



Siemens helps Nashville housing agency become the largest generator of solar power in Tennessee

Background

Since 1939, the Metropolitan Development and Housing Agency (MDHA) has assisted the citizens of Nashville. MDHA operates more than 5,500 units of affordable public housing and administers rent supplement programs to assist Nashville families in their search for decent housing in the private market. The agency currently provides safe and affordable housing to more than 28,000 Nashvillians.

In recent years, the agency has strived to increase resident comfort and reduce utility expenses, all while promoting sustainability. To further its initiatives, MDHA entered into an energy performance contract with Siemens Industry, Inc., in May 2009.

Objectives

MDHA outlined several goals for the project. The agency wanted to:

- Modernize the HVAC system in the agency's high-rise residential towers
- Solidify an agency-wide energy conservation plan for use in grant applications for 2009 American Recovery and Reinvestment Act (ARRA) funding
- Foster growth in the local economy
- Use HUD incentives for energy conservation
- Become the Southeast's leader in renewable energy production
- Modernize units to be attractive, comfortable, and efficient with energy and water

Solutions

Siemens identified more than \$12 million in improvements that will help the agency with its ongoing mission to create affordable housing opportunities for Nashville citizens. The projects were leveraged in a successful application for ARRA grants and, with Siemens' assistance, the agency received more than \$5.5 million for additional renewable and infrastructure improvements. The following are among the most significant projects recently completed or currently underway:

- Implementation of a state-of-the-art water conservation program
- Upgrades to high-efficiency variant refrigerant volume (VRV) heat pumps, instantaneous domestic hot water heating systems and lighting systems
- Installation of 280 photovoltaic panels on two MDHA high-rise properties: 280 solar panels on Parthenon Towers and 300 more at the agency's Madison high-rise property

Results

The projects will pay for themselves through the more than \$1.65 million in annual energy savings that Siemens guarantees. Additional results from the projects in this performance contract include the following.

- More than 76,000 kWh of energy will be produced annually from the solar panels at Parthenon Towers
- The energy generated from solar arrays at Parthenon and Madison, as well as another smaller installation, make MDHA the largest producer of solar power in the state of Tennessee
- This was the first HUD-approved Energy Incentive Extension in the nation
- The solar panels used were manufactured at a Memphis plant, resulting in jobs for Tennesseans

Building Technologies

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