



## Affinity Engineering Sustainability Case Study

### Overview

The client, a retail furniture chain with locations across the United States, observed that its Glendale, NY location had high utility costs and decided to conduct a partial renovation of its 43,500 square foot retail store. Affinity Engineering acted on the client's behalf to perform energy saving calculations and applied for and secured financial incentives offered by ConEdison, the power utility.

### Project Summary

The client installed an energy management system (EMS) to control and monitor its existing heating and cooling equipment. The client also installed one supply fan variable frequency drive (VFD) on each of the store's nine rooftop units (RTUs), optimizing HVAC performance by enabling output based on load requirements. Several control strategies implemented include:

1. Optimal start/stop
2. Demand control/CO2 ventilation
3. Zone by zone scheduling
4. Unoccupied temperature setback
5. Outdoor air temperature heating and cooling lockout

### Results

Installing supply fan VFDs and an EMS allowed the client to realize greater automation and control of energy consumption with the ability to remotely schedule and monitor its HVAC system, providing significant energy savings and reduced utility costs.

### Affinity Engineering as a Strategic Partner

Whether you are building a new facility, upgrading old, inefficient equipment or manage a property in need of energy improvements, Affinity Engineering can help you identify energy saving measures, provide technical assistance, and secure financial incentives to launch your company's next big project. To get in touch with Affinity, contact [sustainability@affinityengr.com](mailto:sustainability@affinityengr.com) or visit <https://affinityengr.com/contact/>.



#### Total Incentive Award

\$42,996 (including \$9,498 in bonuses)

#### Annual Energy Savings

110,684.19 kWh

1.82 kW

#### Annual Cost Savings

\$17,267

#### Project Payback

1.2 years

#### Environmental Impact

86.5 tons of CO2 emissions avoided annually, equivalent to removing 17 passenger vehicles from the road each year.