



Rebuild America Success Stories highlight partnerships working to improve communities by practicing energy awareness and investing in energy-saving measures.

- New Building Design
- Existing Building Improvement
- Operation and Maintenance
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Southern Illinois University Carbondale

Promoting Energy Efficiency on Campus and in Community

Southern Illinois University Carbondale's (SIUC) College of Engineering, a founding partner of Rebuild Carbondale, is helping reduce energy consumption throughout the university and surrounding community through financial incentive programs and energy-smart technologies and practices.

The Challenge

A common challenge faced by energy-efficiency programs is the perception that energy-saving retrofits require sacrificing comfort for building occupants. Many large organizations – whether academic or commercial – tend to replace equipment with devices of similar size and power, without examining whether a more efficient or smaller product could perform the same job. "We need to get people to think of energy efficiency in different terms," explains Dr. Manohar Kulkarni, P.E., professor in the Department of Mechanical Engineering and Energy Processes.

The Solution

To overcome resistance to energy-efficiency retrofits, SIUC partnered with several organizations to form a Rebuild America partnership. Rebuild Carbondale now has 23 partners, including the City of Carbondale and the local Chamber of Commerce. The partnership provides expert energy audits, technical advice and financial assistance to help schools, businesses, health care facilities and other organizations save energy.

To encourage local organizations and businesses to implement energy-smart retrofits, Rebuild Carbondale administers incentive programs, funded by the Illinois Department of Commerce and Economic Opportunity's Division of Energy Conservation and Renewable Energy.

The university also developed an Energy Resource Directory, supported by the state energy office, which outlines various energy-efficiency products, services and options. Rebuild Carbondale provides a copy of the publication to an organization or business after an energy audit is complete.

Practicing What It Teaches

In addition to reducing energy use in the community, Rebuild Carbondale is helping transform SIUC into an energy-smart campus, including the university's student center.

Partnership Facts:

Name of Partnership:
Rebuild Carbondale

Targeted buildings:
Academic, commercial, residential
and public buildings

Space completed:
350,000 square feet

Annual energy savings:
10,240 MBtu

**Amount invested in energy-
saving project or initiative:**
\$289,000

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For more information about
energy-saving technologies,
visit the Business Partners
section of the Rebuild America
Web site: www.rebuild.gov
or contact Rebuild America
at: 252-459-4664.

"We run the student center like a business," says Ken Jaros, student center associate director of operations and maintenance. The student center is not funded by the state, but rather relies on student fees and sales – from the bookstore, food vendors and meeting space rentals. Reducing energy costs helps the bottom line.

Since teaming up with Rebuild Carbondale, the student center has tapped into expert advice and resources for many of its energy efficiency projects.

Nearly 100 incandescent exit signs were replaced with LED (light-emitting diodes) fixtures that can last up to 40 times longer using about one-eighth the electricity.

The student center also replaced 360 incandescent down-light fixtures with fluorescent lamps. While the new lamps use less electricity, they also produce less heat than incandescent bulbs, reducing the building's cooling load.

The facilities department cleaned and calibrated building controls, thermostats and steam traps to ensure they work properly. Their efforts have saved energy and resulted in greater occupant comfort throughout the building.

By using currently available technology, and best practices, the student center saves energy without sacrificing services.

The savings from the energy retrofits will be used for further improvements to the building, continually reinforcing the student center's efforts, says Jaros.

Key Technologies

- LED exit signs
- Compact fluorescent lights

What the Future Holds

In February 2004, the university was awarded \$4.2 million from the Illinois Board of Higher Education to expand its energy-saving efforts. The funds will be applied to lighting retrofits, improving electric motors and possibly renewable energy projects. The improvements should reduce energy use on campus by at least 10 percent.

The proposed energy conservation plan is based on a research study on improving the energy efficiency of a College of Science building, conducted by Jose Pecchio, a graduate student, and supervised by Kulkarni. Pecchio and Kulkarni used the plan to work with Phil Gatton, PE, director of SIUC's physical plant, to reduce the annual electric bill of the building by 16 percent.

"We are most certainly raising the bar on awareness," Kulkarni says, "but there's a lot more to be done."

To learn more visit: www.eere.energy.gov

A Strong Energy Portfolio for a Strong America

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

Rebuild America is a U.S. Department of Energy program that focuses on improving communities through energy-saving solutions.

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