

Investment Grade Energy Audit for Dedicated Data Center Identifies Ways to Save \$680,000 Annually

Identified measures include optimizing existing equipment and installing solar PV and battery storage



Data Center

Property Profile

- Location: Central New Jersey
- Square Footage: 222,000
- Buildings: 2
- Year Built: 2010
- Facility Type: Dedicated Data Center

Services

- Energy Auditing

Project Achievements

- Annual Electricity Cost Savings from Identified ECMs: \$680,000
- Annual Electricity Savings from Identified ECMs: 2,350,000 kWh
- Simple Payback: 8.4 Years

Project Highlight

Identify cost-effective measures that would allow data center to expand while decreasing annual energy costs

A large, dedicated data center in central New Jersey was consuming nearly 46 million kWh of electricity and spending \$3.2 Million on electricity annually when they engaged EN-POWER GROUP to conduct an investment grade energy audit. The 222,000 sqft facility had just been approved to add a sixth data server area ("PODs") and site managers and engineers wanted to determine cost saving opportunities and optimize long term capital planning, while still ensuring all critical needs and demands of the facility would be met.

Upon completion of the investment grade energy audit, EN-POWER GROUP successfully identified eleven (11) energy conservation measures that would support the facility's existing and future needs. Measures included installing solar photovoltaic (PV) panels with battery storage on the rooftop and supplementing the site's air-cooled chiller with an additional water-cooled chiller. We also recommended the facility implement

reset strategies, which are control strategies that improve the operation performance of equipment and can lead to significant energy savings. These reset strategies included a static pressure reset for the variable air volume (VAV) air handling units and an outdoor temperature reset on the condenser water system. We also recommended commissioning and testing, adjusting, and balancing (TAB) of the mechanical systems to ensure the equipment was operating as efficiently as possible.

Implementation of all measures would lead to annual savings of \$680,000 on utility costs and 2,350,000 kWh of electricity. In addition, EN-POWER GROUP advised site management on the prioritization of identified measures, thereby helping the facility implement their energy efficiency improvements, while optimizing capital planning.