Grace Community Church | Fulton, Maryland

Energy Management Strategies and Results | Case Study

LOCATION

Grace Community Church
Fulton, MD

OWNER

Grace Community Church

SPECIFIER

Owner

PROJECT SPACE

Five connected buildings and another building more than 100 feet away

COMPLETION DATE

June 2010

CONTROL STRATEGIES

- Dynamic Scheduling
- Task Tuning
- Occupancy Control
- Context Defined Setbacks
- Demand Response

SYSTEM FEATURES

- Per zone HVAC control
- Per circuit wireless lighting control
- Baseline and event schedules
- Energy monitoring and reporting
- Secure, remote access
- Configurable email alerts
- No annual fees

"We recouped our investment in less than a year by reducing energy costs. At the same time, we significantly reduced the amount of time spent managing the facility, enabling us to focus on our core mission."

Blair Nordvedt, Facilities Manager

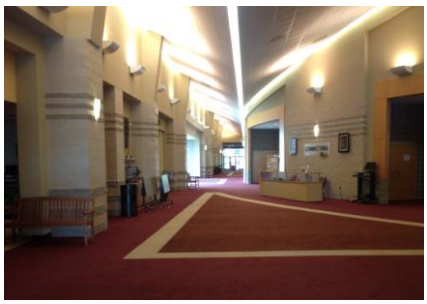
The Challenge

Grace Community Church realized the increasing cost of energy was impacting their ability to fund core programs. The Maryland-based worship group knew that saving energy would save money, but capturing energy savings was proving to be a challenge. Worship facilities are dynamic use environments, and their schedules and usage patterns can vary widely from day-to-day or week-to-week.

Without proper management, significant amounts of energy can be wasted heating and cooling unoccupied spaces, over-lighting tasks, lighting empty rooms, and powering unattended computers and other electrical devices. Schedule-based solutions only work well for scheduled events. Occupancy-based solutions leave savings on the table with a "one size fits all" approach.

A traditional, customized Building Automation System could help the Church save, but the price tag was steep – and out of reach. The Church tried a "manual" system, performing energy management on an event-by-event basis. Educating a constantly changing group of users in best practices to save energy, and getting them to implement the practices, can be difficult. The manual approach produced short term savings, but it was hard to keep going. Grace Church realized that they needed an affordable, easy- to-deploy way to automate energy savings.

That's where Autani's EnergyCenter comes in. The easy-to-install wireless solution provided a budget friendly way for Grace Community Church to automatically save energy – starting with HVAC.



EnergyCenter automatically adjusts heating and cooling setpoints, providing savings in unoccupied areas while keeping occupied areas comfortable.

The Solution

WIRELESSLY MANAGED THERMOSTATS

Autani's EnergyCenter system of wirelessly networked, managed thermostats was deployed at Grace Community Church to save energy and reduce heating and air conditioning costs. The facility team chose EnergyCenter because it is easy to install in existing buildings and provides "out-of-the-box" automation and energy management features. With an easy-to-use, point-and- click interface EnergyCenter schedules heating and air conditioning setpoints with automated setbacks for unoccupied areas.

EnergyCenter minimizes runtime and maximizes energy savings while maintaining comfortable temperatures and an occupant-friendly environment.

Throughout the GCC campus, HVAC is now managed based on schedules, events, and occupancy—providing staff and attendees with a consistently comfortable environment.

EASY TO CONNECT

The Grace Community Church campus includes five connected buildings and another building more than 100 feet away. EnergyCenter was implemented as a single wireless network connecting all six buildings and enabling networked communication between the thermostats in the various buildings.

TASK TUNING

Heating and air conditioning settings are now automatically adjusted based on the type of event, occupancy, and seasonal variations. Buttons on the thermostats can be locked or restricted during scheduled periods of use, and unlocked to provide local adjustment during off-hours when setbacks are the most stringent.

REMOTE ACCESS

Access Manager allows the facilities manager to manage and monitor EnergyCenter remotely, from any connected device with a web browser.

autani
building controls

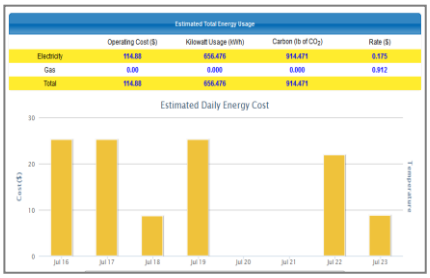
The Results

AUTOMATING GREEN

EnergyCenter delivered immediate, automatic energy savings to Grace Community Church. The customer reports that they recouped the initial cost of the system in less than a year! Additionally, less time manually adjusting and monitoring heating and cooling has allowed the staff to focus more attention on their mission and programs.

ADDING FANS, SEEING RESULTS

The facility team saw another opportunity to decrease energy consumption and increase savings. Wirelessly networked occupancy sensors and load controllers were added to the system, managing fans in several key areas and turning them off when there was no one in the room. EnergyCenter software allows the facility manager to manage, monitor, and evaluate the operation of these fans as well as the heating and air conditioning systems.



EnergyCenter shows savings as it happens with intuitive graphs and reporting features.

THE FUTURE IS BRIGHT

The third phase of the Church's "Green" plan will add Autani's wirelessly networked, easy-to-install dynamically scheduled and occupancy-based lighting control to the system. Using EnergyCenter, Grace Community Church should be able to reduce energy consumption from lighting up to 50%!