

State of Hawaii



REPORT TO THE LEGISLATURE

Pursuant to

SECTION 196-41, ACT 95, SESSION LAWS OF HAWAII, 2004

Submitted to

The Twenty-Fourth State Legislature

Regular Session of 2008

By Governor Linda Lingle

January 8, 2008

**Progress Report to the Governor and the Legislature
Pursuant to
SECTION 196-41, Act 95, Session Laws of Hawaii (SLH) 2004**

*Submitted by
the State of Hawaii Department of Business,
Economic Development and Tourism
December 12, 2007*

A. Introduction

Chapter 196, Part III, Section 196-41, Hawaii Revised Statutes (HRS) was added to that law by Act 95, SLH 2004, signed by the Governor on June 2, 2004, which also established the renewable portfolio standards (RPS) within Chapter 269, HRS. Hawaii's RPS is a significant element to achieving energy independence and security, economic diversity, and environmental protection through reduced dependence and use of imported fossil fuel. Section 196-3, HRS, is the law that established the State Energy Resources Coordinator (ERC) role, which in essence, is the State's cabinet-level energy advisor to the Governor, Legislature, and people of Hawaii. The law assigns the role of State ERC to the Director of the Department of Business, Economic Development, and Tourism (DBEDT).

As such, this report is submitted pursuant to §196-41 relating to State support for achieving renewable portfolio standards, to fulfill the reporting requirement specifically assigned to the DBEDT, and stated as follows:

[§196-41] State support for achieving renewable portfolio standards.

- (a) The department of land and natural resources and department of business, economic development, and tourism shall facilitate the private sector's development of renewable energy projects by supporting the private sector's attainment of the renewable portfolio standards in section 269-92. Both departments shall provide meaningful support in areas relevant to the mission and functions of each department as provided in this section, as well as in other areas the directors of each department may deem appropriate.

- (c) The department of business, economic development, and tourism shall:
 - 1) Develop a program to maximize the use of renewable energy and cost-effective conservation measures by state government agencies;
 - 2) Work with federal agencies to develop as much research, development and demonstration funding, and technical assistance as possible to support Hawaii in its efforts to achieve its renewable portfolio standards; and
 - 3) Biennially, beginning in January 2006, issue a progress report to the governor and legislature.

B. DBEDT Activities and Initiatives in Support of §196-41(c)(1)

The following activities, programs, and initiatives were implemented by DBEDT to maximize the use of renewable energy and cost-effective conservation measures by state government agencies pursuant to §196-41(c)(1):

1. Leadership in Energy and Environmental Design (LEED) Program

DBEDT renewed its membership in the U.S. Green Building Council (USGBC) for 2007. USGBC administers the LEED rating system. During the last fiscal year, the Department of Transportation and the Department of Education have joined DBEDT in having LEED-accredited professionals on staff. DBEDT helped coordinate three LEED Study Sessions to prepare other State personnel for the USGBC examination in order to become LEED-accredited professionals.

Several State buildings have been certified as, are being designed for, or are awaiting designation as LEED accredited facilities, including the following:

- a) Hawaii Gateway Energy Center in Kona is certified as LEED Platinum Building;
- b) UH Coconut Island Biology Research Laboratories is being designed to LEED Gold standards;
- c) Thirteen public buildings, mostly UH and community college facilities, correctional facilities, and hospitals on the four major islands, are funded, under design, being constructed, or awaiting designation as LEED Silver;
- d) Two buildings (Waipahu Intermediate School cafeteria and the UH-Hilo Imiloa Astronomy Center of Hawaii) achieved LEED status; and
- e) Four state buildings have been certified as ENERGY STAR®, including the State Office Tower (2006), the Kapolei Office Building (2005-2006), the Abner Paki Hale Courthouse in Kaneohe (2006), and the Hilo State Office Building. ENERGY STAR® certified buildings rank in the top quartile of an EPA performance rating system calculated from actual energy use. ENERGY STAR certified buildings must qualify for thermal comfort and meet the lighting, ventilation, and indoor quality requirements.

2. Lead By Example (LBE)

The Lead by Example (LBE) initiative began in 2006 in response to legislative and executive mandates to change the way state executive agencies use energy in operations and facilities. These efforts acknowledge the high

cost of electricity in Hawaii, the energy security benefits of alternative fuel use, and the many opportunities for increasing energy efficiency in new and existing state offices, facilities and schools. A major focus of the LBE initiative is to save energy in state buildings. Through the LBE initiative, DBEDT facilitated state agency prioritization of building projects based on the potential for energy efficiency and achieving LEED designation. DBEDT also developed energy benchmarking analysis for DAGS and other state agencies to help prioritize energy conservation measures for the buildings. Energy assessments of the State Capitol building and Iolani Palace to identify energy efficiency opportunities were completed.

DBEDT coordinates several LBE working groups to address buildings, transportation, and environmental practices and procurement. DBEDT also sponsored or facilitated 89 events during the FY 2006-2007. This included training or technical assistance sessions, case studies, and meetings to gather data or to inventory state energy use or provide information to state agencies on energy efficiency, building commissioning or recommissioning, energy performance contracting, and green purchasing. A total of 3,433 people participated in these LBE activities including a high percentage of state agencies' employees as well as representatives from the four county governments.

Through the LBE Environmentally Preferable Procurement Working Group, DBEDT provided information to executive agency leadership on green purchasing. Information was also provided through LBE's Transportation Working Group on best practices to maximize efficiency in vehicle operation.

3. Energy Conferences and Workshops

- a) DBEDT co-sponsored the Hawaii Build & Buy Green Conference & Expo held in May 2007 at the Hawaii Convention Center. The event explored environmentally friendly advances in construction and city planning, including affordable housing, residential and commercial constructions, photovoltaic, and waste management and reuse. Participants included engineers, builders, developers, city and state officials, and members of the general public. There were 600 attendees and 20 co-sponsors for this event.
- b) DBEDT co-sponsored the annual Hawaii Green Business Awards. The program is a partnership of DBEDT, the State Department of Health, and the Chamber of Commerce of Hawaii. The year's awardees included four hotels that have adopted innovative green practices to conserve energy, water, and other resources, and to reduce pollution and waste.

- c) DBEDT co-sponsored the EnergyOcean conference on Oahu in August 2007, attracting several hundred participants. The conference provided updates on emerging wave, tidal, current, ocean thermal energy conversion and other ocean-based technologies, as well as on environmental, permitting and policy issues. Cosponsors included the HECO utilities, the U.S. Department of the Interior's Minerals Management Services, the Ocean Energy Council and other private and public agencies.
4. DBEDT initiated the Building Commissioning Program to assist in optimizing the efficiency of the maintenance and operation of state facilities. DBEDT is working with a consultant to develop a commissioning process for state agencies that would provide standardized documentation and training to state personnel. A number of state facilities, including a lounge at the Honolulu International Airport and the UH Coconut Island laboratory, are planned to be commissioned. DBEDT continues to assist other executive agencies with the commissioning procedure.
5. DBEDT and other state agencies are actively pursuing energy efficiency opportunities as well as renewable energy generation at state facilities. DBEDT, in partnership with other state agencies, is actively exploring the potential for installing PV systems on airports across Hawaii. Solar thermal and PV arrays were among the options examined during energy assessments completed for the State Capitol. A competitive request for proposals is anticipated for ocean thermal energy conversion at the Natural Energy Laboratory of Hawaii Authority (NELHA).
6. As a member of the Pacific Regional Biomass Energy Program, and in partnership with other bioenergy stakeholders, DBEDT co-organized and co-sponsored the Hawaii Bioenergy Workshop in October 2006 in conjunction with the Hawaii Agriculture Conference. The Workshop engaged Hawaii's agriculture sector to raise awareness of bioenergy crop production opportunities. Additionally, using Program funds, DBEDT worked with UH-Hawaii Natural Energy Institute to prepare the "Potential for Ethanol Production in Hawaii Report" completed in December 2006.
7. DBEDT organized and sponsored the Governor's Hawaii Biofuels Summit in August 2006, where the State's senior business leaders in energy and agriculture met and discussed strategies for developing Hawaii's biofuels industry. Implementation of these strategies continues.
8. **Biofuels Assessment Project**
DBEDT kicked-off a two-year project to conduct a statewide, multi-fuel biofuels production assessment in July 2007. The project will examine potential feedstock and technologies, economics, and possible contributions to Hawaii's energy needs by ethanol, biodiesel, and renewable hydrogen.

9. Pursuant to Senate Concurrent Resolution 164, Regular Session 2007, DBEDT prepared a Study on the Feasibility of Establishing a One Stop Permit Shop for Renewable Energy Projects, to streamline permitting, and facilitate the development of renewable energy projects.

C. DBEDT Activities and Initiatives in Support of **§196-41(c)(2)**

The following activities, programs, and initiatives were implemented by DBEDT in partnership with federal agencies to develop the maximum possible research, development and demonstration funding, as well as technical assistance, to support the State's efforts to achieve its renewable portfolio standards:

1. DBEDT received a \$59,507 federal grant to establish a "Geothermal Energy to Hydrogen" roadmap for the Island of Hawaii (Big Island) based on the potential of using geothermal energy as the primary energy source for the production of hydrogen. DBEDT contracted with the UH/Manoa to develop the study.
2. DBEDT received a \$50,000 federal grant for the GeoPowering the West Program which is aimed at establishing the State's Geothermal Resource Information System within the Department of Land and Natural Resources to organize and maintain data for State and national use to facilitate management and use of the resource, and policy development.
3. DBEDT completed a two-year assessment of sustainable design for public schools facilities with funding from the U.S. Department of Energy's (USDOE) Rebuild America Program. The completed report included an analysis of the benefits and costs of sustainable design and LEED certification of new elementary schools. The report showed that new elementary schools can be designed to be sustainable. The economic benefits include reducing operational costs by 30%, saving approximately \$60,000 annually.
4. DBEDT entered into a Memorandum of Understanding with the U.S. Environmental Protection Agency (EPA) to participate in the USEPA Clean Energy-Environment State Partnership Program. Through this Partnership Program, EPA is committed to help the participating states including Hawaii and through DBEDT/SID, to develop a comprehensive state-specific Clean Energy-Environment State Action Plan that will further the goals of achieving balanced, economically sensible environmental and energy policies and activities that promote energy efficiency, clean distributed generation, and renewable energy to achieve state-determined energy and economic goals.
5. Efforts are continuing to update the building codes for energy efficiency. DBEDT, with USDOE funding, is spearheading the development of a model code specifically suited for tropical climates.

6. DBEDT co-sponsored the 2006 Fuel Cell Seminar, held at the Hawaii Convention Center, in November 2006. The Fuel Cell Seminar includes technical sessions in the following major areas: utility, residential, vehicle and portable applications, and R&D to meet challenges in costs, fuels, storage, reliability, lifetime and adoptability.
7. DBEDT initiated steps to implement the Hawaii Renewable Hydrogen Program established by Act 240, SLH 2006. A Request for Proposals for management of the program and the \$10 million hydrogen investment capital special fund established by the Act was issued. Of the fund total, \$9.5 million is intended for project cost share and for seed and venture capital investment including \$800,000 cost share for the federally funded hydrogen power park project. The project will install hydrogen production and storage infrastructure, and a fueling station on the Big Island.
8. DBEDT is an intervener participant in the PUC initiated proceeding, Docket No. 2007-0176, to examine the feasibility of implementing intra-governmental wheeling of electricity in the State of Hawaii. This investigative proceeding was initiated by the PUC Order No. 23530 issued on June 29, 2007. DBEDT's letter to the PUC dated December 21, 2006 requesting information from the PUC on ways to facilitate the purchase of renewable energy by State agencies, was one of the basis for the PUC initiating the proceeding.