Union New Academic Building, which is 33.1% above the energy code, was used for this project.



“NYSERDA’s team was extremely helpful throughout the process of obtaining incentive funding. NYSERDA’s professional staff guided us and was flexible to meet the specific needs of our project. It was a pleasure working with the team, and we look forward to working with the members again on future projects to increase the energy efficiency of our infrastructure.”

-TC Westcott