

# 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 – DEPARTMENT OF TRANSPORTATION AIRPORT ENERGY SAVINGS PROGRAM

### PROJECT SIZE

7,018,324 sq. ft. of buildings and 13,702 acres (for runway and apron lighting upgrades)

### CONTRACT AMOUNT

\$158,286,122.00

Sold over \$167 million in bonds with bond offerings of over \$1.1 billion

### EXPECTED ANNUAL ENERGY SAVINGS

49% average annual energy savings (47,022,373 kWh)

### EXPECTED ANNUAL UTILITY COST SAVINGS (ELECTRICITY AND WATER)

\$15.9 million for the first year, \$22.4 million average

### BACKGROUND

In December 2013 the State Department of Transportation entered into an energy savings contract with a third party, energy-savings company, Johnson Controls, Inc.—which guaranteed reduction of energy use by 49 percent. This project provides energy reduction improvements at 12 state airports and is part of the Department of Transportation’s vision to reduce costs and transform our airports into world-class facilities to meet the needs of residents and visitors. The project is sure to make a large impact, since the state airport system is the third largest consumer of electricity in Hawaii state government.

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 Airports for the shortfall. The project started construction in January 2014 and completed installation of efficiency improvements in December 2016.



The Airport Energy Savings Program makes a significant contribution in energy efficiency and economic value by providing the following:

- \$518 million guaranteed savings in energy costs over the two-year construction period and eighteen-year performance period; actual savings realized are estimated to be 7% higher
- Economic impacts over the 20-year performance period (including the 2-year construction/installation period) (Source: DBEDT, Research and Economic Analysis Division)
  - \$20.9M in tax revenues, measured in 2016 dollars
  - \$153.4M in income to households, measured in 2016 dollars
  - 867 jobs generated/supported each year for the first two years (construction/installation period); an average of 63 jobs generated/supported each year during the next 18 years of the performance period
- \$4.3 million in energy efficiency rebates from Hawaii Energy
- 74,500 light fixtures and 372 transformer replacements
- 8,748 (2.66 kW) solar photovoltaic panels installed (with this installation, Airports will have a total of nearly 6.21 MW of photovoltaics installed)
- Upgrades and replacement of chilled water and air conditioning systems; installation of smart controls to maximize efficiency, indoor air quality, and occupant comfort
- Addresses deferred maintenance such as roof repairs to accommodate the upgrades
- Fulfills half of Hawaii's commitment to the US Department of Energy, Performance Contracting Accelerator Program, under the Better Buildings Initiative
- Recognized as the largest single state contract for energy performance contracting in the nation by the Energy Services Coalition (ESC). In 2016, for the fifth straight year, Hawaii was awarded the ESC's Race to the Top award for the state with the highest per capita investment using performance contracting. In 2016, ESC also recognized the State of Hawaii as an Energy Stewardship Champion for outstanding accomplishments leveraging performance contracting to achieve infrastructure modernization, environmental stewardship, and economic development. ESC is a national nonprofit organization of experts working together to increase energy efficiency and building upgrades through energy performance contracting.
- For the entire project, 75% of the work will be performed at the Honolulu International Airport, 17% at Kahului Airport, 3% at Hilo International Airport, 3% at Lihue Airport, 1% at Kalaeloa Airport, and the remaining airports are less than 1%
- Over 20 years, the energy saved could power 144,998 homes (Source: DBEDT)

The Department of Transportation's Harbors and Highways have signed agreements for performance contracting.

