



NYSERDA

# Mount Sinai Hospital facilitates energy efficiency with On-site Energy Manager

## Case Study

Company Name:  
**Mount Sinai Hospital**

Number of Sites:  
**6 Buildings**

Total Sq Ft:  
**2.1 Million**

Annual Electric Savings:  
**8,300,000 kWh**

Annual Fossil Fuel Savings:  
**125,000 MMBtu**

Annual Cost Savings:  
**\$1,524,000**

Industry:  
**Healthcare**

Location:  
**New York City**

## Overview

The Mount Sinai Hospital campus consists of six buildings, totaling more than 2,100,000 sq. ft. Several of the hospital buildings were constructed in the 1920s and completely renovated in 2008. All buildings are served by a central heating and cooling plant that distributes steam and chilled water to dozens of air handling units, hot water heating and reheat systems, and numerous process cooling loads. However, due to system upgrades and repairs to handle additional loads, the hospital's energy consumption and carbon footprint increased.

As a member of the NYC Carbon Challenge, hospital administration needed to implement a plan to reduce energy use and carbon emissions.

## Initiating the Plan

The New York State Energy Research and Development Authority (NYSERDA) On-site Energy Manager (OsEM) Program seeks to demonstrate the value of an OsEM in commercial, industrial, and multifamily facilities to become standardized and self-sustaining.

Through a cost-share with NYSERDA, Mount Sinai hired a fulltime energy manager for a two-year engagement. In addition, the hospital was eligible to apply for custom incentives from Con Edison through its Commercial and Industrial Program. The On-site Energy Manager supported the incentive applications with data collection and technical analysis through an energy audit.

**Over the two-year engagement period, Mount Sinai Hospital reduced energy consumption by 10% and CO<sub>2</sub> emissions by 8,652 Metric Tons compared to the hospital's baseline year of 2017–18**

## Energy Reduction Goals

Projects facilitated by the OsEM included energy efficiency upgrades as well as operational, maintenance, and process improvements. Mount Sinai set initial energy reduction goals for the 24-month engagement period that commenced on June 1, 2018. An achievable target for a 3% reduction in electric consumption and a 5% reduction of natural gas consumption was evaluated and submitted. Combined, this goal represented a total reduction of 4.4% and EUI reduction of 14.5 kBtu per sq. ft. per year across the hospital's campus.

## Generating Results

The OsEM worked with Mount Sinai's team of engineers, managers, and maintenance staff to facilitate implementation of energy efficiency measures and track progress. Completion of an electricity metering system project was included in this effort. Process improvements in both HVAC and central plant operations developed by the team were key to the energy efficiency gains. The two-year engagement yielded 15 installed energy control modules, with annual savings of approximately 8,300,000 kWh in electric usage, 1819 kW of summer on-peak demand and 125,000 MMBtu. Annual energy cost savings exceeded \$1,524,000.

## Integrating Energy Management

The energy team added two more members to support the OsEM— an assistant director of energy management and an energy analyst. Monthly energy committee meetings were held to discuss technical aspects of energy efficiency projects in progress, ideas for new projects, coordination of resources to accomplish projects, tracking of goals, and best practices. As a result, the team identified and received approval for capital improvements and energy conserving operational and maintenance measures.

An energy management plan was developed and implemented for the hospital. The plan commits to continuous improvements in operation and maintenance, assessing of performance, setting annual goals for energy and carbon footprint reductions, implementing action plans, evaluating progress, and recognizing the team's achievements. Ultimately, the on-going savings and improvements more than cover the costs for Mount Sinai's energy management team.

## The NYSERDA On-Site Energy Manager Program

Through the On-site Energy Manager (OsEM) Pilot Program, NYSERDA cost-shares up to 75% of the cost to hire an OsEM. OsEMs work with companies to develop and implement successful energy and productivity projects. Projects may include operation and maintenance improvements, behavioral changes, energy efficiency upgrades, process improvements, throughput and scrap reduction improvements, and cost management.

**Discover how to bring energy costs under control and improve profitability with NYSERDA.**

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