

THE CURRENT

Hawaii State Energy Office
Clean Energy Update

Summer 2019

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 stimulate smart economic growth for future generations of Hawaii.

ROAD TO 100 PERCENT CLEAN ENERGY WILL REQUIRE INNOVATION IN REGULATION, SUSTAINABILITY

Carilyn O. Shon, Chief Energy Officer

With the hot summer months upon us we are reminded that using air conditioning to cool our homes and businesses can be an energy intensive undertaking. The good news is that there are ways to reduce the amount of energy used for air conditioning that not only save money but contribute to achieving Hawaii's clean energy goals while maintaining comfort. For hotels in particular, steps that can significantly cut energy bills include switching to more efficient chillers and installing sensors that automatically shut off air conditioning systems in rooms when no motion is detected after guests have left the room.

A growing number of local businesses, organizations, and events are committing themselves to reducing energy use and becoming more sustainable to ensure Hawaii's future prosperity. The Hawaii Green Business Program (HGBP) provides them with the technical assistance and support to make that happen. The Hawaii State Energy Office partners with the Hawaii Department of Health, Hawaii Lodging and Tourism Association, and Honolulu Board of Water Supply to oversee the HGBP. In the first feature story in this edition of *The Current* we highlight this year's group of HGBP participants and the award ceremony in which they were recognized for their achievements.

The second feature story looks inside a recent study published by HSEO that weighs the costs and benefits of various models of utility ownership and regulation in Hawaii. The study, requested by the Legislature, will inform the decisions that will need to be made as Hawaii puts in place updated utility ownership and regulatory structures best suited to achieving our ambitious clean energy goals.

FEATURED STAFF: ENERGY CONSERVATION CODE PROVIDES BOOST TO CLEAN ENERGY TRANSFORMATION

Howard Wiig, Energy Efficiency Branch

Homes and buildings account for a significant share of Hawaii's electrical use, and a robust energy conservation code is an extremely effective means for shrinking that usage. That's why the work being done to implement the latest International Energy Conservation Code (IECC) with Hawaii specific amendments is so important. The new code being put in place statewide is expected to save more than \$1 billion in energy costs over the next 20 years. The Energy Efficiency Branch (EEB) is on the front line of this effort through its representation on the Hawaii Building Code Council.

EEB Analyst and Council member Howard Wiig was a pivotal player in shepherding the updated energy code from the conceptual stage to its signing into law by Gov. David Ige in 2017. Howard joined the Hawaii State Energy Office shortly after its founding in 1976 when Congress mandated that every state create an energy office. After managing many federal energy saving projects, Howard shifted his attention to energy building codes and quickly became one of Hawaii's leading authorities on the subject.

As chair of the Council's Energy Subcommittee Howard helped usher through numerous amendments to the new energy code that increase energy savings and often decrease energy costs. Most recently, Howard led multiple rounds of code training across the state to familiarize public and private sector stakeholders with details of the new code. In his new role as chair of the full Council Howard help secure the adoption of the 2017 National Electrical Code, which facilitates the inclusion of battery storage in new photovoltaic systems.

In addition to saving energy the new code also allows many trade offs to address construction costs while increasing comfort with natural ventilation, Howard says. The efficiency gains that will be achieved through the new energy code will go a long way toward helping Hawaii achieve its clean energy goals.

CLEAN ENERGY VISION

The Hawaii State Energy Office's (HSEO) mission is to maximize Hawaii's energy self-sufficiency and security by developing and utilizing local energy resources in a balanced way.

In doing so, HSEO will guide our state toward the Hawaii Clean Energy Initiative goals to achieve 100 percent renewable energy in the electricity sector by 2045, reduce electricity consumption by 4,300 gigawatt-hours by 2030, and reduce petroleum use in transportation. To this end, HSEO works toward the deployment of clean energy infrastructure and serves as a catalyst for energy innovation and test bed investments. By achieving these goals, HSEO will grow the clean energy sector and transform Hawaii's economy.

LEADING THE CHARGE

2019 Hawaii Energy Facts & Figures

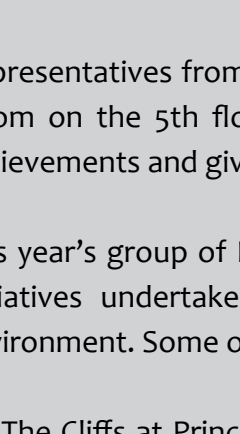
HSEO has released the 2019 edition of Hawaii Energy Facts & Figures. This publication combines in one place key information and data about Hawaii's energy ecosystem. In this edition you will find an overview of Hawaii's energy sector and progress in the areas of energy efficiency, renewable energy, and clean transportation.

Training on Energy Conservation Code

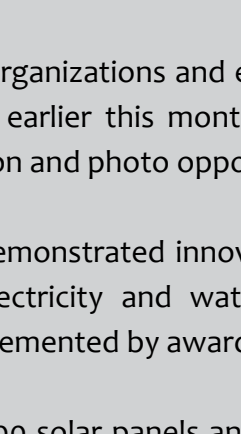
The Hawaii State Energy Office, Hawaii Energy, and allied professional organizations sponsored free statewide training sessions in August covering the new code's building envelope requirements and Hawaii's unique county amendments. The training explained how to comply with the code and also covered the science behind the building envelope's impact on cooling loads, energy consumption, and occupant comfort. View training material at HSEO's building code page.

Policy 2019

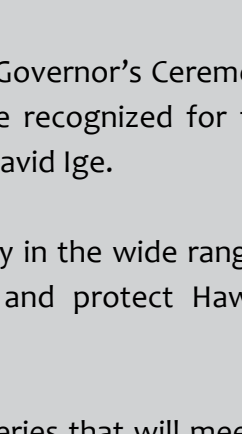
The success of Hawaii's clean energy goals is largely due to its collaboration of energy stakeholders and the framework of policies put in place to guide Hawaii's clean energy transformation. Visit the Hawaii Clean Energy Initiative site to learn about key Acts of 2019 relating to energy efficiency, renewable energy, energy planning, and clean transportation.



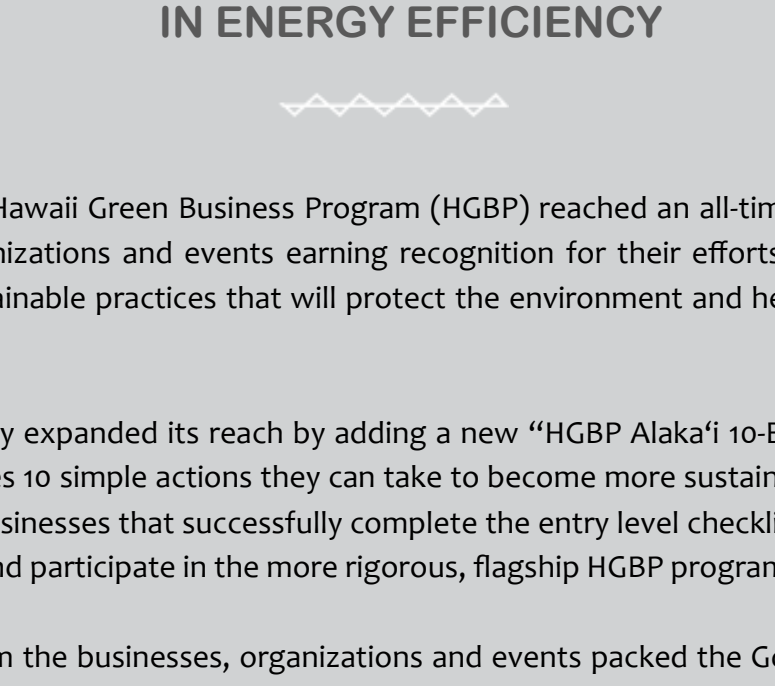
**2019 Hawaii
Energy Facts &
Figures**



**Training on
Energy
Conservation
Code**



Policy 2019



AWARDEES DEMONSTRATE INNOVATION AND CREATIVITY IN ENERGY EFFICIENCY

Participation in the Hawaii Green Business Program (HGBP) reached an all-time high this year with 35 businesses, organizations and events earning recognition for their efforts to conserve energy and implement sustainable practices that will protect the environment and help Hawaii achieve its clean energy goals.

The program recently expanded its reach by adding a new "HGBP Alaka'i 10-Entry Level" category that offers businesses to simple actions they can take to become more sustainable while improving their bottom line. Businesses that successfully complete the entry level checklist are encouraged to take the next step and participate in the more rigorous, flagship HGBP program.

Representatives from the businesses, organizations and events packed the Governor's Ceremonial Room on the 5th floor of the Capitol earlier this month where they were recognized for their achievements and given a commendation and photo opportunity with Gov. David Ige.

This year's group of HGBP awardees demonstrated innovation and creativity in the wide range of initiatives undertaken to conserve electricity and water, reduce waste and protect Hawaii's environment. Some of the projects implemented by awardees include:

- The Cliffs at Princeville installed 2,000 solar panels and 202 storage batteries that will meet 44 percent of the electricity demand for the resort's timeshare units.

- The Kahala Hotel & Resort uses waste heat produced by its air conditioning chiller to heat its outdoor swimming pool.

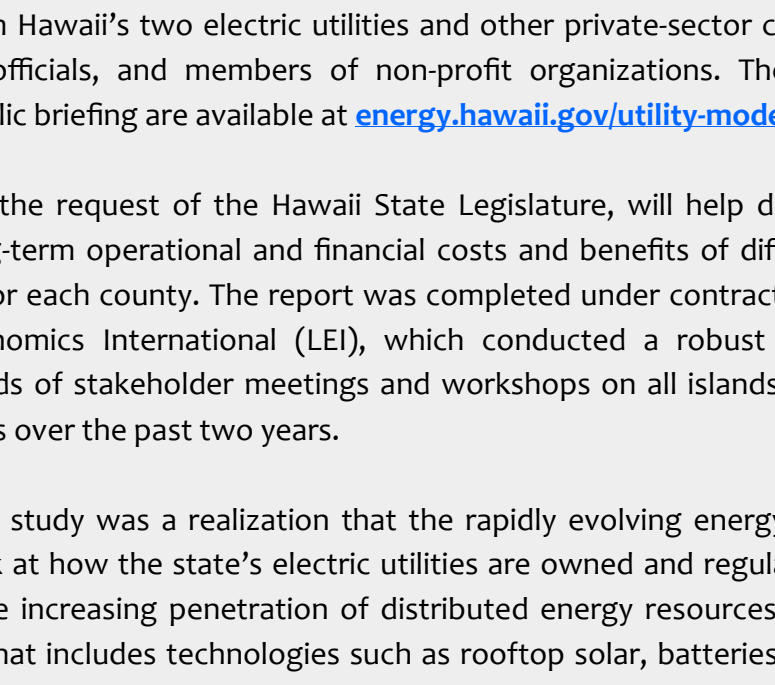
- The Sony Open offered free bicycle valet service to spectators arriving on bicycle. The event also donated \$10 for every bike that used the service to the Hawaii Bicycling League.

- Whole Foods Market, Queen, takes produce and groceries that would have been discarded because of date issues and donates them to organizations that feed the homeless.

Over the last 10 years HGBP has assisted and recognized more than 100 businesses from the hospitality, commercial office, retail, grocery, venue and food service sectors. For more information on HGBP, including a complete list of this year's awardees, visit greenbusiness.hawaii.gov.

HGBP also is garnering attention outside of Hawaii. Gail Suzuki-Jones, the HSEO energy analyst who oversees HGBP, recently was invited to speak to the Guam Hotel and Restaurant Association (GHRA) about the program. GHRA President Mary Rhodes said the Association looked to the structure of HGBP as a guide as it pursued its own green guidelines pilot program launched in June.

"We are eager to share our experience with the Hawaii Green Business Program," Suzuki-Jones said. "It's exciting to see others look to Hawaii as a leader in sustainability," she added.



FINAL ANALYSES OF UTILITY OWNERSHIP AND REGULATORY MODELS FOR HAWAII

What are the most appropriate ownership and regulatory structures for Hawaii's electric utilities as the state makes the transition to a clean energy future?

A recently completed study by the Hawaii State Energy Office (HSEO) addresses that question with analyses of the costs and benefits of various ownership models as well as the viability of several regulatory approaches to aid Hawaii in achieving its goal of 100 percent clean energy by 2045.

A public briefing held in June to present findings of the study drew more than 60 people, including representatives from Hawaii's two electric utilities and other private-sector companies, legislators, state government officials, and members of non-profit organizations. The study and a video recording of the public briefing are available at energy.hawaii.gov/utility-model.

The study, done at the request of the Hawaii State Legislature, will help decision-makers better understand the long-term operational and financial costs and benefits of different ownership and regulatory models for each county. The report was completed under contract for HSEO by Boston-based London Economics International (LEI), which conducted a robust outreach effort that included three rounds of stakeholder meetings and workshops on all islands as well as numerous one-on-one meetings over the past two years.

The impetus for the study was a realization that the rapidly evolving energy landscape in Hawaii requires a fresh look at how the state's electric utilities are owned and regulated. This evolution is driven in part by the increasing penetration of distributed energy resources (DERs) on the utility grid, a broad term that includes technologies such as rooftop solar, batteries, electric vehicles and smart appliances. Having ownership and regulatory models that properly value and incentivize DERs will be a key driver of clean energy adoption going forward.

The study examined existing ownership and regulatory models in each county and evaluated them in comparison to eight alternative models.

Each model was assessed for its ability to achieve the four principals stated in the enabling legislation:

- 1) Maximize state energy goals
- 2) Maximize consumer cost savings
- 3) Enable a competitive distribution system
- 4) Eliminate or reduce conflicts of interest and align stakeholder interests

In a summary of the study presented at the June public meeting, LEI said the current ownership and regulatory framework has "ensured reliable service, but regulatory adjustments can ensure it is adapted to the evolving technological and policy landscape." At the same time, LEI added, a change in ownership model would likely increase electricity rates.

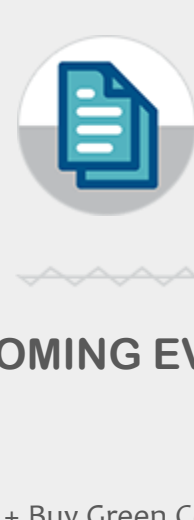
The Hawaiian Electric Companies, which provide most of the electricity in Hawaii, are owned by investors. Such investor-owned utilities, or IOUs, are operated for a profit and need to provide a return on investment for shareholders. Hawaii's only other utility, the Kauai Island Utility Cooperative (KIUC) is owned by its members.

"A change in ownership model, either to the co-op model or the IOU model in the case of KIUC, would likely raise the average electricity rates relative to status quo in all the counties, except in Maui County," the report found. "A key takeaway is that transitioning ownership models has a cost, regardless of the model." The cost is primarily due to the new owner having to acquire the assets from the incumbent utility, according to LEI.

On the other hand, the analysis showed that regulatory changes are likely to have a more significant impact with it comes to reducing electricity rates.

One of the regulatory models evaluated in the study is a framework known as performance-based regulation (PBR). This approach to regulation is designed to better align the financial interests and actions of investor-owned utilities with public interest objectives and consumer benefits. The study looked at several variations of the PBR model and noted that the "benefits of moving to any of the PBR options generally outweigh the costs."

LEI projected electricity rates could decrease between 0.5 percent and 9 percent per year as a result of regulatory changes, depending on the county. "This is primarily driven by strong incentives, such as those typically provided in PBR," LEI said.



ENLIGHTENING NEWS & UPDATES

[Number of electric vehicles in Hawaii nears milestone](#)

(Honolulu Star-Advertiser, 8/08/19)

[Three Hawaii utilities rank among top 10 energy storage companies in the nation](#)

(Pacific Business News, 8/07/19)

[Volkswagen approves Hawaii's first funding request in \\$8M environmental settlement](#)

(Pacific Business News, 8/05/19)

[MECO makes next big push for renewables](#)

(The Maui News, 8/03/19)

[A New Way for Electricity](#)

(Hawaii Business Magazine, 7/24/19)

[GHRA developing 'green' guidelines](#)

(PNC News First, 7/02/19)



UPCOMING EVENT

Build + Buy Green Conference 2019

HSEO is a proud partner of the 2019 Build + Buy Green Conference on Kauai, September 20-21. Held in a different county each year, the Build + Buy Green Conference offers networking, an inspirational keynote session, and educational sessions highlighting topics pertinent to Hawaii.

Areas of interest include:

- Carbon Emissions
- Net-Zero Emissions
- Resiliency
- Energy Efficiency
- Equity and Place
- Native Landscapes

For more information and to register, go to [Build + Buy Green Conference 2019](#).