Legislative Briefing
Renewable Energy
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Renewable Energy Working Group
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• Status/Outlook (Technologies/Projects)
• Status/Outlook (Legislative/Regulatory)
Summary

- RPS Performance is “on-track”
- Electrical Sector: Good growth seen in wind and solar – first wave of windfarms are up and operating; first large solar project is in development; and other projects are under consideration
- Transportation Sector: plans for first ethanol facility are proceeding on Kauai; and new biodiesel market opportunities are developing with existing (Pacific Biodiesel) and new market entrants (HECO companies and others)
Summary - Continued

➢ Outlook – Electrical Sector: Overall policy for electrical sector has been put in place – implementation issues are under investigation by the Public Utility Commission

➢ Outlook – Transportation Sector: Forum will support DBEDT bioenergy master plan development and prepare white paper on biofuels for Hawaii

➢ Outlook – Legislative Activities: two solar bills, possible bills from 2007 session; and NEHO’s
HEPF 10-Point Plan

The following actions from the 10-point plan are being addressed by the REWG:

• TPP #1: Expand renewable energy opportunities;
• TPP #8: Support research and development of alternative energy sources; and
• TPP #9: Support sustainable development and use of biofuels.
RPS Status – End of 2006

- **RPS: HECO (13.8%); KIUC (13.92%)**
  - Existing wind (plus one new windfarm – Pakini Nui), solar, biomass, geothermal and hydro installations, including solar & net metered offsets;
  - Energy offsets from heat pumps, ice storage, and waste heat recovery portion of Combined Heat & Power systems; and
  - Energy offsets from utility Demand-Side Management Programs.
Hawaiian Electric Company

- **Wind** – Hawi (10.6 MW), Kaheawa Pastures (30 MW), Pakini Nui (21 MW) and others under investigation;
- **Solar** -- boom in hot water system; PV expanding but prices are still high, as worldwide demand is high;
- **Biomass** – H-Power’s waste-to-energy power plant (45 MW); new 2 MW facility on Hawaii (Tradewinds); alternative options for additional capacity are under investigation;
- **Geothermal** – expansion of Puna Geothermal Ventures 8 MW in near term – then to 60 MW; and
- **Hydro** – new run-of-stream system on Maui; pumped-storage under consideration.
Outlook – Electricity Sector

➢ Other Renewable Energy Sources Being Developed/Investigated:

• **Seawater Air Conditioning (SWAC)** – Kakaako & Waikiki;

• **Solar thermal electric** – Sopogy is currently constructing a 1 megawatt concentrating solar power facility at NELHA and is developing additional concentrating solar power projects in Hawaii; and

• **Ocean Thermal Energy Conversion (OTEC) and Wave energy systems** – under consideration.
Outlook – Electricity Sector

Kauai Island Utility Cooperative:

- KIUC is working with industry partners to:
  - projects selected from their competitive bidding process initiated in 2005 for “As-Available” Renewables; and
  - promote solar hot water and net metered systems on their grid.
- KIUC will discuss the status of these activities in their presentation.
Status – Transportation Sector

Ethanol mandate is in the implementation phase:
- E-10 in 85% of fleets/gasoline stations - Initial ethanol is being imported; and
- Development of local ethanol sources continues on Kauai:
  - Gay & Robinson Inc. and Pacific West Energy LLC have formed a partnership to develop the first fuel ethanol plant in America to create renewable power and clean-burning ethanol fuel from sugarcane;
  - The 12 Mg/yr facility will use sugar juice and molasses as feedstocks; and
  - The facility will help preserve 230 jobs, protect the island’s agricultural heritage and further the state’s renewable energy goals.

Biodiesel – market is growing:
- Pacific Biodiesel and other market entrants – moving beyond waste cooling oil/grease to growing local energy crops; and
- In parallel, HECO has proposed local biodiesel production (for generating electricity) using both local and imported energy crops.
Integrated Sugar Crop Ethanol Production Business
Outlook – Transportation Sector

- **Bioenergy Master Plan**: DBEDT to discuss status in their presentation of the Bioenergy Master Plan that was funded ($300K) in 2007 session;
- **Industry**: Anticipate that ethanol and biodiesel market will continue to develop with existing and new market entrants; and
- **HEPF**:
  - Will support DBEDT’s efforts on the master plan, and
  - Will prepare a “white paper” on Biofuels for Hawaii – initial draft will focus on biodiesel.
Status – Hawaii Renewable Hydrogen Program

Section 6 of Act 240 passed by 2006 Legislature established “Hawaii Renewable Energy Program” within DBEDT:

- Strategic partnerships for R&D, testing, and deployment of renewable hydrogen technologies;
- Evaluation of Hawaii’s potential for hydrogen use & near-term project opportunities;
- Hydrogen demonstration projects including infrastructure for the production, storage, and refueling of hydrogen vehicles; and
- State-wide hydrogen economy public education.

Section 7 of Act 240 established the “Hydrogen Investment Capital Special Fund” with $10 million in initial capitalization.

- A RFP was issued for management of fund; and
- Selection of fund manager is pending.
RPS Implementation

- Act 162 (2006 Session) revised our RPS law – the Public Utility Commission subsequently opened two dockets to investigate issues relating to Act 162:
  - Docket No. 2007-0008 (Renewable Energy Portfolio Standard), and
  - Docket No. 2007-0484 (Public Benefits Fund and Administrator).

- The Commission will discuss the status of these and other relevant dockets in their presentation.
Renewable Energy Technologies

- **Market Activity - 2007 compared to 2006:**
  - There were increases in customer participation in the utilities’ solar water heating and net energy metering programs;
  - Both utilities initiated their “Pay As You Save” programs; and
  - The utilities will provide the details in their presentation.

- **Potential Issues for 2008 Legislation:**
  - Re-definition of the technologies qualifying under the Renewable Energy Technologies Income Tax Credit;
  - Permitting of solar projects on agricultural lands; and
  - NEHO’s (Never Ever Heard Of’s)
Status/Outlook – Regulatory Issues

➢ A Number of Renewable Issues have been Delegated to the Commission: a short list of the relevant dockets to be discussed by the Commission in their presentation):

• Net Energy Metering (No. 2006-0084)
• Pay As You Save Program (No. 2006-0425)
• HECO DG Tariffs (No. 2006-0497)
• KIUC DG Tariffs (No. 2006-0498)
• RPS Implementation (No. 2007-0008)
• Public Benefits Fund and Administrator (No. 2007-0084)
• Intragovernmental Wheeling of Renewables (No. 2007-0176)
• Renewable Energy Infrastructure Program (No. 2007-0416)