



## PROJECT OVERVIEW

Lee College worked with the Clinton Climate Initiative (CCI) to develop and implement a best practices Energy Savings Performance Contracting project with Johnson Controls, Inc. (JCI). The project is designed to save approximately 30% of annual energy costs when complete.

## INITIAL ENGAGEMENT

Lee College engaged with CCI through the American College and University Presidents Climate Commitment (ACUPCC). The College had signed the Presidents Climate Commitment in September 2007, pledging to reduce carbon emissions and move towards carbon neutrality. As an ACUPCC partner, CCI helps ACUPCC signatories develop large-scale energy efficiency building retrofit projects using CCI's Energy Performance Contracting (EPC) best practice terms and conditions.

Before deciding to work with CCI's Energy Efficiency Building Retrofit Program, Lee College had planned to improve its facilities through a multi-year infrastructure upgrade program. Difficulties in financing upgrades from the operating budget, and securing contract bids for comparatively small-scale improvements (\$250,000-\$600,000), however, meant that the college was falling behind schedule. Through its engagement with CCI, the College decided to pursue an energy performance contracting model, which made an integrated and deep retrofit project possible without large capital budget outlays.

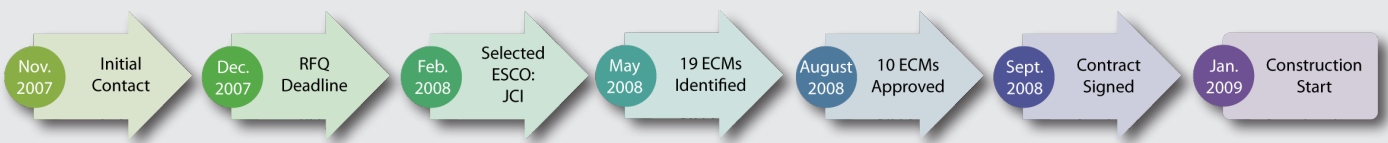
## PROJECT AT A GLANCE

ESCO: .....	Johnson Controls Inc.
Project Size: .....	588,956 square feet / 35 buildings
Project Cost: .....	\$9.9 million
Annual Energy Savings:	
• Electricity: .....	45% reduction (7,393,067 kWh)
• Natural Gas: .....	14% reduction (4,216 MBtu)
• Water: .....	30% reduction (5.2 million gallons)
Annual Energy & Maintenance	
Cost Savings: .....	32% (\$716,433)
Annual Emission Reductions: .....	4,434 tons CO <sub>2</sub>
Simple Payback: .....	15.6 years (financed over 20 years)
Construction Duration: .....	12 months

## ESCO SELECTION

Lee College moved swiftly after initial engagement with CCI to issue a request for qualifications (RFQ) in November 2007. As a public community college in Texas, Lee was subject to the Texas Government Code's procedures established for procuring professional services. Under this code, a government entity must choose a service provider on the basis of qualifications only, with no mention of price or scope of work in the selection process. Price is negotiated after the client has selected the intended contractor.

## PROJECT TIMELINE



By aggregating numerous energy conservation measures into one project, the College increased the attractiveness for bidders; and five interested firms responded to the RFQ. CCI and the College identified the energy service companies (ESCOs) that could implement the retrofit project in accordance with CCI’s performance contracting best practices.

Lee College chose JCI through the competitive RFQ process because of the firm’s experience working at the community college level with faculty, staff and students, and its flexibility in adapting timelines to an academic environment. The college signed a project development agreement (PDA) with JCI to move forward with an in-depth auditing and project definition process.

**ENERGY CONSERVATION MEASURES AND CONTRIBUTION TO TOTAL SAVINGS**

<b>BUILDING CONTROLS</b> .....	<b>25.1%</b>
Upgrade all buildings to Direct Digital Controls	
<b>LIGHTING IMPROVEMENTS</b> .....	<b>23.3%</b>
Retrofit over 7,300 existing T8 fixtures with new, T8 Ballasts, and Philips 28 Watt T8 Energy Advantage Lamp featuring ALTO Lamp Technology for all 4’ T8 lamps. Install 1,377 occupancy sensors.	
<b>PLANT UPGRADES</b> .....	<b>22.2%</b>
Upgrade North and South plants including: replacing existing chillers; installing new primary and secondary chilled water pumps, new condenser water pumps, refrigerant monitoring system, and new variable frequency drives.	
<b>WATER CONSERVATION IMPROVEMENTS</b> .....	<b>6.6%</b>
Retrofit 262 existing 1.6 and 3.5 gallon per flush toilets with High Efficiency (HE) 1.28 gallon per flush toilets. Retrofit 68 existing 1.5 gallon per flush valves with “Pint” High Efficiency (HEU).125 gallon per flush Urinal Systems.	
<b>ROOFTOP HVAC</b> .....	<b>6.1%</b>
Replace and upgrade Air Handling Unit/Direct Exchange rooftop units in nine buildings.	
<b>SOLAR WINDOW FILM</b> .....	<b>5.8%</b>
Install over 20,000 square feet of VE-35 solar film 7,400 square feet of R-20 security film.	
<b>COMPUTER POWER MANAGEMENT</b> .....	<b>4.9%</b>
Install Verdier Computer Power Management Software on over 2,300 PC computers. This system will include baseline data collection, implementation of reduction strategies and ongoing energy and IT monitoring.	
<b>BOILER &amp; STEAM SYSTEM IMPROVEMENTS</b> .....	<b>4.2 %</b>
Replace two existing 300 Hp boilers, deaerator and feedwater pumps (auxiliaries), with three (3) 100 Hp boilers to provide increased efficiency and operational flexibility. Install new steam traps and drip legs, automatic thermostatic vents, and new condensate return system. Replace one existing steam line with new service of appropriate size, material and insulate.	
<b>POWER FACTOR CORRECTION</b> .....	<b>1.4%</b>
Install new power factor correction capacitor banks in the south power plant.	
<b>VENDING MACHINE CONTROLS</b> .....	<b>0.5%</b>
Install and commission new VendingMisers on 37 vending machines.	

## FINANCING SOLUTION

**OUTCOME:** Lee College secured a 20-year tax-exempt capital lease from Bank of America.

In September 2008, JCI provided a guaranteed maximum price for the project of nearly \$10 million with a simple payback of 15.6 years. At the same time, economic turbulence and uncertainty had created a challenging environment in which to secure long-term financing.

After ruling out a bond election due to the extra delays and costs it would incur, Lee College decided to approach private financial institutions. CCI and JCI provided contacts to help the College procure financing. Ultimately the College worked with a financing broker for a competitive procurement.

After reviewing project information such as total estimated cost, projected energy and maintenance cost savings, energy performance contract terms and conditions, payback period, and time line, Bank of America placed its bid and won the project.

## PROJECT CHALLENGES

The campus environment required a high degree of schedule coordination between the client and JCI, which made an effort to avoid overlap of construction and class times. For instance, lighting retrofits were done at night and major plant upgrades were made over school breaks so that power source redundancy was intact when class was in session. As a result, classes continued without interruption throughout the project.

## CCI ROLE

Through its partnership with the ACUPCC, CCI supported Lee College throughout the project development process, including:

- Introducing the concept of energy services performance contracting (EPC) as a mechanism for implementing large-scale energy efficiency retrofits without large capital expenses
- Helping design a procurement process that met public regulations and incorporated CCI's best practices in performance contracting
- Identifying and selecting an ESCO that could support the best practices
- Providing contacts and guidance on securing advantageous financing for the project
- Providing access to CCI's purchasing alliance supplier partners to include discounted pricing on energy efficient technologies

## KEY CONTACTS

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