

Hawaii Clean Energy Initiative

HCEI: Clean Energy Roadwork Ahead –
Where Hawaii Needs to Go to Meet Its Goals

Asia Pacific Clean Energy Summit

September 15, 2014

PANELISTS:

- **Robin Campaniano**, Chairperson HCEI Advisory Board
- **Mark Glick, Administrator**, Hawaii State Energy Office
- **Jeff Ono**, Executive Director, Division of Consumer Advocacy
- **Hermina Morita**, Chairperson, Public Utilities Commission
- **Jennifer DeCesaro**, Director, Technology-to-Market Program USDOE



Hawaii Clean Energy Initiative

Robin Campaniano

Chairperson
HCEI Advisory Board



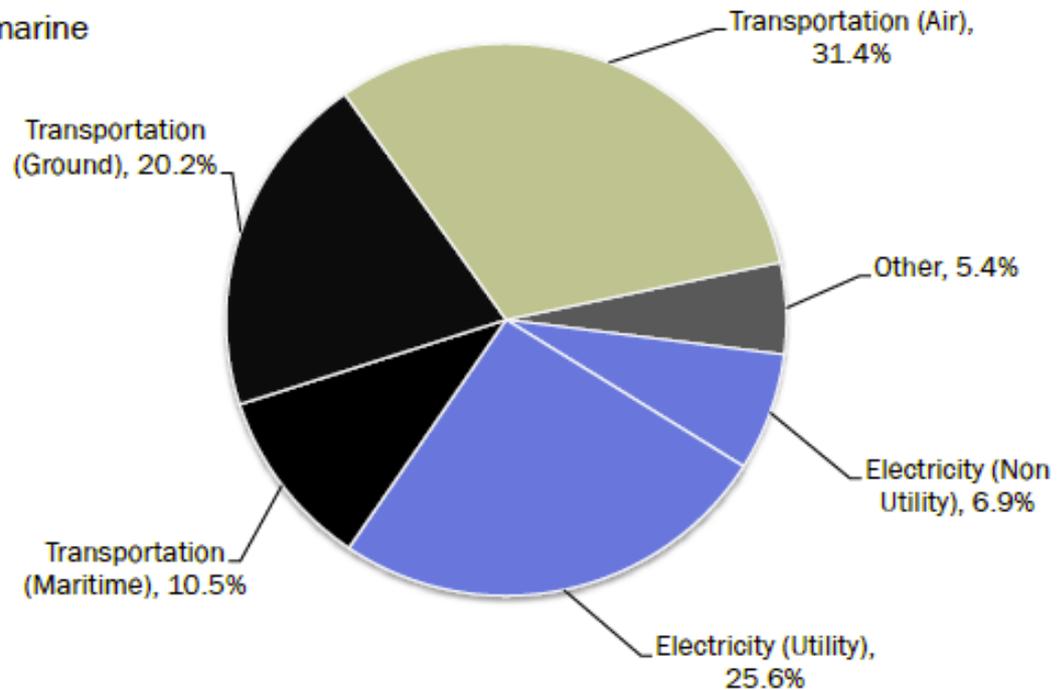
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Energy Imports and Use

Hawaii imports about 45 million barrels of petroleum imported each year at a cost of \$5 to \$6 billion

1/3rd Electricity
1/3rd Air transportation
1/3rd Ground and marine

Hawaii Petroleum Consumption by Sector



Source: HECO 2011



Hawaii's Clean Energy Goals

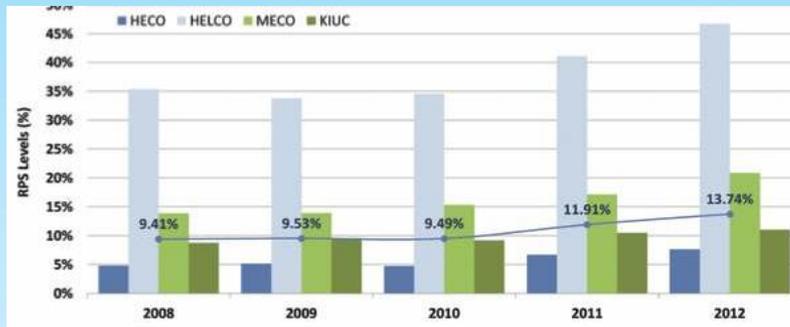
40% Renewable + 30% Efficiency =
70% Clean Energy by 2030



Making Progress

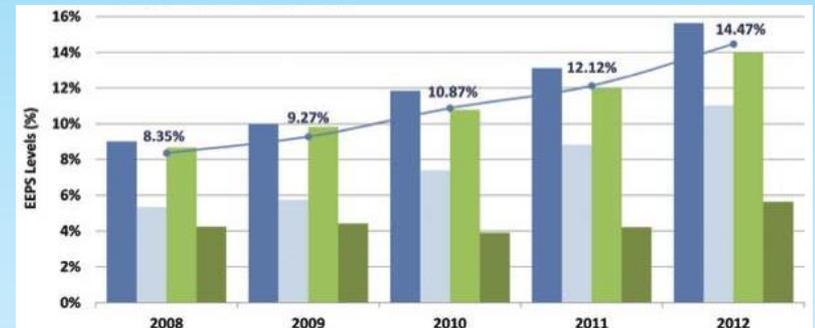
Renewable Portfolio Standard (RPS)

2012: 13.74%



Energy Efficiency Portfolio Standard (EEPS)

2012: 14.47%



Benefits of Renewable Energy:

- ◆ Maximize Hawaii's clean energy potential for economic development and energy security
- ◆ Stabilize and decrease energy costs to Hawaii residents and businesses
- ◆ Improve environment (reduce greenhouse gases, fuel transport in Hawaiian waters)



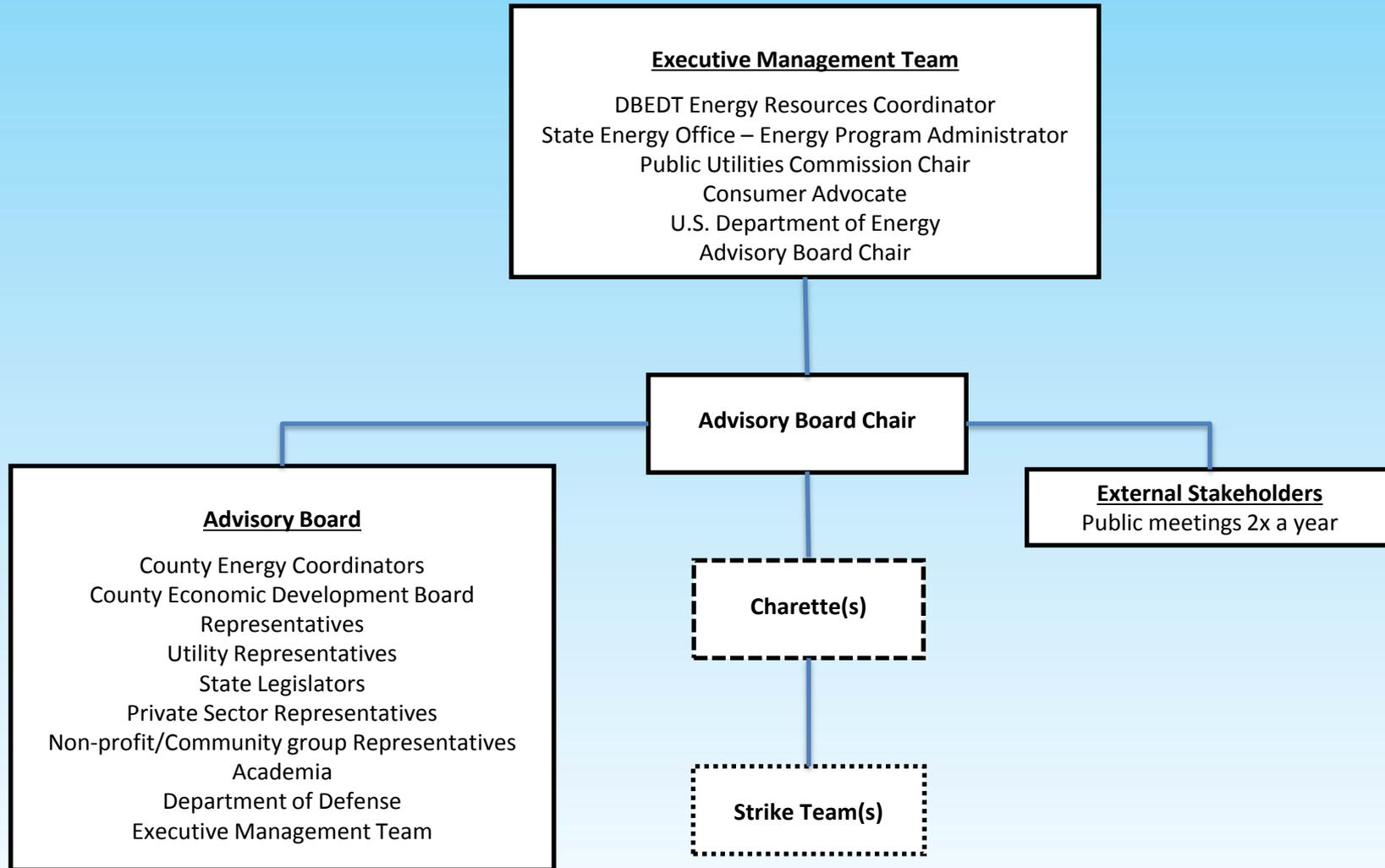
A Fresh Look

HCEI 2.0 will foster stakeholder engagement to build long term plans that will stand the test of time through focused and critical analysis.

- ✓ **Assess and Review Existing Hawaii Plans and Associated Budgets**
- ✓ **Assess existing Hawaii Plans to identify strategies for implementation**
- ✓ **Identify and Assess Impacts of Policy Drivers**
- ✓ **Identify Private and Public Funding/Investment Opportunities**



HCEI 2.0 Organization



State of Hawaii's Clean Energy Vision – Policy Perspective

Mark B. Glick

Administrator
Hawaii State Energy Office



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Hawaii's Clean Energy Vision

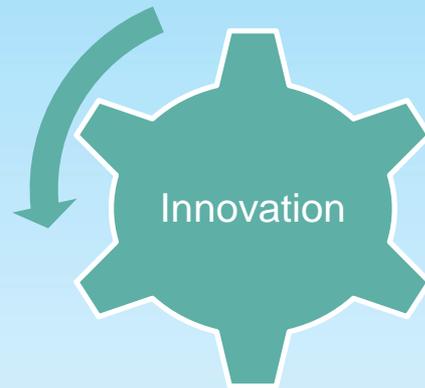


Going beyond 40%
Renewable Energy
by 2030



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Hawaii's Clean Energy Vision



Integrated Energy System:

Interconnected smart communities
empowering energy consumers

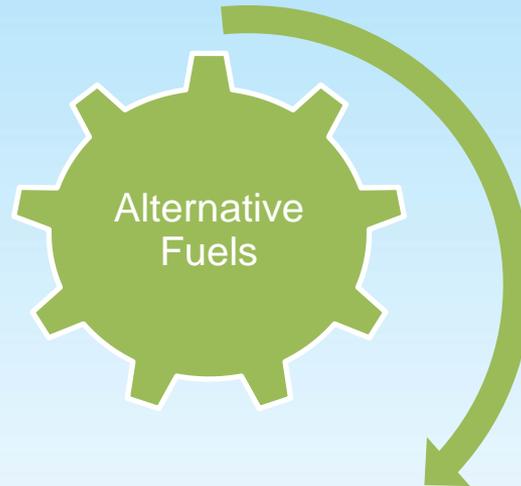


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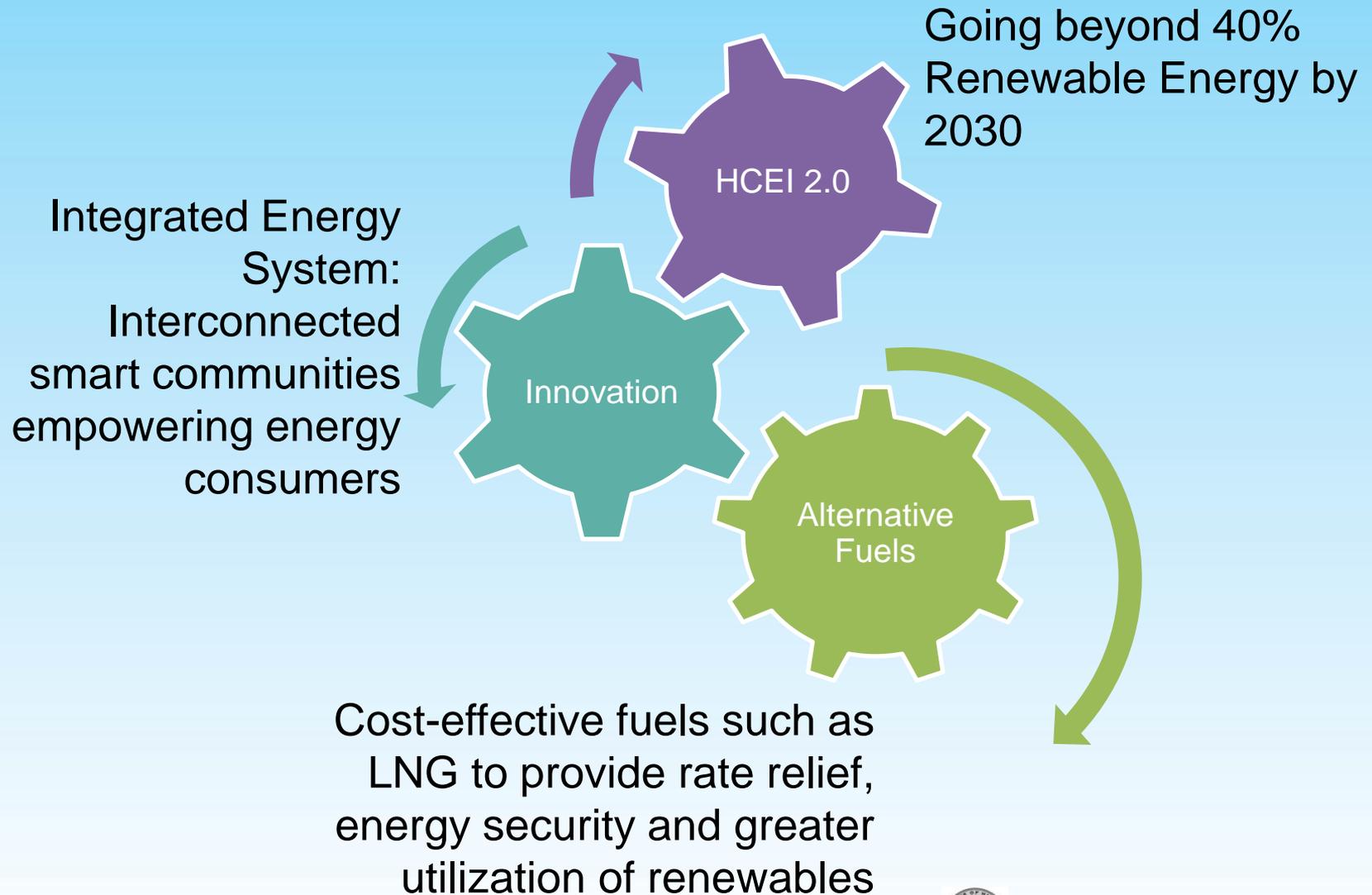


Cost-effective fuels such as LNG to provide rate relief, energy security and greater utilization of renewables



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Hawaii's Clean Energy Vision



State of Hawaii's Clean Energy Vision – What is the role of LNG?

Jeff Ono

Executive Director

Division of Consumer Advocacy

Department of Commerce and Consumer Affairs





FortisBC updates on Tilbury LNG expansion

Posted on Aug 20th, 2014 with tags [Expansion](#), [FortisBC](#), [News](#), [Tilbury LNG](#), [Updates](#).

Since the November 2013 expansion announcement, there has been considerable interest for LNG supply from the Pacific Northwest, Hawaii, Alaska, and international markets. On Friday August 8, 2014 Hawaiian Electric's board approved an LNG supply agreement with FortisBC, which still needs to be finalized pending approvals from regulators in BC and Hawaii. Hawaiian Electric has stated that they have yet to determine the transportation arrangements for LNG supplied from Tilbury.



In November 2013, FortisBC announced plans for a \$400-million expansion of its Tilbury LNG facility including one additional storage tank and associated liquefaction equipment.

The expansion will provide LNG to the transportation market, remote communities and the marketplace. The facility has been operating safely since 1971, providing gas supply to utility customers during periods of high demand such as cold winter days.



Daily Newsletter

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**Hawai'i Gas receives its first ISO container of LNG. LNG World News
April 10, 2014.**



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Examples of ISO Container Trucks

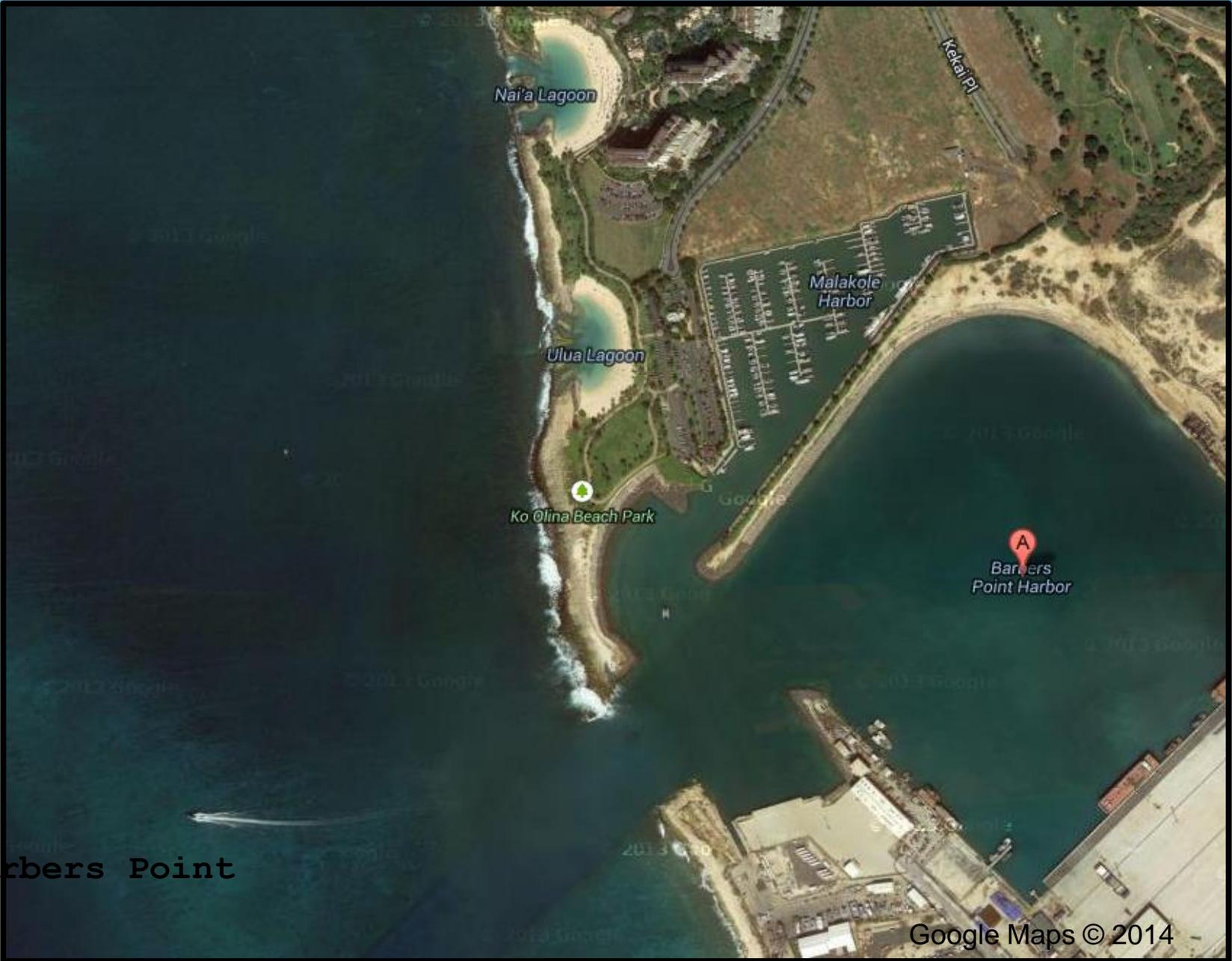




LNG Floating Storage and Regasification Unit (FSRU)



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Barbers Point



State of Hawaii's Clean Energy Vision – Regulatory Perspective

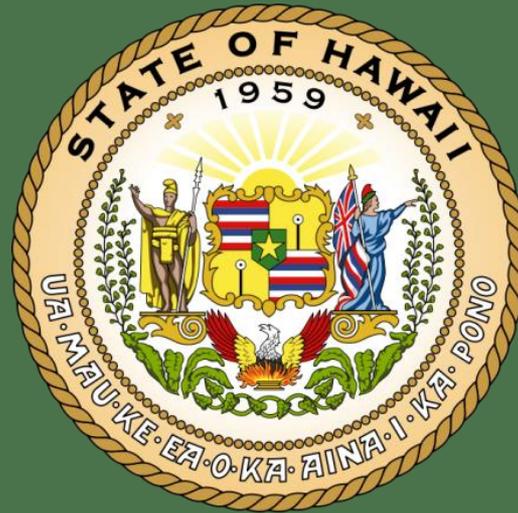
Hermina Morita

Chairperson
Public Utilities Commission



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Hawaii Public Utilities Commission



Asia Pacific Clean Energy Summit & Expo 2014

Hawaii Clean Energy Initiative:

Clean Energy Roadwork Ahead - Where Hawaii Needs To Go To Meet Its Goals

September 15, 2014

Hermina M. Morita

Chair, Hawaii Public Utilities Commission

- PUC Update
- PUC's Role In HCEI 2.0
- What is the PUC's Agenda Moving Forward

PUC Update

- April 28, 2014
 - directed the HECO Companies to review their current demand response programs, develop detailed estimates of demand response potential, and consolidate their programs into a single integrated portfolio
 - Integrated Demand Response Portfolio Plan (IDRPP)
 - ordered the HECO Companies to develop and implement major improvement action plans to aggressively pursue energy cost reductions, proactively respond to emerging renewable energy integration challenges, improve the interconnection process for customer-sited solar photovoltaic (“PV”) systems, and embrace customer demand response programs
 - Power Systems Improvement Plans (PSIP)
 - Distributed Generation Interconnection Plan (DGIP)

- July 28** IDRPP was filed
- August 7** PUC invited public comments on IDRPP
- Sept 8** deadline for public comments on IDRPP
- August 7** PUC opened Docket No. 2014-0183 to review PSIPs
- August 21** PUC opened Docket No. 2014-0192 initiating investigation into DER Policies
- Sept 12** PUC transfers PSIPs from various dockets to Docket No. 2014-0183
- Sept 12** PUC transfers DGIP to Docket No. 2014-0192
- Sept 12** PUC invites public comments on PSIPs and DGIP
- October 8** Deadline for Public Comments on PSIPs and DGIP

Integrated Demand Response Portfolio Plan

Objective: A review of the HECO Companies current demand response programs, the development of detailed estimates of demand response potential, and consolidation of programs into a single integrated portfolio.

Next Steps: PUC review of the submitted IDRPP and public comments received and its integration with the PSIPs and DGIP.

Power System Improvement Plans

Objective: Address critical power supply resource issues in order to accommodate large amounts of variable, cost-effective renewable energy, reduce power supply costs, and provide significant customer rate relief.

Actionable strategies and implementation plans are to:

- 1) expeditiously retire older, less-efficient fossil generation
- 2) reduce must-run generation
- 3) increase generation flexibility
- 4) adopt new technologies; and
- 5) institute operational practice changes

Do the PSIPs provide clear and actionable strategies to:

- Lower and stabilize customer bills
- Integrate a diverse portfolio of cost-effective renewable energy projects
- Operate each island grid reliably and cost-effectively with substantial quantities of variable renewable energy resources; and
- Contain appropriate strategies and timely action plans, supported by well-reasoned and compelling analyses, to achieve these goals on each island.

Distributed Generation Interconnection Plan

Objective: Develop technical solutions and action plans to increase DG interconnection capacity in major capacity increments. And, conduct such planning in a transparent manner with opportunity for stakeholder participation.

DGIP, at minimum, to include three general components: 1) a Distributed Generation Interconnection Capacity Analysis
2) an Advanced Distributed Energy Resources Technology Utilization Plan and
3) a Distribution Circuit Improvement Implementation Plan

Does the DGIP provide clear and actionable strategies to:

- Increase options for customers to manage their energy use
- Increase distribution circuit capacity to safely, reliably, and economically interconnect DG resources
- Utilize advanced distributed energy technologies to mitigate adverse grid impacts; and
- Contain appropriate strategies and timely action plans, supported by well-reasoned and compelling analyses to achieve these goals on each island

Where to Find the Action Plans and Comment Submission Directions

PUC's website: <http://puc.hawaii.gov/>

Click on the “News & Events” tab

Click on “News Releases & Announcements”

Hawaii Clean Energy Initiative 2.0

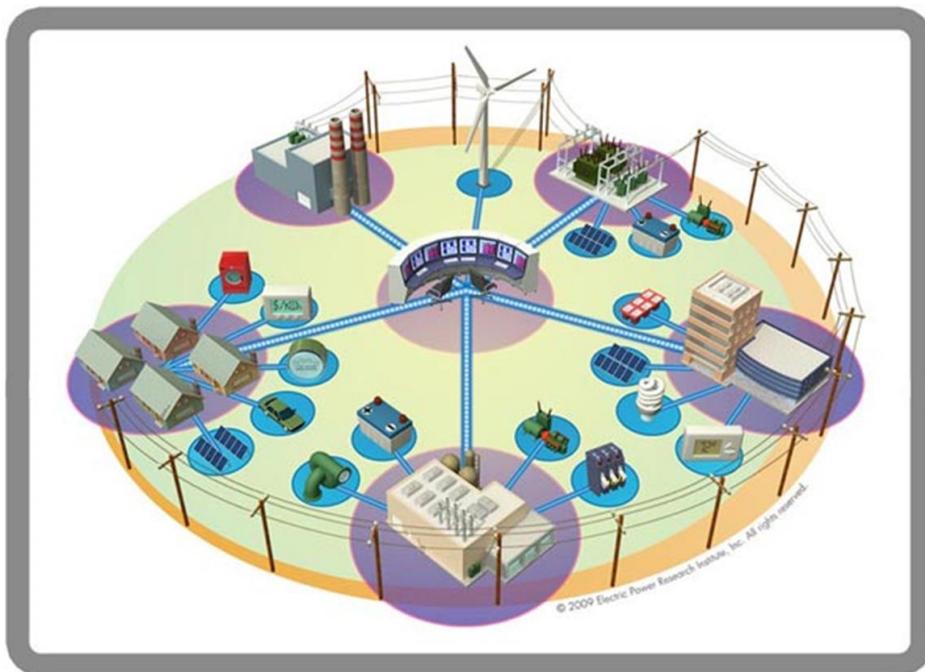
HCEI 2.0 recognizes transformation is a systems approach, requiring technology and economics to inform and shape energy policy to provide clean, safe, reliable and affordable electricity and achieve environmental and societal goals within a regulatory framework

- Develop diverse portfolio, prudent investments in and optimizing all assets, whether utility or non-utility, centralized or distributed, that will bring efficient and cost-effective benefits and value to the electric system to serve the public good
- Maximize the integration of cost-effective renewable energy resources while protecting the electrical system performance and quality by fairly allocating the fixed costs necessary to maintain and enhance the electric system
- Provide more options for customers to manage their electricity bills and to reduce cost by ensuring accessibility, fairness and the opportunity for all ratepayers to benefit from clean energy policies

What is the PUC's Agenda Moving Forward

PUC's Role In HCEI 2.0

- Set standards to ensure that a regulated company's performance is aligned with the public interest to provide efficient, safe and reliable services in the most cost effective manner
- Modernize and re-organize the Commission as needed to adapt to changes in technology, markets, economic conditions, consumer needs, environmental concerns and mandated policies to serve the public interest
- Increase the transparency of the regulatory process and public access to the Commission to demonstrate that the Commission is fair, independent, intelligent and resourceful in carrying out its responsibilities
- Create an environment conducive for a healthy and sustainable economy



The Utility of the Future



is the **Unifying Entity** that connects
the needs and wants of the **User**
with the core values of the **Community**
in the most **Efficient and Sustainable**
way possible

The Utility of the Future

Transforming the electric utility as the **Unifying Entity** that connects the needs and wants of the **User** with the core values of the **Community** in the most **Efficient and Sustainable** way possible.

An utility that is responsible for **connecting** the delivery of energy related services to the **core values** of the community:

- Economic Development
- Economic Competitiveness
- Quality of Life
- Achieving an Energy localization framework: Democratization, Decarbonization and Decentralization

While attaining **safety, reliability** and **affordable rates**

Mahalo!

For any questions, please contact:

Hermina.M.Morita@hawaii.gov

(808) 586-2020



State of Hawaii's Clean Energy Vision – US DOE Role

Jennifer DeCesaro

Director, Technology-to-Market Program
US Department of Energy



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Mahalo!



Hawaii Clean Energy Initiative

<http://www.hawaiicleanenergyinitiative.org/>

We hope that you will join us on
Wednesday, September 17 at 1pm in
Room 317 for the
Public Stakeholder Meeting

*Please leave your business card with Kym Sparlin to be
included in the HCEI Stakeholder Distribution List*



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