NOVEDA TECHNOLOGIES

Case Study

Net-Zero Energy Building

Building Optimization Services Helps Develop the First Net-Zero Energy Commercial Electric Building in the US

Goal:

- Identify and implement opportunities to reduce net energy consumption, all the way to zero (net-zero energy building), for corporate headquarters of construction group

Noveda Solution:

- EnergyFlow Monitor™ to monitor energy use, in real-time
- SunFlow Monitor™ to monitor performance of the solar PV system, in real-time
- Building Optimization Services to identify and implement opportunities to reduce energy use and improve solar PV system performance

Results:

- Completely eliminated $100K annual energy bill
- Generated $50K in annual cash flow by supplying excess solar PV energy to the grid
- 100 ENERGY STAR score for 2007 & 2008
- 83% reduction in carbon footprint
- First net-zero commercial electric building in the US
- First New Jersey building to meet Executive Order 54 for greenhouse gas reduction

Ferreira Construction, a New Jersey construction company, as part of its commitment to sustainability and to meet statewide greenhouse gas reduction goals, wanted to create a net-zero commercial building for its corporate headquarters.

To develop the net-zero building, Noveda Building Optimization Services engineers used best principles in building design, sustainability, construction management, commissioning and renewable energy. The Noveda SunFlow Monitor™ was installed to optimize the performance of the renewable energy system and the energy savings from the various energy conservation projects were measured and verified using EnergyFlow Monitor™, in real-time.

The improvements to the building that helped achieve net-zero status include:

- Nine miles of radiant heat (80 zones),
- High efficiency rooftop units,
- A 96% efficient condensing boiler plant,
- 223 kW DC solar photovoltaic system,
- Solar domestic hot water,
- High performance HVAC,
- Integrated building controls, and
- A lobby kiosk to communicate energy use to all stakeholders

The net-zero status enabled Ferreira Construction to move from spending $2.31/sq ft in utility bills to generating $1.11/sq ft per year in cash flow by supplying excess renewable energy, back to the grid, plus the additional solar renewable credits (SRECs).

Request a Free Demo

To find out how we can help your organization improve building performance and reduce energy costs, email us at sales@noveda.com and request a free demo today.

Real Benefits. In Real-Time