



Case Study

The Pennsylvania State University Pennsylvania



PROJECT HIGHLIGHTS

Environmental Benefits

8,061 tons of harmful greenhouse gas emissions reduced annually

Equivalent to:

- Preserving 51.1 acres of forest from deforestation* or
- Conserving 17,006 barrels of oil*

Capital Costs

\$8,399,593

Annual Savings

Energy: \$953,468

* Sources:

- Leonardo Academy's Cleaner & GreenerSM Emissions Reduction Calculator
http://www.cleanerandgreener.org/resources/emission_reductions.htm
- U.S. Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator
<http://www.epa.gov/cleanenergy/energy-resources/calculator.html>

PROJECT DESCRIPTION:

Energy Savings Performance Contract

Challenge: Pennsylvania State University wanted to reduce both its energy consumption and its impact on the environment. In 2002, The University began the Guaranteed Energy Savings Program to reduce the university's energy use and carbon footprint at its many campuses and colleges around the Commonwealth. There were four initial projects—Penn State Beaver, Penn State Erie (the Behrend College), Penn State Harrisburg and Pennsylvania State University (West Halls Residential Complex)—encompassing a total of 87 buildings and 2,459,916 square feet.

PROJECT SCOPE:

Solution: Beginning work in 2006, ConEdison Solutions, through its subsidiary, Custom Energy Services, has completed four projects to date for the university, including campus-wide projects at the facilities listed above. Each project was developed to meet the unique needs of the campus and were paid for with guaranteed energy savings.

The work at the first four campuses was completed in 2008. Currently, ConEdison Solutions has three additional projects under technical development at the Penn State Great Valley, Penn State Brandywine, and Penn State Abington campuses in the Philadelphia area.

Contact:

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Construction Start Date:

May 2006

Construction End Date:

December 2008

ENERGY CONSERVATION MEASURES

Lighting and Lighting Controls

- High efficiency lighting
- LED exit signs
- Occupancy sensors

Heating and Cooling

- Variable air volume
- Steam system improvements
- Demand control ventilation
- Air handling units

Building Envelope

- Weatherization
- Roof insulation

Water Conservation

Low-flow water fixtures

Renewable Energy and Other Upgrades

- Electric rate switch and meter installation
- Mechanical system improvements
- Building controls and systems optimization
- Wind turbine
- Retro-commissioning

"ConEdison Solutions has been an excellent partner in our efforts to advance our energy efficiency goals throughout the Pennsylvania State University system. Partnering with ConEdison Solutions has allowed Penn State to develop and implement self funding environmental solutions at four campuses."

Bruce J. Smith, Energy Program Engineer
The Pennsylvania State University.