



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 driver for economic development to replace fossil fuel expenditures with home-grown industries that generate revenue and create high-paying jobs for local residents.

BUILDING MOMENTUM FOR ENERGY INDEPENDENCE
MARK GLICK, ENERGY ADMINISTRATOR



There is normally considerable nervousness at the inception of a legislative session over the long road ahead and the uncertainty the course may take. For example, at this time last year the Hawaii State Energy Office was busy working with lawmakers and other stakeholders on a host of energy-related bills making their way through the Hawaii State Legislature and we had no way of knowing which measures would survive and which would fall by the wayside. When the session finally wrapped up we were pleased to see several key bills made the final cut, including landmark legislation boosting Hawaii's renewable portfolio standard to 100 percent by 2045. Along with passage of another measure authorizing community-based renewable energy projects, and one aimed at zeroing the University of Hawaii's electric bill, the final result was that 2015 was a banner year for energy legislation. Please refer to the **2015 Energy Resources Coordinator Report** for a good summary on the legislative victories and other key energy developments, metrics and achievements of the State's energy policy and deployment agenda.

While we anticipate there will be formidable challenges as we work toward the 100 percent RPS goal in the electricity sector, we explain how each of our four agency subdivisions or branches are tasked to ensure that Hawaii stays on track to hit interim RPS targets in a featured story in this newsletter. Given our success in exceeding our RPS targets to date, we can attest that committing to a 100 percent renewable future in the electricity sector is more than just a glib slogan. By becoming the first state to make such a bold pledge by a date certain, Hawaii has effectively defined the end state objective all future investments in Hawaii's electricity sector. The importance of the RPS as the guide star for action simply cannot be overemphasized.

Finally, we note that the work being done to advance clean energy in Hawaii is appropriately referenced in terms of its positive impact on the environment and energy security. But, we also wish to highlight that our energy transformation also is driving the creation of a clean energy innovation sector that has the potential to become a significant economic driver in Hawaii. Building a supportive environment for this new traded sector will help the local economy in myriad ways, bringing new money into local economy, producing higher wage jobs, and diversifying the economic base. HSEO relishes its role in coordinating the State's energy agenda and appreciate the hard work of the energy stakeholders throughout the state to make our nation-leading goals a reality.

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 achieving 100 percent renewable energy in the electricity sector by 2045, and exceeding the target of 4,300 gigawatt hours of savings by 2030.

LEADING THE CHARGE

Preparing For Emergencies

The 2015 Central Pacific hurricane season was "hyperactive" with 15 tropical cyclones threatening our island state. Strengthening our energy emergency preparedness capabilities and response actions are crucial as Hawaii is home to the most isolated population.

HSEO leads the state's efforts to ensure a robust, secure, and resilient energy ecosystem. This is a coordinated effort involving public and private sectors to mitigate risks, respond to events that disrupt energy supply, and assure a rapid return to normal conditions. HSEO has developed the State of Hawaii Energy Assurance Plan which supports this effort by inventorying critical energy infrastructure, and developing risk profiles and vulnerability assessments. HSEO is currently developing analytic tools to assess the consequences and severity of energy supply emergencies.

Reshaping Energy Policy

Hawaii is noted for its progressive clean energy policies and regulations that are paving the way for modernized electric grids and innovative utility business models. Working with local stakeholders and representing the best interest of the state, HSEO has been an active intervenor in a multitude of crucial regulatory proceedings issued by Hawaii's Public Utilities Commission. In 2016, some of the energy planning dockets HSEO will participate in include:

PSIP (Power Supply Improvement Plan). (Docket #2014-0183) HSEO is evaluating the plans at the micro-level as well as in regard to State Clean Energy Policy.

DER (Distributed Energy Resources). (Docket #2014-1092) HSEO is evaluating the technical aspects related to the interconnection of distributed energy resources and system planning and pricing.

Integrated Demand Response Portfolio Plan. (Docket #2007-0341) Requires the HECO Companies to conduct a comprehensive review and evaluation of programs to demonstrate how additional renewable resources can be incorporated into the grid and provide additional ancillary services.

NextEra / HEL Merger Application. (Docket #2015-0022) HSEO will continue to be an active intervenor in the proceedings.

Community-Based Renewable Energy Program. (Docket #2015-0389) HSEO is working collaboratively with PUC, Securities Commission, and other stakeholders on tariffs.

Working to Adopt Energy Efficiency Codes

On July 14, 2015, the State Building Code Council unanimously voted to adopt the International Energy Conservation Code 2015, with the Tropical Climate Zone Code for residential dwellings and other amendments appropriate for Hawaii's climate. HSEO will be providing technical assistance and staff training to county building officials, and public and private sector design professionals.



PREPARING FOR EMERGENCIES



RESHAPING ENERGY POLICY



WORKING TO ADOPT ENERGY EFFICIENCY CODES

FEATURED STORY: EXPLORING EV CHARGING SYSTEMS IN MUDS



Multi-Unit Dwellings (MUDs), which include condominiums, cooperative housing and community associations, pose several challenges to electric vehicle charging because of electrical capacity constraints or required upgrades, assigned parking spaces, cost of installing and operating charging stations, and the need for coordination with building managers and homeowners associations. An estimated 38 percent of Hawaii's housing units are MUDs. Increasing the availability of EV charging systems located at MUDs could enable roughly one-third of households to own EVs.

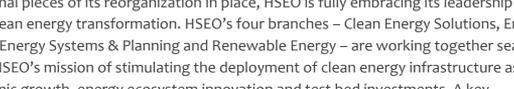
To address these issues the 2015 Hawaii State Legislature passed Act 164, which established a working group chaired by DBEDT to encourage installation of EV charging systems in MUDs.

The working group examined the challenges of installing EV charging systems in existing MUDs and the construction considerations of potential EV charging systems in new MUDs. The working group also examined mainland trends of EV charging system installation and the importance of integrating workplace and public EV charging during non-peak electricity use times to avoid overburdening the state's electric grid, and to match electric charging with renewable energy supply.

The working group developed a set of recommendations based on findings and analysis conducted during the course of the assignment. Some recommendations and key findings include a statewide incentive program, sub meters, new construction and education.

The working group's final report can be viewed at <http://energy.hawaii.gov/testbeds-initiatives/ev-ready-program/laws-incentives>.

FEATURED STORY: EMBRACING BOLD SOLUTIONS TOWARDS CLEAN ENERGY GOALS



With the final pieces of its reorganization in place, HSEO is fully embracing its leadership role in Hawaii's clean energy transformation. HSEO's four branches – Clean Energy Solutions, Energy Efficiency, Energy Systems & Planning and Renewable Energy – are working together seamlessly to carry out HSEO's mission of stimulating the deployment of clean energy infrastructure as a catalyst for economic growth, energy ecosystem innovation and test bed investments. A key accomplishment of HSEO in the past 12 months has been to build capacity in energy systems planning, which will play a critical role in Hawaii's energy transformation going forward. Additionally, increased capacity in HSEO's Renewable Energy Branch will help with the development of high impact solutions toward Hawaii's 30 percent 2020 RPS target, and the ultimate 2045 objective of 100 percent.

The **Clean Energy Solutions Branch (CES)**, is moving forward with several initiatives designed to foster energy innovation and expand Hawaii's emerging role as a test bed for clean energy solutions. One of the branch's exciting projects in the planning stages is HI Energy CORE, a state-of-the-art facility for energy innovation. The center will serve a crucial role in the development of policy and initiatives building an innovation cluster around clean energy. CES is also taking the lead in HSEO's involvement with the VERGE Hawaii Asia Pacific Clean Energy Summit to be held in Honolulu in June. HSEO selected the GreenBiz Group to bring the cutting-edge event series to Hawaii, giving the state a unique opportunity to leverage its role as an energy innovation leader and international test bed.

The **Energy Efficiency Branch (EEB)** will be busy planning, developing and implementing programs that contribute to the state's energy self-sufficiency and efficiency objectives. One of EEB's priorities will be working with the PUC on an Energy Efficiency Charrette to discuss the Energy Efficiency Portfolio Standards and the Public Benefits Fund Administrator, support state and county agencies implementing performance contracting for accelerated efficiency improvements, and promote the adoption of the updated energy building code. EEB also ensures that its energy 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.

The **Energy Systems and Planning Branch (ESP)** will play a key role in helping coordinate the design and implementation of the state's comprehensive energy ecosystem and energy assurance plans. The work being done by ESP will guide the optimal mix of solutions towards Hawaii's energy self-sufficiency agenda. As Hawaii's portfolio of renewable energy resources grows, the balance of generation resources to demand must occur in the most efficient and cost-effective manner across the entire energy ecosystem. ESP is building models and conducting analysis taking into account fundamental changes in customer needs and varying energy demands and resources, with a particular focus on our indigenous renewable resources. The goal is to optimize the different mixes of renewable resources across a variety of demand scenarios on the most efficient and cost-effective manner.

The **Renewable Energy Branch (REB)** will continue its work with Hawaii's utilities, regulators and other energy stakeholders to implement programs and policies that allow for the greater deployment of renewable energy, such as grid modernization. REB will provide technical expertise on key regulatory proceedings, work with other state agencies on the advancement of baseload renewable energy resource assessments and online permitting for renewable energy projects. REB also will coordinate Hawaii's 2015 Clinton Global Initiative Commitment to the Hawaii Statewide Modern Grid-Workforce Training Deployment. The collaboration between the private and public sectors, as well as academia, will build a curriculum and training program for the next generation of skilled smart grid technicians, electrical engineers and managers.

DID YOU KNOW?



Assistant Secretary of the Navy, Dennis McGinn, will be a keynote speaker at **VERGE Hawaii - Asia Pacific Clean Energy Summit**, June 21-23, 2016.

Appointed Assistant Secretary of the Navy (Energy, Installations & Environment) on September 3, 2013, Dennis McGinn develops department-wide policies, procedures, advocacy and strategic plans and oversees all functions and programs related to installations, safety, energy, and environment.

See more VERGE Hawaii speakers at <https://www.greenbiz.com/events/verge/honolulu/2016/speakers>.

ENLIGHTENING NEWS AND ARTICLES



2 car chargers open on Oahu
(Honolulu Star-Advertiser, 1/28/16)

More perks in store for electric vehicle owners
(Hawaii News Now, 1/27/16)

Hydrogen fuel cell car is preppy in test drive
(Honolulu Star-Advertiser, 1/14/16)

Part 2 of 2: Top New Year's resolutions for Hawaii
(Pacific Business News, 1/8/16)

Survey: 8 in 10 residents concerned about climate change
(Hawaii News Now, 12/28/15)

How Hawaii Has Empowered Energy Storage and Forever Changed the U.S. Solar Industry
(Renewable Energy World, 12/21/15)

Dept. of Energy praises Hawaii's efforts in clean energy in new report
(Pacific Business News, 12/07/15)

UPCOMING EVENTS



HSEO contracted California-based GreenBiz Group to bring its annual VERGE event series to Hawaii. Long regarded as ground-zero for next-generation energy issues, Hawaii will serve as host in 2016 and 2017 as the best minds in energy identify and advance next-generation practices for sustainable energy solutions in Hawaii and beyond.

For more information on VERGE Hawaii - Asia Pacific Clean Energy Summit, visit greenbiz.com/events/verge/honolulu/2016.