

Energy Efficiency Spotlight

A shining example of how Hawaii is working to reach its goal of a 30% reduction in energy consumption by 2030.



STATE OF HAWAII – UNIVERSITY OF HAWAII COMMUNITY COLLEGES ENERGY SAVINGS PROGRAM

PROJECT SIZE

1,551,300 sq. ft. of buildings over four Oahu Community Colleges (Honolulu, Kapiolani, Leeward, and Windward)

CONTRACT AMOUNT

\$34,207,392 (funded by \$33.5M in revenue bonds)

EXPECTED ANNUAL ENERGY SAVINGS

18% average annual energy savings (7,679,011 kWh)

EXPECTED ANNUAL UTILITY COST SAVINGS (ELECTRICITY AND WATER)

\$1.82 million for the first year, \$3.29 million annual average

BACKGROUND

In September 2010 the University of Hawaii, Community Colleges (UHCC) Oahu District, entered into an energy savings contract with a third party, and energy-savings company – Johnson Controls, Inc. (JCI)—which guaranteed reduction of energy use by 18 percent. This project provides energy reduction improvements at four community colleges and is part of the community college vision to reduce costs and improve energy efficiency.

As required under HRS 36-41, annual “total payments shall not exceed total savings...” for the project. If savings are not achieved as guaranteed for each year, Johnson Controls, Inc., will pay UHCC for the shortfall. The project started construction in January 2011. The performance guarantee period for energy savings began in July 2012 and will end in June 2032.



The UHCC program makes a significant contribution in energy efficiency and economic value by providing the following:

- Estimated at over \$1.368 million (rounded to 4% of contract amount) contribution to the State's General Fund through payment of the general excise tax by JCI and its numerous subcontractors
- \$480,067 in energy efficiency rebates from Hawaii Energy
- 4,168 solar photovoltaic panels installed
- 44 panels for solar water heating
- \$19,171,882 in upgrades and replacement of chilled water and air conditioning systems; installation of smart controls to maximize efficiency, indoor air quality, and occupant comfort
- Address deferred maintenance to accommodate the upgrades

Over the 20-year performance period the program will provide:

- \$65.5 million guaranteed savings in energy costs for the entire project
- \$21.5 million savings due to lighting improvements (building interior/exterior/controls)
- \$8 million in savings from energy management controls systems 23,523 gallons of water reduction a year; guaranteed cost reduction of over \$9 million over the life of the contract
- \$1.76 million in reduced trash hauling costs
- \$1.4 million in savings due to building retrocommissioning

The energy saved from the project could power 20,333 homes. (Source: DBEDT)

The UHCC Program fulfills Hawaii's commitment to the US Department of Energy, Performance Contracting Accelerator Program, under the Better Buildings Initiative.

Project Savings Summary

	Electric			Water/Sewer		
	Existing kWh/sf/yr	Proposed kWh/sf/yr	% Savings	Existing M gallons/yr	Proposed M gallons/yr	% Savings
Leeward CC	14.3	10.2	29.0%	19.9	14.0	29.3%
Honolulu CC	11.6	8.6	26.0	7.8	6.5	16.1
Windward CC	18.1	15.4	14.9	5.7	4.2	25.3
Kapiolani CC	21.3	16.9	20.8	48.7	34.3	29.6
All Sites	65.3	51.1	21.8%	82.1	59.0	28.0%



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