



Integrating energy efficiency at the start results in significant energy and cost savings



Photo Credit: NYSERDA

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. The project achieved LEED® for New Construction 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

Get started

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Results

- 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
- 33.1% above the energy code

“NYSERDA’s professional staff guided us and was flexible to meet the specific needs of our project. We look forward to working with them on future projects to increase the energy efficiency of our infrastructure.”

— TC Westcott, Former Vice President of Finance and Administration and Treasurer at The Cooper Union