

## CASE STUDY

# Princeton University Virtual Energy Management



## SCOPE

Edison Energy's Engineering Solutions team utilized its Virtual Energy Management (VEM) system at Princeton University's Carl Icahn Laboratories to provide energy savings optimization as well as measurement and verification for \$1.2 million worth of capital energy conservation projects. Our VEM system utilizes the SkyFoundry engine as well as a customized platform created by Edison Energy, including a graphics package and executive summary of performance for the Princeton University Campus Energy Manager and the supporting department.

## FORRESTAL CAMPUS VEM SYSTEM

In addition, Edison Energy was contracted by Princeton University to install our VEM system at 18 sites and the Forrestal Campus. Currently, our team is monitoring electric, chilled water, steam, and total MMBTU on a building-by-building basis, as well as a portfolio rollup, all of which is graphically displayed on our customized dashboard. Edison Energy has more than 600 meters coming in minute-by-minute from the Princeton campus, with more than 300 million data points per year. We are also leveraging our VEM process for tracking NJ Pay for Performance M&V, as well as hosting an engineering workbook with live building data. Buildings being monitored range in facility type.

## CAMPUS CHILLED WATER & STEAM METER PROJECT

In 2010, Edison Energy executed a large-scale steam and chilled water meter specification project. Our engineering team surveyed approximately 75 buildings and determined the correct locations for the installation of steam and chilled water meters. Meters were then sized and specified based on projected loads. Approximately 125 meters were specified. Specification documents and installation drawings were then developed for Princeton's use in purchasing and installing the meters. Edison Energy also provided bid support for the implementation effort.

## CLIENT

Princeton University

## MARKET

Institutional

> Higher Education

## OFFERINGS

Energy Monitoring

> Virtual Energy Management





## PROJECT RESULTS & KEY METRICS:

ECMS Identified:	150+
Projected Annual Savings:	\$1.74 million
Sq. Ft.	945,000
VEM Site Installations:	18
VEM Data Points Per Year:	300,000,000 +

## CUSTOMER VALUE

Through the VEM system, Princeton was not only able to optimize energy savings, driving toward increased efficiency, but financial projections produced by VEM also enabled the university to track the state's clean energy incentives earned by the capital projects. VEM tied the performance of the projects to annual energy savings and weather normalized performance, all while proactively optimizing the performance.

Having served as Princeton's campus energy consultant since 2010, our team has been involved in a wide portfolio of projects. Some of our current and notable energy projects include the development of an energy and carbon reduction effort achieving 100% of campus goals, ongoing infrastructure assessment, central plant operating versatility, and large-scale PPA structuring.

Edison Energy is an independent energy advisory and solutions integration company with the capabilities to develop and implement a broad portfolio of energy services for commercial, industrial and institutional organizations. We help customers reduce their energy costs, improve the environmental performance of their operations, ensure energy resiliency and manage exposure to energy price risk.