

Wichita State University

Energy Savings Performance Contract (ESPC)



Wichita State University faced sharp increases in utility costs that threatened to impact other programs and budgets. They decided to utilize the State of Kansas' Facility Conservation Improvement Program (FCIP) to help conserve energy and lower energy costs. The university asked RWE Clean Energy, through its subsidiary, Custom Energy Services, to evaluate the benefits of more than 200 energy efficiency and facility improvement measures. That list was trimmed slightly for the final project, but the vast majority of the improvements were implemented.



PROJECT DATA

LOCATION

Wichita, KS

CONSTRUCTION DATES

February 2006 to May 2007

CAPITAL COSTS

\$12,316,635

ANNUAL SAVINGS

Energy Savings: \$1,103,277

Non-Energy Savings: \$15,000

ENVIRONMENTAL BENEFITS

16,132 tons of harmful greenhouse gas emissions reduced annually

Equivalent to:

- Preserving 120 acres of forest from deforestation* or
- Conserving 34,035 barrels of oil*

*Sources:

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

The project size consisted of 49 buildings measuring 1,976,646 square feet. Among the major upgrades were new equipment and optimization of the boiler and chiller plant, lighting, expansion and enhancement of the energy management system, steam traps, variable speed and low-flow devices, and a multitude of other improvements.

The project resulted in more than a million dollars in annual savings and greatly improved the comfort of the learning environment in all 49 buildings.



PROJECT DATA

ENERGY CONSERVATION MEASURES/IMPROVEMENTS (ECMs)

Lighting and Lighting Controls

- High efficiency lighting
- LED exit signs
- Occupancy sensors

Heating and Cooling

- Replaced boiler
- Installed variable frequency drives on boiler feed-water pumps
- Replaced absorption chiller
- Installed two-way control valves
- Replaced steam traps
- Increased capacity of the cooling towers

Building Controls

- Energy management system
- Vending machine controls

Water Conservation

- Installation of shower heads/aerators
- Installation of domestic water pump control
- Installation of pool cover valves
- Domestic water pump control
- Replace de-aerator tank and feed-water pumps

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