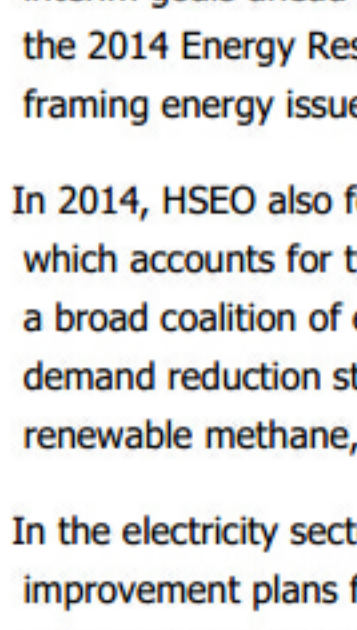




The Current serves Hawaii's businesses and policy makers in making informed decisions about clean energy investments and policy. Hawaii's clean energy sector is a significant catalyst for economic development to replace fossil fuel expenditures with home-grown industries that generate revenue and create high-paying jobs for local residents.

# ILLUMINATING THOUGHTS

MARK GLICK, ENERGY ADMINISTRATOR



The New Year offers us an opportunity to reflect on the accomplishments of the Hawaii State Energy Office (HSEO) in 2014. Last year, HSEO demonstrated measurable progress in advancing the state's clean energy vision and goals through existing programs, as well as new initiatives such as the Green Energy Market Securitization program (GEMS). We were also pleased to see Hawaii Clean Energy Initiative (HCEI) key metrics, such as the state's renewable and energy efficiency portfolio standards, exceed 2015 interim goals ahead of schedule. These and other key outcomes are summarized in the 2014 Energy Resources Coordinator's (ERC) Report, an integral resource for framing energy issues and setting benchmarks for the state's energy goals in 2015.

In 2014, HSEO also focused on reducing petroleum use in the transportation sector, which accounts for two-thirds of our state's oil consumption. By collaborating with a broad coalition of energy stakeholders, we opened the door to considering demand reduction strategies and using alternative fuels such as natural gas, renewable methane, hydrogen and biofuels to replace petroleum-based fuels.

In the electricity sector, DBEDT's comments on Hawaiian Electric Company's improvement plans focused on increasing options for customers to manage energy use and increasing distribution circuit capacity to safely, reliably, and cost effectively interconnect distributed generation resources. We addressed using advanced distributed energy technologies to mitigate adverse grid impacts, and engaged in a comparative analysis of options, that resulted in a lowest cost or optimal approach towards desired objectives. DBEDT also called for appropriate strategies and timely action plans, supported by technical analyses, to achieve these goals on each island. We expect to see tangible progress as a result of these recommendations.

In the year ahead, we anticipate continued progress in renewable energy, energy efficiency, test bed projects, grid modernization, and energy policy. HSEO is also creating a new organizational structure for its branch divisions to better support the state's clean energy vision.

Additionally, we are closely monitoring NextEra Energy's proposed purchase of Hawaiian Electric Utilities. As Gov. David Ige stated, NextEra Energy's proposed acquisition of Hawaiian Electric Industries will undergo the requisite regulatory review in the months ahead.

## OUR CLEAN ENERGY VISION

The Hawaii State Energy Office (HSEO) will transform Hawaii's economy by growing the clean energy sector. To this end, HSEO works to stimulate the deployment of clean energy infrastructure and serve as a catalyst for energy innovation and test bed investments. In doing so, HSEO will lead the charge in exceeding the goal to achieve 70 percent clean energy by 2030, with 30 percent from efficiency measures and 40 percent from locally generated renewable sources.

## LEADING THE CHARGE

Hawaii is making steady progress in clean energy as measured by gains in renewable energy and energy efficiency. Important strides are also being made in energy policy.

### New Distributed Renewable Energy Systems Installed in Hawaii

Distributed solar PV system installations increased from 12,560 in 2012 to 18,316 in 2013, representing an increase of 45 percent, and bringing total capacity to 253.5 MW. At the end of 2013, the cumulative number of systems statewide totaled 40,717.

### Hawaii's Energy Efficiency Portfolio Standards (EEPS)

From 2008 to 2013, Hawaii reduced electricity consumption by 8 percent. In 2013, the state's EEPS level of savings was 15.7 percent, which exceeds the 2015 EEPS interim target. The state is required to reduce electricity consumption through efficiency and conservation measures by 30 percent by the end of 2030.

Programs leading to the gains in energy efficiency include the following programs for ratepayers:

- Residential and commercial lighting
- Residential solar water heating
- Commercial cooling
- Residential appliances
- Submetering
- Education and training programs

### Clean Energy Policy

HSEO collaborated with the U.S. Department of Energy and other local and federal agencies to complete the Hawaii Clean Energy Programmatic Environmental Impact Statement (PEIS). The PEIS will be a valuable reference for the state, county, and federal government agencies and private project developers when project-specific environmental documents are prepared. The PEIS serves two principles: one, diversify Hawaii's energy portfolio; and two, balance technical, economic, environmental and cultural considerations.

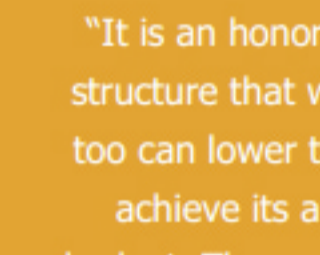
The draft PEIS was presented for public comment in the second quarter of 2014. Public meetings were held statewide. Stakeholders and the general public were invited to submit comments on the draft document orally at the meetings, in writing and electronically. The PEIS will be released in final form in 2015.

### Energy Planning Dockets

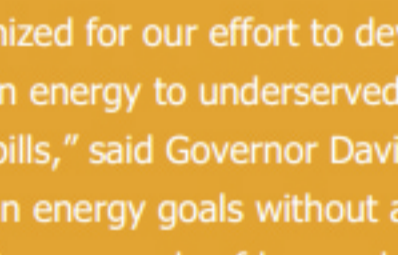
In addition to the PEIS last year, several energy planning dockets were issued by the Hawaii Public Utilities Commission (PUC) related to Integrated Resource Planning (IRP), Reliability Standards Working Group (RSWG), Policy Statement and Order Regarding Demand Response (DR) programs, and Maui Electric Company (MECO) Rate Case Follow-Up. Amongst the required deliverables, the Hawaiian Electric Companies will be required to submit:

- Power Supply Improvement Plans (PSIP) to address, among other things, how the capacity of the island grid may be expanded in order to accommodate additional variable renewable energy, the reduction of energy costs, and improvements in generation operational efficiencies.
- Distributed Generation Interconnection Plans (DGIP) to identify distributed circuit capacity and the utilization of technologies and mitigation measures to accommodate greater utilization of distributed energy.
- Integrated Demand Response Portfolio Plan (IDRPP) to consolidate their currently existing and future planned demand response programs.

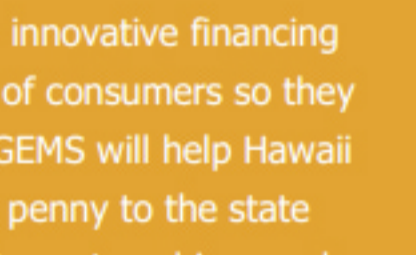
The PUC's orders challenged the Hawaiian Electric Companies to aggressively pursue energy cost reductions and proactively invest in grid and other infrastructure improvements to integrate more renewable energy, consistent with the state's energy policy directives. Fulfilling the state's clean energy commitment to go beyond 40 percent renewable energy for power generation requires a strategic approach and collaboration by the PUC and our energy stakeholders. HSEO looks forward to fully engaging in and helping to move these dockets forward.



NEW  
DISTRIBUTED  
RENEWABLE  
ENERGY  
SYSTEMS



EEPS LEVELS



PEIS

## FEATURED STORY : GEMS TAKING SHAPE



HSEO's [Green Energy Market Securitization \(GEMS\)](#) program, an innovative, sustainable green financing initiative designed to make clean energy improvements more affordable and accessible for Hawaii consumers continues to take shape. A non-profit financial lender will soon be confirmed in February, and once in place, interested non-profit organizations can begin preparing their applications for submission. The GEMS residential program will then start accepting applications in March.

HSEO is proud to report that GEMS has already garnered top recognitions. In the financial industry, GEMS has been recognized by the International Financing Review for its successful effort to raise \$150 million in the bond market to support the program. The International Financing Review awarded the GEMS transaction its "North American Structured Finance Issue" of the year, calling it an "innovation solution that is now expected to be replicated elsewhere." Separately, the Council of Development and Finance Agencies in October bestowed its Excellence in Energy Finance Award on GEMS as well.

"It is an honor to be recognized for our effort to develop an innovative financing structure that will bring clean energy to underserved groups of consumers so they too can lower their electric bills," said Governor David Ige. "GEMS will help Hawaii achieve its ambitious clean energy goals without adding a penny to the state budget. The program is a prime example of how public-private partnerships can be used to achieve long-term, sustainable financing solutions for clean energy," Ige said.

The structure of the bonds resulted in an AAA rating, which allowed DBEDT to obtain a competitive yield when the bonds were sold in November. That in turn lowers the cost of capital for the program, which will result in lower borrowing costs for participants when the program is launched this year.

## FEATURED STORY : HSEO FOR THE 21ST CENTURY

### HAWAII STATE ENERGY OFFICE

Energy Systems & Transportation Branch

Clean Energy Solutions Branch

Renewable Energy Branch

Energy Efficiency Branch

Over the last year, HSEO has seen several projects approach critical junctures in the area of clean energy infrastructure deployment. This evolution of the energy landscape in Hawaii requires HSEO to adapt its internal resources internally. HSEO's new organizational structure supports a strategic plan that focuses on high-impact clean energy solutions, leveraging of public and private resources, and community engagement and continuous dialogue with statewide stakeholders, policymakers, and energy consumers. The new structure will also foster internal collaboration among HSEO branches to improve the quality and speed of facilitation and integration efforts, and seek federal funding and private investment opportunities. HSEO's new organizational structure will ensure it is equipped to continue to play a key leadership role in Hawaii's energy future.

### HSEO Branch Updates

HSEO's strategic approach identifies high impact solutions and best practices to achieve statutory and community-based clean energy goals, commonly referred to as the Hawaii Clean Energy Initiative. Each HSEO branch serves as a business systems integrator to resolve project implementation and clean energy penetration barriers and advocates for programs, policies and incentives to make clean energy development cost-effective.

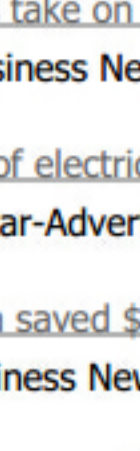
First, a new branch has been created for **Energy Systems and Transportation (EST)**. This branch will encompass expertise in understanding and planning cohesion among alternative fuels, transportation, and electricity infrastructure and power generation. EST will be the center of action for necessary improvements to electrical systems and transportation fuel infrastructure. It will focus on devising and deploying plans, policies, and strategies for reducing petroleum use in the transportation sector, increasing renewable penetration at lower costs to ratepayers, and ensuring energy security.

The **Clean Energy Solutions Branch (CST)**, formerly the Innovation, Policy and Planning Branch, remains focused on energy innovation and expanding Hawaii's emerging role as a test bed for clean energy solutions. A major initiative is to establish the Hawaii Energy Systems Innovation Center. This branch will develop policy and initiatives building an innovation cluster around clean energy. It is also responsible for completing the roll out of the Green Energy Market Securitization (GEMS) program. CST will also build and support initiatives that drive innovation in financing and technological aspects of clean energy.

The existing **Renewable Energy Branch (REB)** will continue to play a central role in deploying clean energy by understanding the renewable resource base and packaging high impact clean energy installations. It will also be responsible for writing and supporting policy that enhances renewable energy interconnection while enhancing grid safety and reliability.

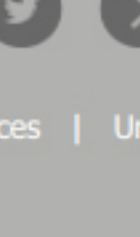
The existing **Energy Efficiency Branch (EEB)** will continue to plan, develop, and implement projects and programs that contribute to the state's energy self-sufficiency and efficiency objectives. It will work with the PUC and Public Benefits Fund Administrator on innovative PBF programs that support energy efficiency goals. EEB also ensures that its energy efficiency, conservation, and renewable energy programs comport with state energy policy objectives and are consistent with the objectives of the State Energy Program, which is funded, supported and directed by the U.S. Department of Energy.

## DID YOU KNOW?



To date, petroleum accounts for more than 90 percent of Hawaii's total energy consumption. Realizing Hawaii's over-reliance on oil is unsustainable over the long-term, HSEO endeavors to move the state toward clean energy to the fullest extent possible. As of 2013, approximately 18 percent of utility electricity sales statewide were from renewable resources.

## ENLIGHTENING NEWS AND ARTICLES



[Hawaii's Clean Energy Leaders, January 2015 Update](#)  
(DBEDT, January 2015)

[State Senator Proposes Updating Hawaii's Energy Goal To 100 Percent Renewable By 2040](#)  
(Pacific Business News, 1/27/15)

[PUC nominee Iwase gives his take on Hawaii's biggest energy issues](#)  
(Pacific Business News, 1/27/15)

[Islanders' ownership of electric vehicles grew in 2014](#)  
(Honolulu Star-Advertiser, 1/13/15)

[University of Hawaii at Manoa saved \\$3.4M on energy costs last year](#)  
(Pacific Business News, 1/21/15)

[Hawaii groups receive award for electric vehicle app](#)  
(Pacific Business News, 1/2/15)