Hawai’i State Energy Office - Update
State Energy Office Values

- **Collaboration** - I will look for opportunities to give others the opportunity to contribute and I will value what they bring
- **Excellence** - always giving my best in everything I do; bringing my best self to each situation
- **Gratitude** - expressing appreciation for what I have and who others are in my life
- **Humility** - viewing myself realistically and recognizing I don't have all the answers
- **Humor** - not taking yourself too seriously
- **Respect** - valuing the individual regardless of the situation
- **Service** - aligning myself for the betterment of others - being others-centered
- **Trust** - believing the best of the people around me
Contents

- Hawaii’s Energy Context – A Somber Reality
- Hawaii Clean Energy Initiative: A Foundation for Transformation
- Summary of 2009 HCEI Legislative Recommendations
- Hawaii State Energy Office Reorganization
Reducing Hawaii’s dependence on fossil fuels is a long-standing objective.

Despite objective, little progress made – the needle has not moved.

Over 36 years, petroleum consumption remains at about 89%.
To generate the energy required worldwide by the 2030s would require us to find an additional 1.4 MBD every year until then.

Can Hawaii assume this will happen, and base our future on it?
Economic impact of dependence on expensive energy

- Household fuels and utilities costs rose 36.4 percent, year-over-year, in the Honolulu CPI during 2Q’08.

- Mainland energy costs are 4% of a state’s Gross Domestic Product; in Hawaii, it approaches 11%, almost 3 times as much.

- Between 2007 and 2008, State Government consumption of electricity has decreased 1.17%, but expenditures have increased 19.55%.

Hawaii Energy Costs by Percent GDP

- (Diagram showing energy costs as a percent of GDP from 1997 to 2006, with a noticeable increase in 2008.)
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Hawaii Clean Energy Initiative

National Partnership to Accelerate System Transformation

The goals are:

- Achieve a 70% clean energy economy for Hawaii within a generation
- Increase Hawaii’s security
- Capture economic benefits of clean energy for all levels of society
- Foster and demonstrate innovation
- Build the workforce of the future
- Serve as a model for the US and the world
HCEI analysis & project activities

- 70% Clean Energy scenario analysis (Booz Allen Hamilton)
- Hawaii greenhouse gas carbon tax/abatement analysis (McKinsey & Company)
- Economic modeling of energy system
- Inter-island cable: feasibility and cost/benefit studies
- Technical and economic assessment of plug-in hybrid and electric vehicles
- 100% Renewable Lanai
- Forest City Highly Efficient Communities
- Modeling electricity grids on all islands
- Maui grid integration
- Bioenergy Master Plan
- Wind resource and storage testing
- Regulatory framework development

World class studies and expertise leading to projects with a broad base of partners
HCEI-related events & milestones

- State Renewable Energy Facilitator authorized
- First year of GHG Emission Reduction Task Force
- Marine Renewable Energy Center
- Hawaii, Taiwan, and Lockheed OTEC partnership
- Feed-in Tariff and Decoupling Dockets open and in progress
- HECO Smart meter initiative
- Third Party Administrator contract in negotiations
- Solar Water Heater Mandate for new construction homes became law
- DOE-Hawaii hospitality roundtable for energy efficiency
- Better Place announced first statewide initiative in Hawaii – HECO MOU
- Phoenix Motorcars announced EV testing on Maui with MECO
- Hawaii Renewable Energy Development Venture kicked off

Broad base of activities across the state on a systemic level
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The 2009 legislative package is one step toward the 70% clean energy goal, and it sends the message that Hawaii is serious about being a leader.

- **PREMISE:** The primary barriers to reaching 70% clean energy are not technical or financial; they are policy-driven: change incentives and behavior by changing established framework of rules.

- **How far does the 2009 legislative package go toward HCEI efficiency, generation and transportation?** **Indicatively:**

<table>
<thead>
<tr>
<th>HCEI Goal</th>
<th>Expected results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2009 package</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Efficiency</strong></td>
<td>30%</td>
</tr>
<tr>
<td><strong>Electric Generation</strong></td>
<td>40%</td>
</tr>
<tr>
<td><strong>Transportation (ground)</strong></td>
<td>70%</td>
</tr>
</tbody>
</table>

- **Future Steps:**
  - **Efficiency:** In the next years, the State will need to be aggressive on 1) public buildings, 2) a sizable energy efficiency program for commercial buildings, 3) zero net energy building code by 2015. Promotion and implementation of efficiency programs—e.g., on-bill financing—will be critical to realize.
  - **Electric Generation:** The PUC will be shouldering responsibility for setting rules for feed-in tariffs, electricity decoupling, etc. PUC’s timely implementation will be extremely important.
  - **Transportation:** The 2009 package is designed to catalyze market—e.g., create infrastructure for Alternative Fuel Vehicles—so the legislative package starts the process to deliver the transformation needed to hit 70%. In 2010, we will propose policies to ensure adequate supplies of biofuels, to using AFVs; also we will analyze clean energy options for aviation/marine transportation.

This legislative package is one step in the process of changing the rules—to do so it’s important to view the package whole, as a comprehensive approach to energy policy, and in the context of other HCEI initiatives.
Electricity Generation and Delivery

- Renewable Portfolio Standard – 40% by 2030
- No new fossil generation allowed
- Net Energy Metering Caps Removable by PUC
- Renewable Energy Zones (business and transmission enabler)
- Renewable Energy Facilitation Process for 5-200 MW available
Efficiency

- Energy Efficiency Portfolio Standard – 4300 GWH (30%) by 2030
- Analysis that Building Codes provide expected payback
- On-bill Financing for Energy Efficiency and Renewable Energy expanded
- Tax Credits for Net Zero Energy Homes
- Consumer Information on home energy profile
Transportation

- Infrastructure incentives to support electric vehicles
- Facility size cap for biofuel facilities removed for tax credit
- Incentives for leading edge adopters of Electric, Alternative and Fuel Economy Leader Vehicles
- State and county vehicle fleet mandates
- Non-government fleet and dealer mandates - alternative fuel vehicle standard
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Hawaii State Energy Office – by Function

Efficiency
- Building Efficiency
- Conservation & Efficiency Practices
- Lead By Example

Division Administrator
- Policy Leadership
- Legislation & Budget
- Education & Outreach

Planning
- Analysis
- Planning
- Energy Emergency
- Regulated Infrastructure

Renewables
- Renewable Generation
- Emerging Technologies
- Permitting
Key to Symbols

1  Personnel embedded in READ

22  Analogous to a Current Position (3 vacant)

7  New Position (1 embedded in READ)

30  Total Position Count

1/26/09
Energy Division – Efficiency Branch

Efficiency Branch Chief (Shon)

Efficiency Branch Secretary (Fenn)

LBE

LBE Outreach & Coord. Specialist (Shishido)

LBE Engineer (vacant)

Building Efficiency

Res. Eff. & Building Outreach Spec. (Masai)

Comm. Eff. & Building Outreach Spec. (Suzuki-Jones)

Building Codes Specialist (Wiig)

Financing Analyst (Raman)
Energy Division – Planning Branch

Planning Branch Chief (Seese)

Planning Branch Secretary (Wenz)

Energy Planning Analyst (Want)

Energy Planning Analyst

Energy Policy & Regulatory Analyst

Energy Economist (Miller)

Energy Policy & Regulatory Analyst (Baron)

Energy Supply Planning Analyst
Research & Economic Analysis Division

READ Administrator (Iboshi)

Research Statistician

Research Statistician (Oshiro)