PotomacEdison®
A FirstEnergy Company

EmPOWER MARYLAND

A Custom Approach to Efficient Data Engineering

Potomac Edison recognizes that every data center requires a custom-engineered approach to energy efficiency. That's why Potomac Edison's Energy Solutions for Business Program aims to develop solutions and offer additional custom project incentives through dedicated Energy Advisor Services.

The Energy Solutions for Business Program assesses critical loads and processes, recommends energy efficient upgrades and manages project development and delivery. From design support to construction, the program offers utility incentive management, commissioning, measurement and verification.

Benefits

Investing in reliable and efficient upgrades can reduce downtime and maintenance, prevent data loss and have a positive impact on your bottom line. In addition to assistance with commercial retrofits and upgrades, the program provides a custom construction approach for your data center's unique challenges. Potomac Edison offers incentives covering up to 75% of the total project cost for retrofit projects, capped at $1 million, and up to 75% of the incremental cost for new construction projects.

Program Resources

Project Management

- Deliver complex retrofit projects for critical facilities
- Coordinate the work of multi-stakeholder project teams
- Facilitate relationships across client organizations
- Manage project incentive optimization

Assessment

- General analytics
- Engineering analysis
- Constructability assessment

Design Support

- All phases of mechanical, electrical and plumbing design

Optimization Projects

- Chiller plants and cooling systems
- Heating plants and heating systems
- Air handler optimization
- End-device performance improvement (air flow and load management)

Capital Projects

- Chiller plants and cooling systems
- Heating plants and heating systems
- Air handlers, airflow and ventilation systems
- End-device upgrades
- Controls upgrades

Let's Talk

Speak with one of our energy advisors today about services and incentives offered through the Energy Solutions for Business Program.

855-801-5803 energysaveMD@clearesult.com energysaveMD-bizsolutions.com

EmPOWER Maryland programs are funded by a charge on your electric bill. EmPOWER programs can help you reduce your electricity consumption and save you money. Go to energysaveMD.com to learn more about EmPOWER and how you can participate.

By participating in these energy efficiency and peak demand reduction programs, customers agree to allow their utility to retain ownership of all Capacity Rights which refers to the demand reduction associated with any energy efficiency and peak demand reduction measure for which incentives were provided by the Company. Your utility will aggregate these energy efficiency demand reduction attributes into the PJM capacity market with proceeds being used to offset the program costs.

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Case Study

Fannie Mae

Savings by the Numbers

$1,077,477
Total incentives

4,897,625
Annual kWh savings

$213,000
Estimated annual savings

The Opportunity

As a leading source of affordable financing for mortgage lenders, Fannie Mae is focused on identifying opportunities and finding effective solutions. After meeting with Potomac Edison's Energy Solutions for Business team in the beginning of 2018 at their data center in Urbana, Maryland, the Fannie Mae team discovered that there was significant energy waste in their original Computer Room Air Handler (CRAH) setup. With the opportunity identified and a comprehensive retrofit recommendation in hand, the teams agreed to move forward with an energy-saving solution.

The Project

Data centers as big as Fannie Mae's generate substantial amounts of heat, accounting for 2% of the total annual electric use in the U.S.* Similar to the cooling systems used in high-rise buildings, CRAH units use fans, cooling coils and a chilled water system to minimize energy consumption and optimize cooling airflow.

Through their analysis, they discovered that the company's old CRAH units had constant speed fans and outdated controls, limiting their ability to reduce supply fan speeds. Additionally, hot air and cold air were mixed throughout the room, resulting in poor cooling efficiency.

**Source: The Natural Resources Defense Council*

The Results

Since 2019, to reduce their energy use, lower overhead and improve airflow in the center, the team set out to retrofit all 52 existing CRAH units for maximum efficiency. On top of saving energy, the project upgraded CRAHs to:

- Slow down supply fans to meet the actual cooling load using electrically commutated plug fans and advanced controls.
- Optimize cooling airflow to further reduce supply fan speeds.
- Affect chiller operation by noticeably reducing cooling load.

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"Performing these energy-efficient upgrades in our data center is an essential step in Fannie Mae's continued commitment to leading and innovating in green finance. Potomac Edison's energy efficiency programs have made it easier to accomplish that goal."

George Ashim,
Facilities Engineer

Energy Equivalencies

131,551
Incandescent lamps switched to LEDs

441,620,719
Number of smartphones that could be charged

400
Average Maryland homes' energy use for one year

Source: U.S. Environmental Protection Agency