

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

**TEN POINT PLAN POINTS #1, #8 & #9**

**#1 -- Expand Renewable Energy Opportunities**

**#8 --Support research and development of renewable energy to hydrogen.**

**#9 -- Support sustainable development and use of biofuels**

**Co-Chair:** Warren Bollmeier

**Co-Chair:** Rick Reed

**TPP #1: Expand Renewable Energy Opportunities**

**Goals:**

- Support the state's Renewable Portfolio Standards mandate for Hawaii's electric utilities to meet 20% of utility sales of electrical energy in Hawaii from renewable sources by 2020.
- Promote the development and increased use of Hawaii's indigenous renewable resources to meet Hawaii's residential, commercial, industrial, government and transportation energy needs to the extent possible.

**Background:**

Current status of renewables in Hawaii:

1. Wind: three new windfarms with a total of 61 MW capacity were installed in 2006 and in 2007; and a number of other projects are under consideration. It is estimated roughly 10% of net-metered systems are small wind turbines, with the remainder being photovoltaic systems.
2. Solar: there are no large solar farms at the present time; one is under consideration. There are on the order of 100,000 solar hot water systems installed statewide with 3,000 to 4,000 new installations a year; and there are over 100 net metered PV systems and more than 1 MW of commercial, non-net-metered PV systems statewide.
3. Biomass-Electric: The biomass cogeneration units on Maui (HC&S) and Kauai (Gay & Robinson) continue to operate to meet site loads and export to the grid (up to 12 MW – HC&S). The City & County of Honolulu has issued a request for competitive sealed proposals to construct and operate an alternative energy facility and/or to improve and continue to operate the H-POWER facility (currently 46 MW). The City expects to award a contract(s) by January 2008. New biomass projects are under consideration: Kauai Island Utility Cooperative has selected two projects for negotiations as a result of a recent RFP for as-available renewable projects, and Renewable Hawaii Inc. has indicated there are one or

more biomass projects under consideration following its RFPs seeking renewable energy partners. HELCO has signed a purchase power agreement with Tradewinds, Inc. to buy energy from the burning of wood waste from company's proposed veneer plant.

4. Biomass-Fuels: Biodiesel production continues at Pacific Biodiesel's facility on Oahu and there is interest in expanding their production with development of new biomass feedstocks in the islands. BlueEarth Biodiesel, in partnership with a new HECO non-regulated subsidiary called Uluwehi o Kama Biodiesel, plans a large biodiesel production facility on Maui to supply MECO. Imperium Renewables, independent of HECO, is planning a similarly large biodiesel on Oahu near Kalaeloa Harbor. One ethanol facility is in development on Kauai (Gay & Robinson), and others are being considered for Oahu and Maui. Note: HECO is proceeding with construction of the 110 MW Campbell Industrial Park Generating Station which will be fueled 100 percent by biodiesel, and is also investigating use of biofuels in other units.
5. Geothermal: Puna Geothermal Ventures is planning to increase their 30 MW capacity by 8 MW in the near-term and an additional 22 MW is under consideration.
6. Hydro: Operation of run-of-the-stream hydropower units continues on Hawaii (12 MW-Wailuku Hydro and 2.5 MW-HELCO), Kauai (8 MW-non-utility), and Maui (5.6 MW –HC&S, and 500kW- Hawaii Energy Group). MECO is investigating the feasibility of a pumped-hydro storage facility on Maui
7. Ocean: A subsidiary of a mainland firm, Honolulu Seawater Air Conditioning, LLC, is developing the first of several large renewable energy seawater air conditioning (SWAC) district cooling systems in Hawaii.

The 2006 legislature passed significant legislation to provide tax credit incentives for the adoption of renewable energy systems by both the residential and commercial sectors. SB2957, Section 2 increased income tax credits for solar thermal, photovoltaic, and wind installations. The sunset date for these incentives was permanently removed which brings stability to the market and encourages the renewable energy business to invest in their business.

HB2175, Section 2 appropriated \$5,000,000 to install a minimum of four (4) photovoltaic, net energy metered pilot projects in public schools, one in each county.

## **Objectives**

The overall objective is to encourage further use of renewable energy in Hawaii, in part, by taking advantage of the momentum already gained in the market, evaluating the impact of existing policies and incentives and assessing the need for additional measures.

### **Action Plans:**

1. In the near term, the Renewable Energy Working Group (“REWG”) will work with the state (DOE and DBEDT), the utilities, industry and others to monitor the rate of “take up” by the market to determine how well existing policies and incentives are working. Periodic progress reports will be prepared.
2. Program “Tune-Up” - identify barriers to the effective implementation of the program – can we make them better? Seek input from industry on barriers and “speed bumps”.
3. Brief legislature & PUC – provide near-term briefings to the legislature and PUC/DCA on how the program is going.
4. Prepare OPeds on the successes and/or failures of the program to keep the program on the front burner with the public and the legislature. It would be very useful to prepare energy savings “success” stories.
5. Coordinate with the EE and Communications WG’s.
6. Report on the energy savings results of the Department of Education solar pilot project.
7. Support inclusion of additional schools to the solar program.
8. Support DBEDT renewable energy and energy efficiency programs and initiatives. Evaluate the need for additional funding and positions at DBEDT to support their mission.
9. Identify and report on promising new renewable energy technologies (such as solar thermal electric, SWAC, solar air conditioning and wave energy). Recommendations will be made to the Forum regarding potential State energy initiatives and appropriate legislative or regulatory actions.
10. Consider establishment of development zones for ocean and wave energy.
11. Evaluate the need for incentives to support state-wide waste-to-energy projects.

### **TPP #8 - Support research and development of renewable energy to hydrogen (RE2H2).**

#### **Goals :**

- Advocate for recognition for Hawaii as a premier demonstration site for the deployment of hydrogen fuels and energy systems
- Support funding requests for R&D on Hawaii’s renewable energy sources as potential sources to produce hydrogen.
- Support leveraging state funds to attract federal programs that will assist in the development of Hawaii’s RE2H2 sources and energy systems.

#### **Background**

The 2006 legislature passed legislation now embodied in HRS 196-10 to establish the Hawaii Renewable Hydrogen Program (“RHP”) and the Hydrogen Investment Capital Special Fund. DBEDT and the Hawaii Strategic Development Corporation (HSDC) will administer the fund. DBEDT will select a private-sector entity to manage of the fund under contract to DBEDT.

## **Objectives/Desired Outcomes**

1. Significant investments are made in existing and new R&D programs in Hawaii to develop RE2H2 production technologies.
2. Hawaii becomes a national leader and prime demonstration site in the United States for -developing and implementing the use of hydrogen fuels and energy systems.
3. A new hydrogen fuel and energy system technology industry is spawned and nurtured via the development and implementation the RHP by DBEDT.

## **Indicators/Metrics**

1. Numbers of projects/new businesses
2. Dollar value of projects/new business
3. Dollar value of Federal investment
4. Number of people employed in R&D &P

## **Action Plans:**

1. Work with DBEDT to provide support for the implementation of the RHP.
2. Assess areas where the Forum can provide ongoing support including additional financial resources for DBEDT to fulfill its mandate.

## **TPP #9 – Support the sustainable development and use of biofuels**

### **Goals :**

- Advocate for the increased sustainable utilization of biofuels in Hawaii's energy mix.
- Support efforts to increase local biofuel production with the emphasis on the development of sustainable local sources of biofuel feedstocks.
- Support development of a Hawaii Bioenergy Master Plan.

### **Background**

During the 2007 legislative session, the Forum initiated legislation for the development of a Hawaii Bioenergy Master Plan that was ultimately included in HB1003 and funded for \$300,000 to be expended by DBEDT. The legislation directed the plan be completed by the start of the 2009 session with an interim progress report at the start of the 2008 session.

## **Objectives/Desired Outcomes**

1. The development of an action-based Bioenergy Master Plan with input from all interested stakeholders.
2. The amount of biofuels used in transportation increases by 20% in ten years.

## **Indicators/Metrics**

1. Biofuels Master Plan is produced on time

2. Percentage of biofuels increases by 20% over 10 years

**Action Plans:**

1. Provide support to DBEDT for the development of the Hawaii Bioenergy Master Plan.
2. Evaluate the need for additional funding and positions to support the development of the Hawaii Bioenergy Master Plan.
3. Prepare a white paper on Biofuels for Hawaii. The paper will include issues relating to use of biofuels for electricity and transportation needs. Input will be solicited from all interested stakeholders.