

**HAWAII ENERGY POLICY FORUM  
ENERGY EFFICIENCY WORKING GROUP  
ACTION PLAN**

**TEN POINT PLAN POINT #2  
Promote Conservation and Energy Efficiency  
TEN POINT PLAN POINT #7  
Improve Energy Efficiencies and Options in Transportation**

**TPP #2 Promote Conservation and Energy Efficiency**

**Goal(s):**

1. Improve widespread energy efficiency in the State.
  
2. Support the State's Lead by Example Program – demonstrate the financial benefits of energy efficient buildings to the commercial and residential sector by implementing public building energy legislation and documenting the effects of energy efficiency.
  - Communicate the progress to the legislature and public.
  - Identify barriers to implementation and develop solutions to dismantling them.

**Background:**

The 2006 legislature passed HB2175 which along with three other energy bills (SB2957, SB3185, and HB2848) became Act 96. The legislation established that all new construction of state facilities and large retrofits should achieve the Leadership in Energy and Environmental Design LEED Silver rating. This standard improves the energy performance in the new buildings by approximately 30% over buildings designed and constructed without the LEED Silver rating.

In addition HB 2175 requires the state to lead by example, setting green building standards for state buildings and instructs state agencies to maximize usage of energy-savings contracts, including performance contracts and utility energy-efficiency service contracts. The legislation also promotes the use of “green building” practices by requiring counties to establish priority processing of permit applications for construction projects that incorporate energy efficiency and environmental design.

Pursuant to enactment of this law, the Director of the Department of Business, Economic Development and Tourism (DBEDT) is designated as the “coordinator” in Act 96. Therefore, DBEDT has taken the lead in providing technical assistance to state agencies; providing training to state personnel and consulting design professionals. In addition, DBEDT has been and will continue to facilitate, and coordinate efforts among state agencies to adhere to the new legislation and it will report activities and progress to the Legislature. Members of this working group have been working closely with decision makers on various state projects and alongside DBEDT to achieve the goals as stated above. There has been an unprecedented level of coordination among state agencies (facilitated by DBEDT) to share information and experiences to streamline the establishment and implementation of energy efficient building design standards, energy

efficiency financing options, including performance contracting, and commissioning/retro-commissioning services. This level of cooperation is essential if the large-scale energy goals for the state are to be realized.

**Objectives and Desired Outcomes:**

1. Adequate staffing and administrative support for Lead by Example
2. Adequate staffing, administrative support and personnel training to support goals of legislation in each state agency
3. Establish contract language, procurement processes and contractual vehicles for securing power purchasing agreements for renewable energy systems, commissioning, retro-commissioning, performance contracts, and sustainable design services as well as municipal leasing and other financing options for state energy projects.
  - a. Standardized and utilized these procedures across state agencies.
  - b. Develop in- house technical capacity to verify the adequate delivery of these services
4. Successful implementation of energy efficiency in public buildings
5. Acceptance and implementation of energy efficiency by commercial and residential sectors
6. Link energy conservation and renewable energy applications to greenhouse gas reduction in state facilities

**Indicators / Metrics:**

1. Four State buildings have been approved and certified by the US Environmental Protection Agency as ENERGY STAR.
  - The State Office Tower [2006]
  - Kapolei Office Building [2005 and 2006]
  - Paki Hale Courthouse [2006]
  - Kapolei has been awarded ENERGY STAR® (for two years.)
2. Six state buildings have been completed or are under construction to meet
  - LEED standards, from LEED Certified to LEED Platinum. The buildings are:<sup>1</sup>
  - NELHA Hawai'i Gateway Energy Center: LEED Platinum
  - UH John A. Burns School of Medicine: LEED Certified
  - UH-Manoa Frear Hall Resident Building (Building permit application phase; foundation under construction): LEED Silver

---

<sup>1</sup> DBEDT, Lead by Example, State of Hawai'i Agencies' Energy Initiatives, FY 2005-2006, Report to the 2007 Hawai'i State Legislature

- DOE Waipahu Intermediate School Cafeteria: LEED Certified
  - UH-Hilo Student Life Complex – Phase 1A (Under construction): LEED Certified
  - UH Hilo – Mauna Kea Astronomy Education Center (construction completed; pending verification for LEED Silver): LEED Silver
3. In FY06 alone, DBEDT sponsored or cosponsored more than 45 training and informational events that included participation by over 289 state employees.<sup>2</sup>
  4. A Sub-metering program on the UH Manoa Campus has been started allowing the UHM administration to accurately measure energy consumption on a per building basis.

### **Specific Forum Actions:**

#### Actions to be Taken/Underway

1. Continue to work with state agencies and the private sector to advance improved energy efficiency in buildings. Identify barriers and make recommendations to amend existing legislation or provide recommendations to develop new legislation to advance energy conservation, renewable energy and reduced green house gas emissions in the State.
2. Improve the Energy Performance of the State Capitol Building.
  - a. Pursuant to the energy assessments that were performed on the Capitol building in 2006-07 DBEDT and DAGS have procured the services for a retro commissioning of the building. It is being performed (3<sup>rd</sup>-4<sup>th</sup> quarters of 2007). This will lead to an estimated energy saving of 25% for the building.
  - b. Working Group members will continue to track that project to promote and expand the use of retro-commissioning services for other state facilities.
3. Working Group members will continue to work with DBEDT and other agencies to track and quantify the energy savings realized or anticipated in on-going projects.
4. Working Group members will continue to work with DBEDT, the UHM Administration and other State Agencies to implement and track the use of Commissioning, Retro-commissioning services and Energy Performance Contracts on State buildings.
5. Continue to work closely with the University of Hawaii at Manoa (UHM) administration to demonstrate energy conservation and energy efficiency applications on the campus
  - a. Explore energy efficiency on other UH campuses

---

<sup>2</sup> DBEDT, Lead by Example, State of Hawai'i Agencies' Energy Initiatives, FY 2005-2006, Report to the 2007 Hawai'i State Legislature

6. Continue to work with UHM administration and other State Agencies to develop language for procuring power purchasing agreements, commissioning, retro commissioning, energy performance and sustainable design services.
7. Continue to work with DBEDT and other State agencies to identify viable options for financing energy efficiency and renewable energy opportunities
8. Develop case studies showing the financial benefits of implementing energy efficiency projects in state buildings.
9. Explore other strategies with other Working Groups (eg. regulatory relating to utility DSM programs, third party administrator, etc.)
10. Work with the Communications WG to provide periodic reports for dissemination to the public.

**Actions Taken:**

1. "Energy by Example" program performed energy audits for the State Capitol, Saunders Hall on the university of Hawaii Manoa campus, Farrington High School, and United Laundry Service.
2. An advisory group has been established to make recommendations to the state for implementing greater levels of energy conservation in public buildings.
3. The University of Hawaii at Manoa administration has established new energy policy guidelines for the main campus. They include:
  - i. 30% reduction in overall campus energy use by 2012
  - ii. 50% reduction in overall campus energy use by 2015
  - iii. 25% renewable energy supply by 2020
4. A partnership has been formed between HECO and the UH Manoa campus to pursue large-scale energy reduction on the campus. This has led to an electrical metering program.
5. An Assistant Vice Chancellor has been hired at the Manoa campus to oversee the operations of the campus facilities and to ensure an improved energy performance of all new and existing building to be compliant with or to exceed the standards that are articulated in Act 96.
6. UH Manoa issued a Statement of Interest for qualified commissioning/retro-commissioning agents.
7. DOE initiated an incentive/disincentive energy conservation program for 280 schools statewide.
8. DAGS has initiated retro commissioning for five state buildings, including the State Capitol.
9. Hawaii Public Housing Authority is developing a performance-contracting Request for Proposals to initiate energy efficiency improvements in its state and federal public housing facilities.
10. DAGS is now the lead for performance contracting initiatives; DBEDT will continue working with HPHA on their performance contract.
11. DBEDT completed a cost-benefit, life-cycle analysis for the new College of Education.
12. DBEDT is developing a cost-benefit, life-cycle analysis for the State Capitol at LEED Silver.

### **Synopsis of Achievements/Progress**

1. State agencies are working together and moving forward in developing the contractual and procurement vehicles to enable them to implement commissioning, energy services contracts and green building design services.
2. State agencies are developing methods to quantify energy usage through energy assessments and sub-metering. Next steps toward a more effective and accurate energy tracking will be the widespread application of coordinated Energy Management Systems (EMS) for state facilities.
3. Retro-commissioning for existing facilities and LEED Silver projects are currently being initiated in response to the new legislation. As these projects are completed, more energy related data and information on the opportunities and barriers of the process will be available.

### **Impact on Community:**

1. Projects that are implementing the ACT 96 standards are just getting initiated. Data is being collected on the costs, energy savings, benefits and barriers associated with Retro-commissioning, Energy Service Contracts and LEED Silver buildings. The community impacts and benefits are :
  - a. Elevated standards of practice for professionals that will serve both the public and private sectors.
  - b. State facility based initiative encourages the private sector to follow
  - c. Reduced state-wide dependence of fossil fuel
  - d. Increase resources for programs rather than revenue going to inefficient use of electricity
  - e. Reduced green house gas emissions

### **TPP #7: Improve Energy Efficiencies and Options in Transportation**

#### **Goals:**

- Dramatically improve the energy efficiency and the use of indigenous fuels in the transportation sector.
- Lead by example – demonstrate to the commercial sector the financial benefits of energy efficient vehicles by documenting the effects of energy efficiency on state transportation fleets.
  - Monitor progress in implementing alternative fuels in state transportation fleets;
  - Communicate the progress (or lack of progress) to the legislature and public.
  - Identify barriers to implementation and develop solutions to dismantling them.

**Background:**

In Hawaii the major emphasis on transportation energy efficiency has focused on the use of mass transit and very little effort has been made to make the vehicle fleet more efficient. This is despite the high cost of vehicle fuels and the high visibility enjoyed by the Gas Cap program. This emphasis diverted attention from the basic premise – use less gas in the first place through the use of fuel-efficient vehicles. Furthermore the public culture is a “love affair” with large vehicles, however as the price of fuels continues to rise, this may be displaced by a new energy efficiency culture. The Forum needs to work on encouraging this cultural shift.

Legislation passed by the 2006 legislature includes the following:

SB 2957, Section 5 – establishes a statewide alternative fuel standard;

HB 2175, Section 28 – clarifies the state procurement policy for energy efficient vehicles.

Transportation efficiency was an area where the Forum made a more concentrated effort during the 2007 legislative session. HB 869–Energy Efficient Transportation Strategies was passed in the 2007 session.

**Objectives and Desired Outcomes:**

- Support the development and implementation of energy efficient strategies in the transportation sector in the state and counties
- Support the development and use of alternative energy fuels for transportation

**Indicators / Metrics:**

- Energy consumption (btu/passenger mile)

**Specific Forum Actions:**

- Actions to be Taken/Underway
  - Explore energy efficient strategies in the transportation sector
  - Develop indicator(s) to measure progress of an energy efficient vehicles= program and the implementation of the alternative fuel standard.
  - State Government Energy Efficiency Vehicle Report Card: work with DBEDT to monitor the effectiveness of energy efficient vehicle implementation actions in state departments and produce a departmental energy efficient vehicle report card;
- Actions Taken
  - Obtained support (Act 254 passed by 2007 Legislature and signed by the Governor) for developing energy efficient strategies in the transportation sector.
  - \_ State, county, and private agencies are working together to explore energy impacts in the transportation sector and to develop strategies that will increase energy efficiency in transportation.

**Impact on Community:**

- Reduce GHG emissions and consumption of imported fossil fuels in the transportation sector