

# 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 STATE BUILDINGS LEAD BY EXAMPLE

State of Hawaii public buildings and facilities are under consistent review and analyses to make each building and facility as energy efficient as possible.



*State Office Tower (SOT) Certified Prestigious LEED Gold.*

*In 2012 the SOT was the first large office building, public or private, in the state to be certified Gold under LEED for Existing Buildings: Operations and Maintenance.*

*32 state buildings are LEED certified or pending certification. An additional 27 LEED projects are in the process toward the goal of certification.*

A primary objective of Lead by Example is to protect the state against escalating energy costs and to expedite energy security to protect Hawaii and our economy against the volatility of world oil markets. In spite of rising energy costs and reduced funding and staff, state agencies are persistent in pursuing energy efficiency:

- For the fifth year in a row, the Energy Services Coalition (ESC) ranked Hawaii first in the nation in government energy performance contracting for 2016. Over \$442.4M in performance contracts are estimated to save in excess of \$1.1 billion over the life of the contracts. These savings are the equivalent of powering 368,426 homes for one year. The projects comprise over 96 million square feet in 225 buildings or facilities. Hawaii's \$325.25 per capita investment beat out second place Kentucky (\$172.84), and far outpaced the national average (\$53.93). 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.
- Economic impacts from the energy savings (not including the equipment installation/construction) since 1996 include:
  - \$17.5M in state tax revenues, measured in 2016 dollars
  - \$490.3M in income to households, measured in 2016 dollars
  - An average of 260 jobs generated/supported each year between 1996 and 2036(Source: DBEDT, Research and Economic Analysis Division)

The above impact is the net of the following:

1. Increase in government spending on non-energy categories
2. The decrease in electricity sales of utilities

Note: Impact of construction/equipment installation is not included in this calculation since data on financing the projects are not available at this time.

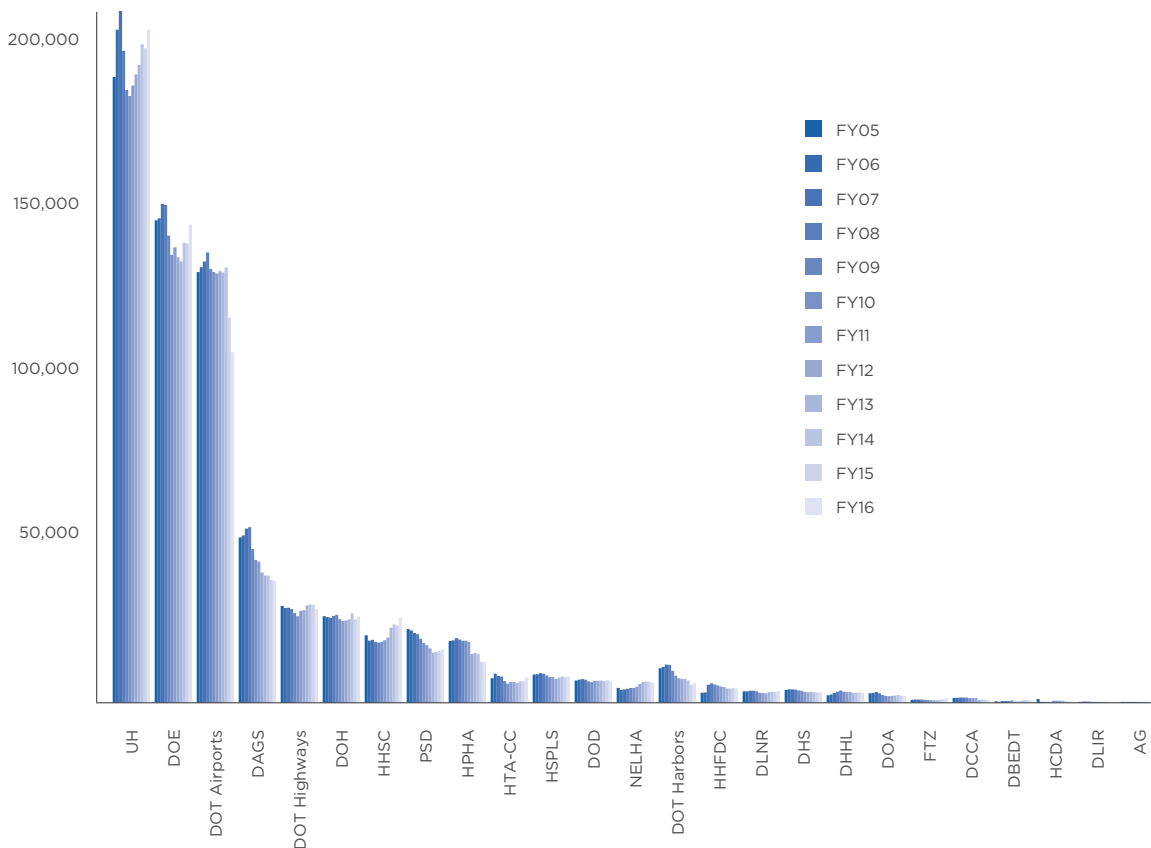
- In December 2013, the State Department of Transportation entered into the largest single state performance contract in the nation: a \$158M energy savings contract which guaranteed reduction of energy use by 49 percent and over \$559M guaranteed savings over the life of the contract in energy costs; actual savings realized are estimated to be 7 percent higher. Over 20 years, the energy saved could power 144,998 homes. A total of over 6.2 MW of photovoltaics have been installed at various statewide airports which includes about 2.7 MW under performance contracting.



- Hawaii remains a member of the U.S. Green Buildings Council, the non-profit entity which administers the Leadership in Energy and Environmental Design (LEED) green building certification program. There are currently over 30 LEED Accredited Professionals on staff at seven state agencies: Accounting and General Services; Business, Economic Development, and Tourism; Education; Health; Transportation; Hawaii Public Housing Authority; and the University of Hawaii.
- Since 2000, 166 Hawaii buildings have received the ENERGY STAR certification (103 public and 63 private buildings). During this time, HSEO has helped benchmark 83 state facilities. Buildings should be verified and certified as ENERGY STAR annually to ensure optimum efficiency.
- Since 1996, state agencies have received more than \$11.15 million in efficiency rebates from Hawaii Energy, the Hawaiian Electric Company and its subsidiaries. Combined, these rebates have resulted in more than \$196.68 million estimated cumulative dollar savings and 1.1 billion Kwh electricity savings. Over the life of the equipment, the savings would be enough to power approximately 172,086 households for a year. In 2016, state agencies received \$1.59 million in rebates.
- The Department of Education's (DOE) *Ka Hei* Program 75 Oahu schools were audited, showing lighting consumption could be reduced by half; 81 net-energy metering applications were approved by Hawaiian Electric for 73 Oahu schools; four power purchase agreements were executed in 2015 for more than 4.5 megawatts of photovoltaic systems across 34 Oahu schools; and 5 schools on Maui and Hawaii Island have completed net-zero microgrid audits.

Hawaii state agencies' electricity consumption through 2016 has declined 5.3 percent from 2005. Each agency's year-by-year kWh consumption is summarized in the chart below.

### ENERGY CONSUMPTION BY STATE AGENCIES



Sources: DBEDT Research & Economic Analysis Division; Utility (HECO, MECO, HELCO, & KIUC) Billing data

For more information on energy efficiency in state agencies, visit [energy.hawaii.gov/energy-efficiency-in-soh](http://energy.hawaii.gov/energy-efficiency-in-soh)

