



Conversions at Church Lead to Energy Savings

Our comprehensive solution employed a combination of lighting retrofits, air handler conversions, and dimming controller installations to reduce greenhouse gasses by 832 metric tons annually, equivalent to 175 cars.

Asset Facts

Square Feet	105,000
Asset Type	Church/School

Project Facts

Annual Energy Savings	1,206,683 kWh
Annual Savings	\$132,716
Gross Investment	\$924,656
Rebates	\$95,664
Rebates as % of Total Project Cost	37.9
Net Investment	\$573,992
Net Payback	4.32 years

ROI 23.1%

Challenge

The 105,000 ft² Ministry Center for one of the largest churches in Maryland is employed for multiple uses as it acts as both a school and religious center, creating a high demand for electrical services on a complex and fragmented schedule.

- The building was lit predominately by linear fluorescent T8 fixtures, a lamp type first used commercially over 75 years ago
- The rooftop units (RTUs) were constant volume units; the units either operate at full output or are off, resulting in greater use of the RTUs than required to meet building demand
- Of the 19 existing RTUs at the church, 12 of the units had surpassed their estimated useful lives (EUL) and were no longer operating efficiently or effectively.

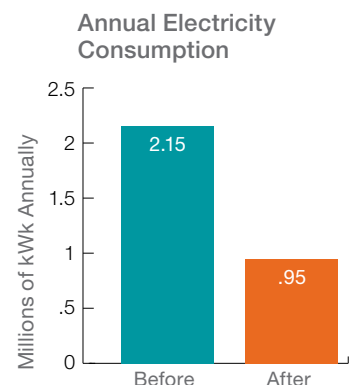
Our Solution

This solutions package was awarded an *MEA EmPOWER MD* grant of \$300,000 from the State of Maryland for energy savings projects resulting in total building electricity reduction of 20% or more.

- Retrofitted all fluorescent and incandescent interior lighting with high-efficiency LED lamps and fixtures
- Installed occupancy controls to reduce fixture runtimes in less frequently used spaces
- Installed dimming controls in the classrooms to allow for reduced light levels and encourage savings with less energy consumption
- Replaced 12 RTUs that were beyond their EUL and installed conversion (controllers) on all 19 units, enabling modulation of power and output with building demand
- Coordinated all rebate capture activities with the local utility and the State of Maryland to secure funding for 38% of the total project cost.

Energy Savings – 56%

- Average fixture wattage reduced by 71%
- Total building consumption decreased by 56%
- 44% reduction in electricity use for converted RTUs.



How can we help you? Please contact Green Generation Solutions at info@greengenerationsolutions.com or 301.202.2930