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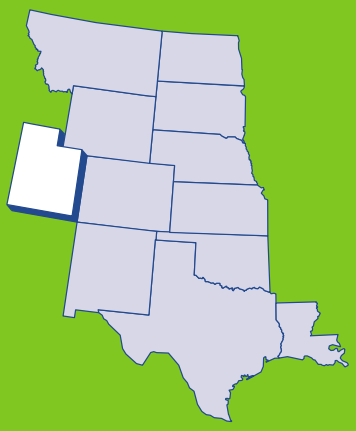

REBUILD AMERICA COLLEGES AND UNIVERSITIES

success story

WEATHERIZATION AND INTERGOVERNMENTAL PROGRAM

University of Utah

Performance Contract Improves Campus, Saves Millions of Dollars

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
- ☐ Renewable Energy Technologies
- ☑ Financing Building Improvements
- ☐ Energy Education

The University of Utah turned to an extensive energy performance contract to improve 81 buildings on campus in just four years. By using future energy savings to finance a variety of energy-efficiency improvements, this partner of Rebuild Utah is saving millions of dollars in energy costs.

The Challenge

In the late 1990s, the University of Utah was faced with aging facilities and equipment that generated high utility bills yet did not meet the heating and cooling needs of the campus. Faced with millions of dollars in needed improvements, and insufficient funds, the university searched for an answer.

The Solution

To implement the necessary improvements, the University of Utah decided to use energy performance contracting. An energy service company (ESCO) installed the improvements, financed through future utility savings. The $39 million project was one of the largest energy performance contracts ever undertaken by a university. Improvements, which were completed in June 2002, ranged from equipment upgrades to the construction of a central chilled water/high-temperature water plant.

Nearly 68,000 light fixtures were upgraded or replaced. Eighty-two variable-frequency drives for HVAC systems and 95 energy-efficient motors were installed. Three new chillers and two new cooling towers were put in place. Four hundred fume hoods received energy upgrades.

More than 600 low-flow toilets replaced older fixtures that wasted water, and 1,441 low-flow aerators were installed on sinks. Hundreds of radiator valves were also fixed. Water savings from the improvements totaled 11.6 million cubic feet in about two years.

The new chilled water/high-temperature water plant serves the cooling and heating needs of the eastern part of campus. The ESCO guaranteed excess savings to cover the plant's construction costs.

The multi-year energy project received funds from the Utah Energy Office to study the feasibility of the campus improvements and facilitate the procurement process. The Utah Energy Office, which leads Rebuild Utah, offers technical assistance on performance contracting to state institutions through the State Building Energy Efficiency Program. Assistance in customizing procurement and contracting documents is also available to state agencies.

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Rebuild America
U.S. Dept. of Energy

U.S. Department of Energy
Energy Efficiency and Renewable Energy

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

Partnership Facts:

Name of Partnership:
Rebuild Utah

Targeted buildings:
Colleges & Universities

Space completed:
5.35 million square feet

Annual energy savings:
$3.3 million

Amount invested in energy-saving project or initiative:
$39 million

Contact:
Orfeo Kostrencich
University of Utah
801-581-5503
Okostrencich@campplan.utah.edu

DOE Denver Regional Office:
1617 Cole Blvd., MS-1521
Golden, CO 80401
303-275-4826
www.eere.energy.gov/dro

State Representative:
Bernell Loveridge
bernellloveridge@utah.gov

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.

The university also used draft procurement documents developed by the Energy Services Coalition, a Rebuild America Strategic Partner.

Since energy savings reporting started in November 2000, the university has saved $6.6 million in energy costs – $400,000 more than projected.

The success of this performance contract is helping to promote its use at other state facilities. Energy performance contracts are now underway at a regional state office building, the Utah State Prison and Utah Valley Community College.

Pieter van der Have, director of plant operations for the university, offered some advice for other universities looking to use performance contracting: Good communication between building occupants, the university and contractors before improvements begin is crucial. For example, it is necessary to understand how a change in the indoor environment could affect the work of university researchers and scientists. He also emphasized the importance of working closely with the university's financial officials when entering into an energy performance contract.

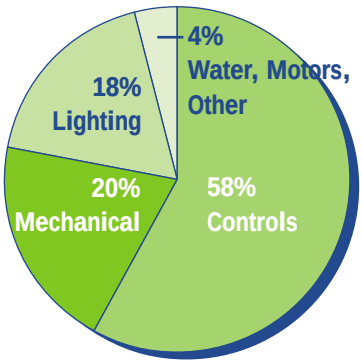
Key Technologies

- Energy-efficient lighting
- New chillers and cooling towers
- HVAC systems with variable-frequency drives and energy-efficient motors
- Low-flow aerators for sink faucets
- Low-flow toilets

What the Future Holds

Energy and water usage on campus is expected to increase with new research and patient care facilities, some in the planning stages and others already operating. The university is looking to implement more energy-saving improvements in the coming years to help meet this growing demand.

Savings by Retrofit Type



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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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